



Volume 3 ENVIRONMENTAL IMPACT ASSESSMENT REPORT APPENDICES (PART 1)



VOLUME 3 (PART 1) – CONTENTS

Appendix 4 – Assessment of Alternatives

Appendix 4-1 Summary of navigation simulation studies (HR Wallingford)

Appendix 5 – Project Scoping & Consultation

Appendix 5-1 Pre-consultation Meeting Minutes (An Bord Pleanála)

Appendix 5-2 Pre-consultation Meeting Minutes (Dublin City Council)

Appendix 5-3 Pre-consultation Meeting Minutes (Statutory Consultees)

Appendix 5-4 Statutory and Non-Statutory Responses

Appendix 5-5 Community Newsletter on the MP2 Project

Appendix 6 – Risk of Major Accidents

Appendix 6-1 – Location of COMAH Establishments

Appendix 6-2 – Population Data used for Assessment

Appendix 6-3 – COMAH Risk Contour Map

Appendix 6-4 – Dublin Port Incident Diversion Routes

Appendix 6-5 – Dublin Port Emergency Management Plan

Appendix 7 – Biodiversity, Flora & Fauna

Appendix 7-1 – Terrestrial Biodiversity Data Tables

Appendix 7-2 – Bat Assessment Report (2019)

Appendix 9 – Water Quality & Flood Risk Assessment

Appendix 9-1 Dublin Port Extreme Water Levels

Appendix 12 – Material Assets – Coastal Processes

Appendix 12-1 Coastal Processes – Additional Modelling Information

Appendix 12-2 Hydrographic Surveys Particle Size Analysis

Appendix 14 – Cultural Heritage (Architectural & Archaeological)

Appendix 14-1 Hydromaster Archaeo-geophysical Report

Appendix 16 – Population & Human Health

Appendix 16-1 Population and Human Health Baseline Information

Appendix 17 – Waste

Appendix 17-1 DPC Ships Waste Management Plan

Appendix 17-2 DPC Sustainability Report (2017)

APPENDIX 4 ASSESSMENT OF ALTERNATIVES

Appendix 4-1



HR Wallingford
Working with water

Dublin Port Unified Ferry Terminal

Summary of navigation simulation studies



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Contents

1.	Introduction	1
2.	Background	2
3.	Real time navigation simulation	2
3.1.	Overview	2
3.2.	Layout	3
3.3.	Visual scene	3
3.4.	Design ships	3
3.5.	Environmental conditions	7
3.5.1.	Wind conditions	7
3.5.2.	Bathymetry and water depths	7
3.5.3.	Currents	8
3.5.4.	Wave conditions	8
3.5.5.	Visibility and light levels	8
4.	Navigation simulation sessions	8
4.1.	Session 1 – September 2017	8
4.1.1.	Overview	8
4.1.2.	Discussion of results	14
4.1.3.	Key findings	15
4.2.	Session 2 – November 2017	16
4.2.1.	Overview	16
4.2.2.	Discussion of results	19
4.2.3.	Key findings	19
4.3.	Session 3 – February 2018	20
4.3.1.	Overview	20
4.3.2.	Discussion of results	25
4.3.3.	Key findings	27
4.4.	Session 4 – May 2018	27
4.4.1.	Overview	27
4.4.2.	Discussion of results	37
4.4.3.	Key findings	41
4.5.	Session 5 – November 2018	41
4.5.1.	Overview	41
4.5.2.	Discussion of results	45
4.5.3.	Key findings	50
5.	Summary	51

Figures

Figure 1.1:	Port of Dublin – Overview	1
Figure 2.1:	Existing approaches to Unified Ferry Terminal site	2
Figure 3.1:	Example visual scene from simulations	3

Figure 3.2: Wind rose at Dublin Airport.....	7
Figure 4.1: Option 1	10
Figure 4.2: Option 2-1	11
Figure 4.3: Option 2-2	12
Figure 4.4: Option 2-3	13
Figure 4.5: Departure from Berth 49 (L) and arrival to Berth 52 (R).....	15
Figure 4.6: Arrival with port swing (L) and starboard swing (R) to the proposed Berth 53.....	15
Figure 4.7: Option V1	17
Figure 4.8: Option V3.....	18
Figure 4.9: Multi-track plot of showing manoeuvring footprint used with the Option V3 layout.....	19
Figure 4.10: Option 1	22
Figure 4.11: Option 3A.....	23
Figure 4.12: Option 3B.....	24
Figure 4.13: Arrival (top) and departure (bottom) for Berth 52, Option 3A	26
Figure 4.14: Arrival to Berth 52, Option 3B.....	26
Figure 4.15: Option 4A.....	30
Figure 4.16: Option 4B.....	31
Figure 4.17: Option 4C.....	32
Figure 4.18: Option 4D.....	33
Figure 4.19: Option 4E.....	34
Figure 4.20: Option 4F	35
Figure 4.21: Option 4G	36
Figure 4.22: Arrival to Berth 52, Option 4E.....	37
Figure 4.23: Use of manoeuvring area for Option 4G on arrival (top) and departure (bottom).....	38
Figure 4.24: Comparison of clearances off the proposed Berth 53, Option 4B (L, 312) and Option 4G (R, 308)	39
Figure 4.25: Passing ships off the Ferry Terminal, Option 4B (top) and Option 4G (bottom)	40
Figure 4.26: Option 5A.....	43
Figure 4.27: Option 5B.....	44
Figure 4.28: Departure from existing Berth 49 for 230m Design Vessel 3 (l) and 240m Design Vessel 4 (r).....	46
Figure 4.29: Departure from re-orientated Berth 52 for 230m Design Vessel 3 for varying manoeuvring strategies.....	47
Figure 4.30: Departure to re-orientated Berth 52 with 240m Design Vessel 4 using dredging to the east	47
Figure 4.31: Arrival to Berth 53 with a flood tide and easterly wind for the 240m Design Vessel 4	49
Figure 4.32: Arrival to Berth 53 with an ebb tide and southerly wind for the 240m Design Vessel 4	49

Tables

Table 3.1: Design Vessel 1 characteristics, based on “Stena Britannica”	5
Table 3.2: Ship characteristics for Design Vessel 2, 3 and 4	6

1. Introduction

As part of wider Port Masterplan developments, Dublin Port Company (DPC) are proposing to provide additional capacity to cater for the continuing and projected growth at the port. DPC's proposed Unified Ferry Terminal will be made up of 5 berths, existing Berth 51, Berth 51A, Berth 49, a re-orientated previously consented Berth 52 and a new proposed river berth, Berth 53 (see Figure 1.1). The Unified Ferry Terminal is one element of the MP2 project which forms part of DPC's second Strategic Infrastructure Development (SID) to An Bord Pleanála for which permission is being sought for a 5th RoRo passenger berth. Preliminary designs for the Unified Ferry Terminal in the eastern section of the port were considered and developed further for design and planning purposes over five navigation simulation studies.

This report provides a summary of the navigation simulation studies carried out for the development of DPC's Unified Ferry Terminal. These were carried out to assess how the new proposed Berth 53 to the north east of the Port will be integrated with the existing and already consented berths in the vicinity.



Figure 1.1: Port of Dublin – Overview

Source: Google Earth (base image)

2. Background

The Unified Ferry Terminal will ultimately comprise five RoPax ferry berths, three of which are river berths located on the north side of, and immediately adjacent to, the Liffey Channel (see Figure 2.1). It is proposed that each of the river berths (the existing Berth 49, the previously consented and re-oriented Berth 52 and new proposed Berth 53) will be capable of accommodating RoPax ferries up to 240m long. Navigation simulations for the existing Berths 51 and 51A showed that while navigating into and out of the berths was achievable, manoeuvring with vessels on adjacent berth(s) becomes difficult and will require manoeuvring and mooring mitigation.

For manoeuvring to the berths, the ships were considered both swinging off the berths in the existing channel and in a dredged manoeuvring area.



Figure 2.1: Existing approaches to Unified Ferry Terminal site

Source: Google Earth (base image)

3. Real time navigation simulation

3.1. Overview

Real time navigation simulation was used to examine the proposed development over the course of five simulation sessions. The simulation runs were carried out using HR Wallingford's Ship Simulation System.

HR Wallingford has been involved in the use of ship navigation simulation in port and marine terminal design for over 30 years and have carried out over 450 navigation related studies over the last 15 years alone.

3.2. Layout

For each simulation session, the layout of the relevant design(s) was configured within the simulators at HR Wallingford to include the berth, breakwater, access channels, aids to navigation and the coastline. Further details on the layouts considered as part of the studies are detailed in Section 4.

3.3. Visual scene

A realistic visual scene is a critical aspect of the simulation, as it provides the pilot with important visual cues which are used in manoeuvring the ship. The visual scene was created using local photographs, drone footage, satellite imagery and other public domain imagery. An example screenshots of the simulation is shown in Figure 3.1.



Figure 3.1: Example visual scene from simulations

3.4. Design ships

The largest ships currently calling at the existing ferry berths, Berth 51, 51A and 49, have a length overall of approximately 212m. The Stena Adventurer, on the Dublin-Holyhead route, is the longest regular caller and has a length overall of 212m and a beam of 29m. The Ulysses, a 209m RoRo ferry, which typically calls at the existing Berth 49 is, at present, able to operate by swinging in the channel adjacent to its berth.

As with most ferry ports, the ship operations are time critical, with high engine and thruster power available to manoeuvre and berth the ship to unload passengers and vehicles prior to reloading and departing for the next port of call.

The design ship for the first four studies was based on the “Stena Britannica”, a 240m RoRo vessel (Design Vessel 1). The ship was modelled and tested by HR Wallingford. The “Stena Britannica” has the following main characteristics:

■ Length overall	240m
■ Length between perpendiculars	224m
■ Beam	32m
■ Draught	6.4m.

Further details of the characteristics of Design Vessel 1 are shown in Table 3.1.

At the time of writing, the “Stena Britannica” was used for the North Sea routes between the UK and Northern Europe and was therefore designed for fuel efficiency on the transit between those ports. The manoeuvrability was therefore relatively poor, in part due to the increased displacement, with regard to the existing ships that are calling at Dublin Port, and ships expected in the near future up to 2020. Whilst the ship is twin screw, with two propellers and two rudders, it does not have a stern thruster which impacts its ability to manoeuvre in smaller areas. The ship was initially considered, due to its lesser manoeuvrability, to be broadly representative of a wide range of potential ships.

In the fifth simulation session, undertaken in November 2018, three additional design ships were modelled, to represent the range of ships that are most likely to call at the port based on the current and known future RoPax ships. These ships are more likely to be engaged on an intensive short sea route. The design ships covered three lengths of: 220m (Design Vessel 2); 230m (Design Vessel 3); and 240m (Design Vessel 4), all with a beam of 32m. The main engine power was based on a 210m vessel that currently operates into and out of Dublin and was not increased relative to ship length, as engine power was not expected to limit the manoeuvres. Each design ship had three bow thrusters forward, with a total power of 111t up to 123t, and one stern thruster of 37t up to 41t. The thruster power was based on the assumed power requirements of the ships and was increased based on the increased windage of each design ship. A summary of the design ships is shown in Table 3.2. It should be noted that the 220m Design Vessel 2 was not used throughout the simulation session.

Table 3.1: Design Vessel 1 characteristics, based on “Stena Britannica”

Characteristic		Design Vessel 1
Length overall (m)		240
Length between perpendiculars (m)		224
Beam (m)		32
Draught (m)		6.4
Distance bridge to stern (m)		213.83
Block coefficient		0.716
Displacement		34,000
Propulsion		
Main engine type		MAN BW Diesel x4
Engine power (total) (kW)		33,600
Number of propellers and type		2 x CPP
Bow thruster(s) (t)		80
Stern thruster(s) (t)		none
Rudder type		Becker flap
Rudder angle (max) (degrees)		45
Manoeuvring speeds		
Engine order	Pitch	Speed (knots)
Full Ahead	100	22
STOP	0	0
Full Astern	100	-15.4
Windage		
Windage lateral (m ²)		6,523
Windage frontal (m ²)		876
Beam wind forces		
Wind speed (knots)		Wind force (tonnes)
15		18
20		32
25		50
30		72
35		129

Source: HR Wallingford Ship Manoeuvring Model Library

Table 3.2: Ship characteristics for Design Vessel 2, 3 and 4

Characteristic		Design Vessel 2	Design Vessel 3	Design Vessel 4
Length overall (m)		220	230	240
Length between perpendiculars (m)		203.4	213.4	223.4
Beam (m)		32	32	32
Draught (fwd / aft, m)		6.2 / 6.4	6.2 / 6.4	6.2 / 6.4
Distance bridge to stern (m)		194.2	199.2	204.2
Block coefficient		0.7	0.7	0.7
Displacement		29,000	31,000	32,000
Propulsion				
Main engine type		4 x CAT MAK 9M43		
Engine power (total) (kW)		31,200		
Number of propellers and type		2 x CPP		
Bow thruster(s) (t)		111	117	123
Stern thruster(s) (t)		37	39	41
Rudder type		Twin rudder, flapped		
Rudder angle (max) (degrees)		45		
Manoeuvring speeds				
Engine order	Pitch	Speed (knots)		
Full Ahead	100	21.5	21.0	20.7
STOP	0	0	0	0
Full Astern	100	-13.9	-13.7	-13.5
Windage				
Windage lateral (m ²)		5,902	6,203	6,504
Windage frontal (m ²)		1,048	1,048	1,048
Beam wind forces				
Wind speed (knots)		Wind force (tonnes)		
15		22	23	24
20		38	40	42
25		60	63	66
30		86	90	95
35		117	123	129

Source: HR Wallingford Ship Manoeuvring Model Library

3.5. Environmental conditions

3.5.1. Wind conditions

The wind speeds and directions were determined in discussion with the Simulation Team prior to each run. In most of the simulation runs the wind speed was set at 25 knots gusting ± 5 knots, which was established as the wind speed limit for the design ferries to manoeuvre without tug assistance in Dublin Port. A range of common and navigationally challenging wind directions were considered during the simulations. A wind rose for Dublin Airport is presented in Figure 3.2.

Windrose Dublin Apt 1-Jan-1942 to 31-Dec-2014

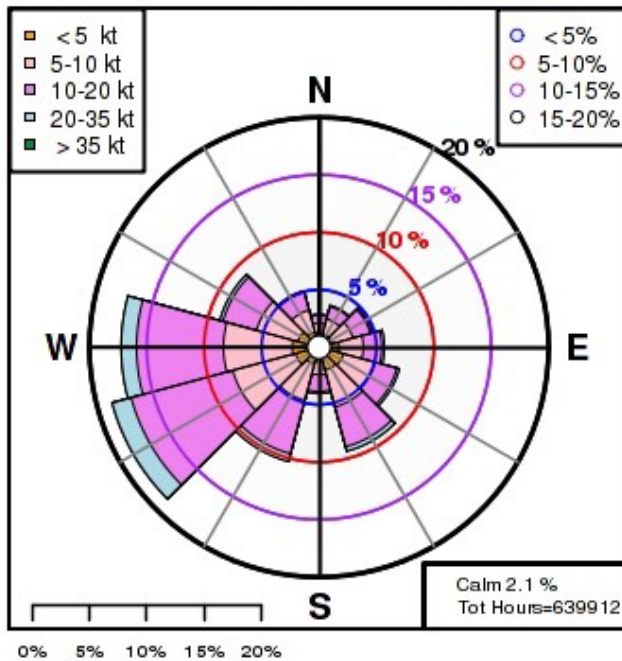


Figure 3.2: Wind rose at Dublin Airport

Source: <https://www.met.ie/climate-ireland/wind.asp>

3.5.2. Bathymetry and water depths

The bathymetry included in the Dublin Port simulation was based on the bathymetry (survey) data embedded within the RPS Group’s numerical flow model of the existing port layout. This represented the existing bathymetry at the port and so did not include any of the proposed dredging.

During the simulation runs the ships were deliberately manoeuvring outside the existing channel footprint, and therefore in areas that would have been shallow. To ensure that the ships had sufficient water depth and under keel clearance (UKC) to manoeuvre throughout the area of navigational interest, a uniform water depth was applied in all of the simulation runs.

The water depth was set at 8m. This is equivalent to the minimum expected water depth with a dredge level of -8.0mCD and still water level of 0.0mCD (LAT), and ensures a minimum static UKC of 1.6m. Previously consented works allow for dredging to -10.0m CD. This additional future dredging depth will increase the underkeel clearance of the ships and therefore improve the manoeuvrability of the ships.

3.5.3. Currents

The currents used within the navigation simulations were based on predicted outputs from the RPS Group's numerical flow model of the existing port layout. This flow model included both fluvial and tidal currents.

Currents associated with a full tidal cycle (from low water through high water to low water) for a tide with a 4.2m range were available in the simulator. This represented a large spring tide (mean spring tidal range is 3.4m). Current speeds were depth averaged through the water column.

In the simulation runs, the manoeuvres were conducted in currents associated with peak flood or peak ebb conditions, but did not include the effects of any proposed structures, or proposed dredging, on the currents.

3.5.4. Wave conditions

Wave conditions within the port were not expected to impact ship navigation and manoeuvring significantly and therefore the effect of waves were not included in the simulations.

3.5.5. Visibility and light levels

All of the simulation runs were conducted in conditions representing daylight and good visibility.

4. Navigation simulation sessions

As previously mentioned, the preliminary design for the Unified Ferry Terminal at Dublin Port was developed over the course of five simulation sessions carried out at HR Wallingford between September 2017 and November 2018. Details of each simulation session, including the layouts considered and the outcomes, are provided in the following sections.

All simulation runs were piloted between:

- Captain Maurice Mahon, a Dublin Port Pilot with extensive experience as a ferry ship's master navigating into Dublin Port and who held a Pilot Exemption Certificate (PEC) at the port prior to becoming a Dublin Port Pilot.
- Captain Michael McKenna, Harbour Master of Dublin Port. Captain McKenna has over 10 years' experience as master of large ferries operating in Ireland, UK and the Continent. During this time Captain McKenna was the holder of a PEC prior to becoming Harbour Master of Dublin Port in 2016.
- Captain Ian Love (HR Wallingford's Pilot), a senior Harwich Haven Authority Pilot who has vast experience of ferry operations prior to becoming a Pilot in Harwich where he now manoeuvres vessels up to 400m in length.

4.1. Session 1 – September 2017

4.1.1. Overview

The session in September 2017 (Session 1) examined four layouts, Option 1, 2-1, 2-2 and 2-3. The simulations were carried out with the Design Vessel 1 ship model.

The layouts that were used in the September 2017 simulations were based on the layouts of the consented An Bord Pleanála (ABP) Ref: 29N.PA0034 which consisted of using the existing Berth 49, including the

additional dolphins consented under the above referenced application, the new consented river berth, Berth 52, again under the above ABP reference. The purpose of the simulations was to include the proposed Berth 53 alongside the previously consented Berth 49 extension, and new Berth 52. The location, orientation and position of the berths were assessed from a navigation perspective.

All layouts included the proposed reclamation on the Poolbeg Peninsula side of the channel based on Dublin Ports Masterplan 2040, Reviewed 2018. The layouts required the ship to manoeuvre to swing adjacent to the berths. The layouts for the simulation session are shown in Figure 4.1 to Figure 4.4. Further details of the layouts examined are as follows:

- Option 1
 - Previously consented Berth 52 to the east of the existing Berth 49;
 - The previously consented Berth 52 is setback from the berthing line of Berth 49 and orientated 8° clockwise.
- Option 2-1
 - As Option 1 with proposed Berth 53 to the east of the previously consented Berth 52;
 - Proposed Berth 53 is setback from the berthing line of the previously consented Berth 52 and orientated a further 3° clockwise.
- Option 2-2
 - As Option 2-1 with additional berth length (25m) at the proposed Berth 53 and refined dredged access (Buoy No.15 moved to the east by approximately 45m).
- Option 2-3
 - As Option 2-2 with dredging continued from berthing line to the existing channel.

A total of 16 runs were completed over a two day simulation session. Pilotage of the simulation runs was carried out by Captain Maurice Mahon and overseen by pilot Captain Ian Love and Captain Michael McKenna.

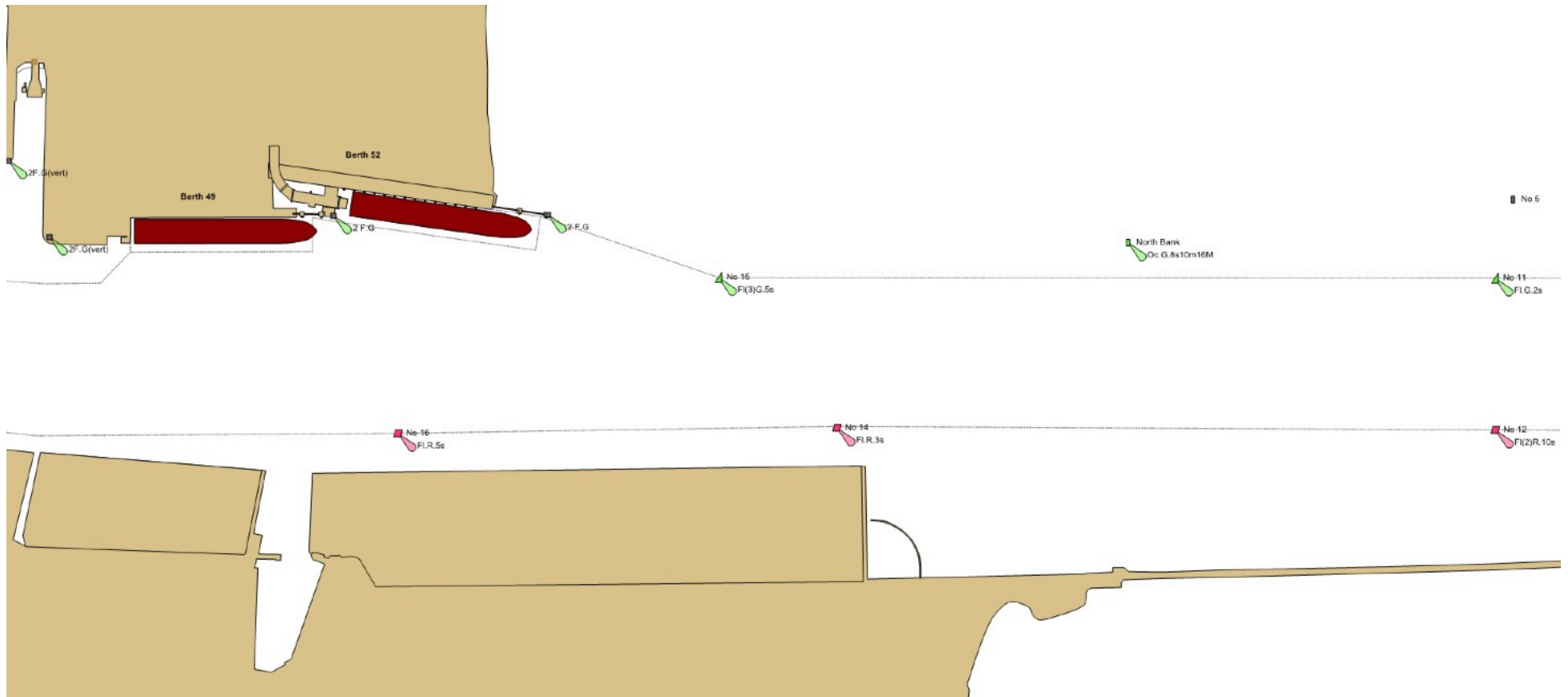


Figure 4.1: Option 1

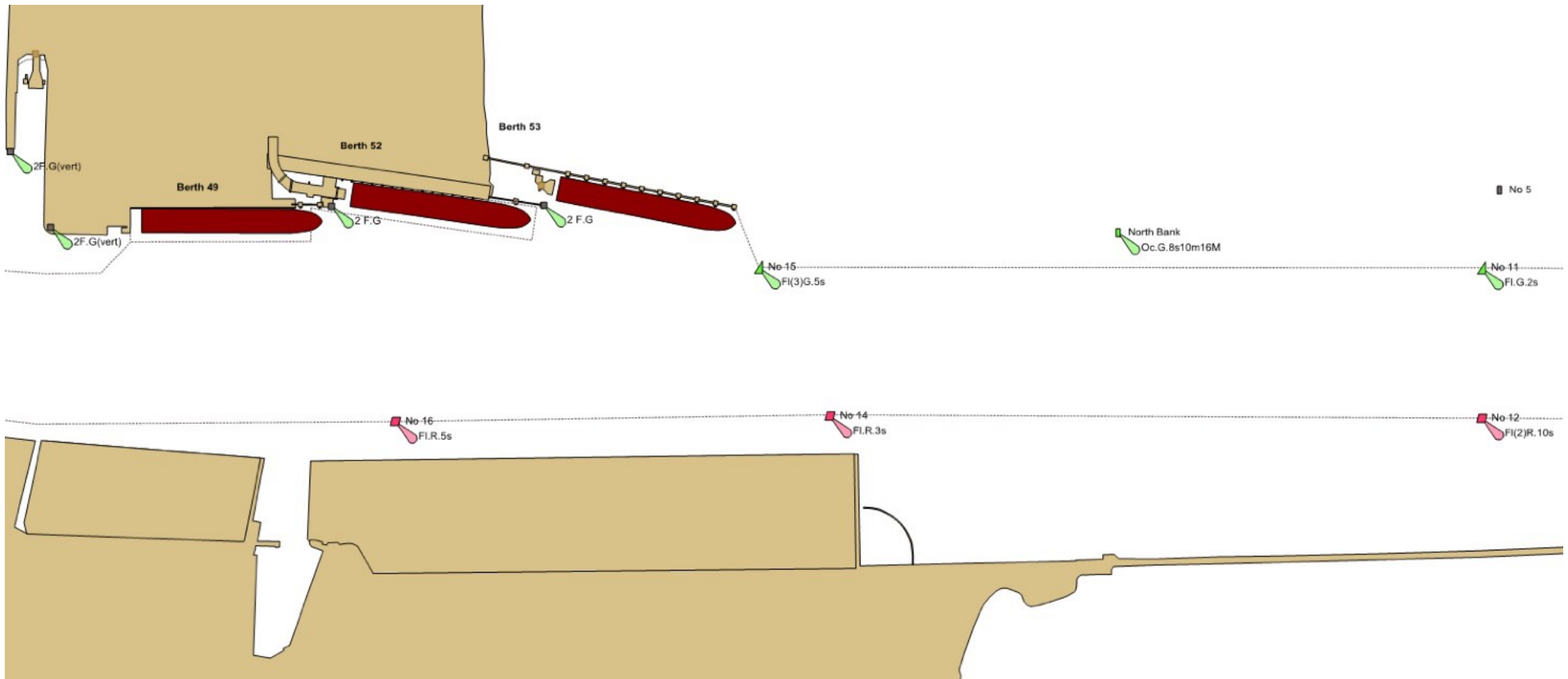


Figure 4.2: Option 2-1

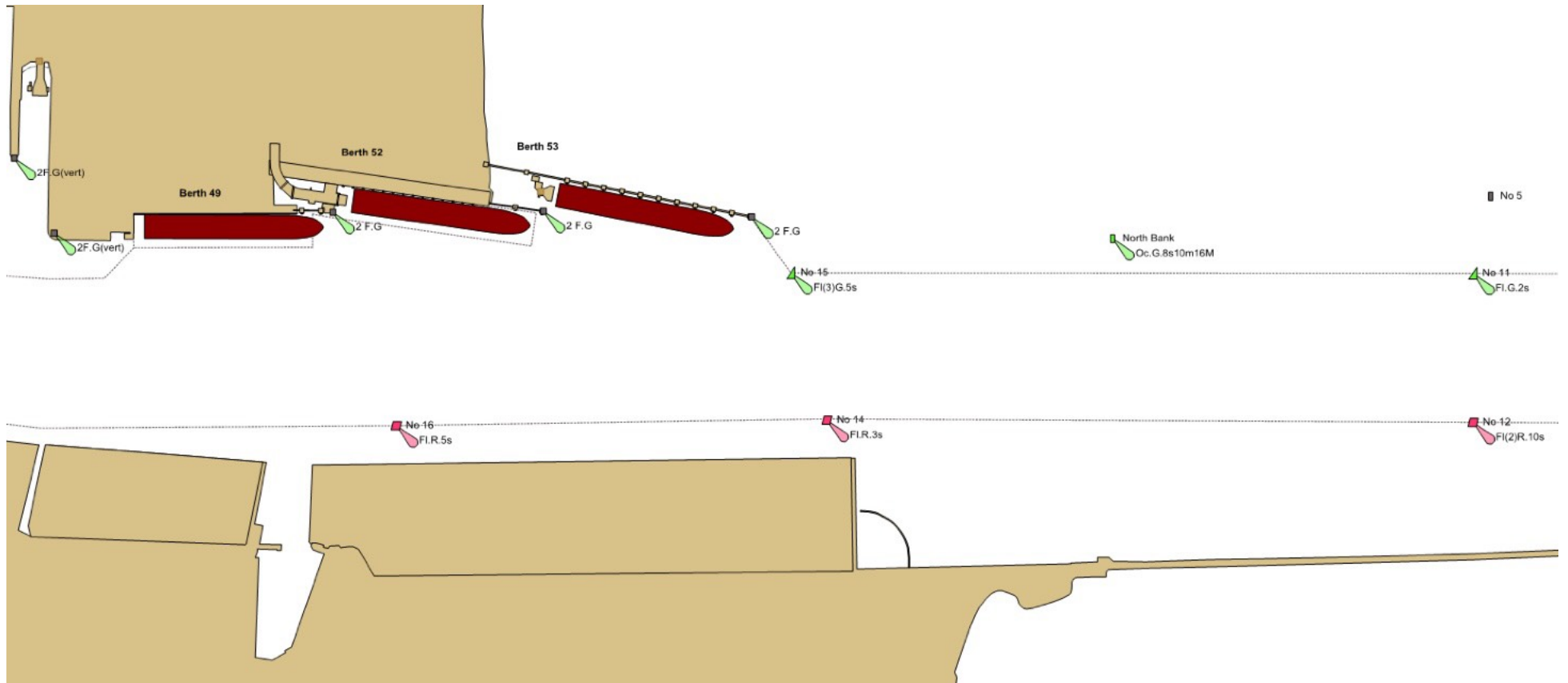


Figure 4.3: Option 2-2

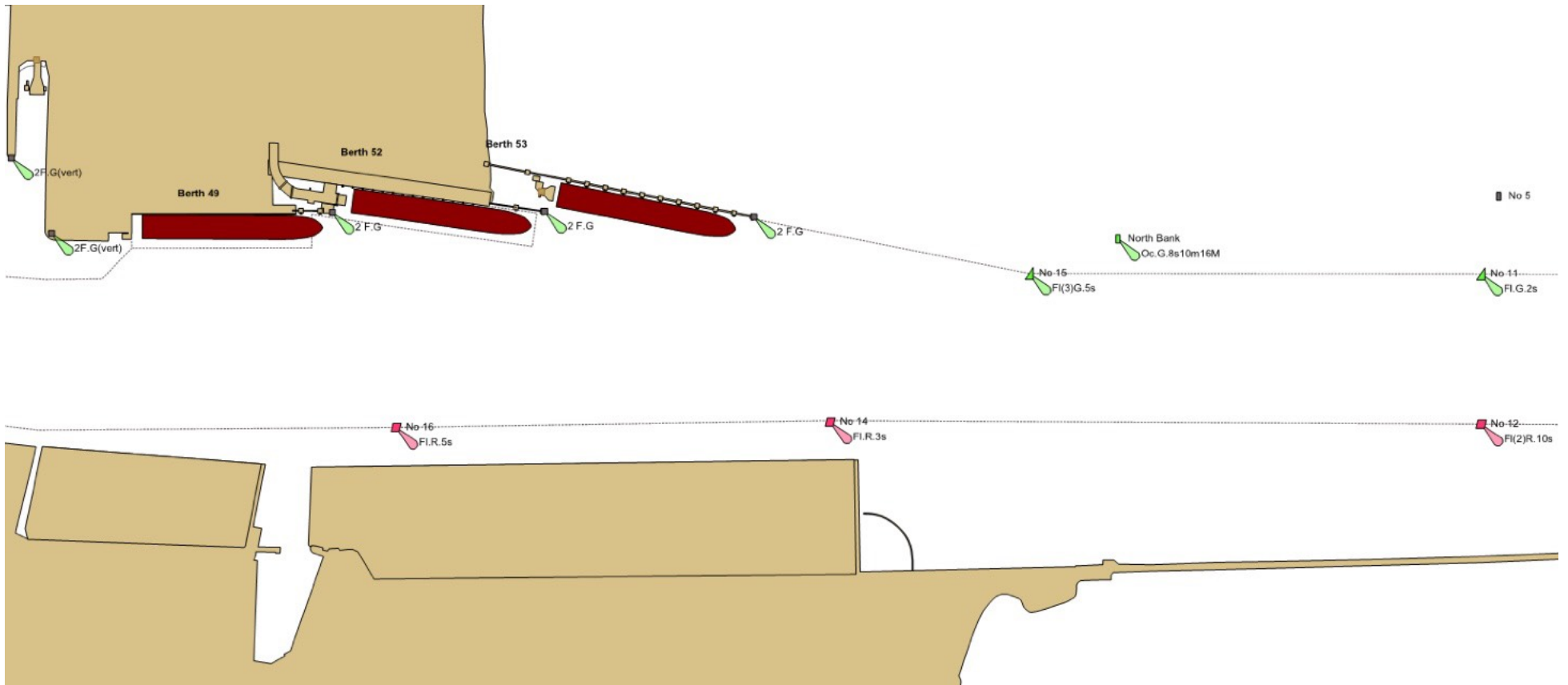


Figure 4.4: Option 2-3

4.1.2. Discussion of results

The majority of the runs focussed on arrival and departure manoeuvres to and from existing Berth 49, which had the least area for manoeuvring, and proposed Berth 53, which was initially restricted and required additional dredging to allow unrestricted access.

The basis of the preliminary designs examined during the September 2017 simulation session was for the ship to manoeuvre adjacent to the berth, as is currently done with the Ulysses, the longest RoPax currently operating at the port. The increased length of Design Vessel 1 compared to the Ulysses, by approximately 30m, meant that available clearance for the vessel was 45m and during some manoeuvres the vessel came within less than 10m of the existing channel boundary. The available power of the Design Vessel 1 and the fact that the vessel does not have a stern thruster resulted in the manoeuvres being less favourable than could have been achieved with a vessel of improved manoeuvrability.

All departures were completed from existing Berth 49 due to the berth alignment, proximity to occupied consented Berth 52 and proposed Berth 53 when departing, and the available manoeuvring area off the berth. It was expected that departure manoeuvres from Berth 52 and 53 would, similarly, be feasible.

Modifications to the layout of the proposed Berth 53 (Option 2-1, Figure 4.2) were made throughout the simulation session. The dolphins at the proposed Berth 53 did not provide sufficient berth length for acceptable mooring of head lines (or stern lines for bow in mooring) when the design ship was positioned alongside. An additional dolphin was therefore added to the layout (Option 2-2, Figure 4.3) which also increased the length of the berth pocket.

Option 2-2 was assessed during an arrival with a south-westerly 25 knot wind. The location of Buoy 15, marking the boundary of dredging, was shown to considerably restrict the ability of the pilot to position the ship for the manoeuvre. This led to the stern of the ship coming close to the bow of the ship on Berth 52 after taking evasive action. Whilst it may have been possible to complete the manoeuvre successfully, it significantly restricted the manoeuvre. As a result, the dredging was increased with the boundary of the dredged area for the proposed Berth 53 extending along the berthing line to meet the channel (Option 2-3, Figure 4.4). Whilst not configured for the simulations it was recommended that the proposed Berth 53 was set on the same alignment as consented Berth 52.

Manoeuvres to and from consented Berth 52 for Option 1 were considered similar to manoeuvres to and from proposed Berth 53 for Option 2-3. Whilst more of the focus of the simulations was on proposed Berth 53, the manoeuvres to consented Berth 52 were expected to be similar.

In general, the manoeuvres to and from all berths when swinging adjacent to the berth, whilst shown to be feasible, were challenging with the 240m long Design Vessel 1. Clearances from moored ships, infrastructure and the edge of the existing channel were low, as shown in Figure 4.5 and Figure 4.6. Throughout the simulations an element of refinement to the manoeuvring strategy was required which is typical of any new or revised port layout. Additional familiarisation and refinement of the manoeuvring strategy would therefore be required due to the low clearances experienced.

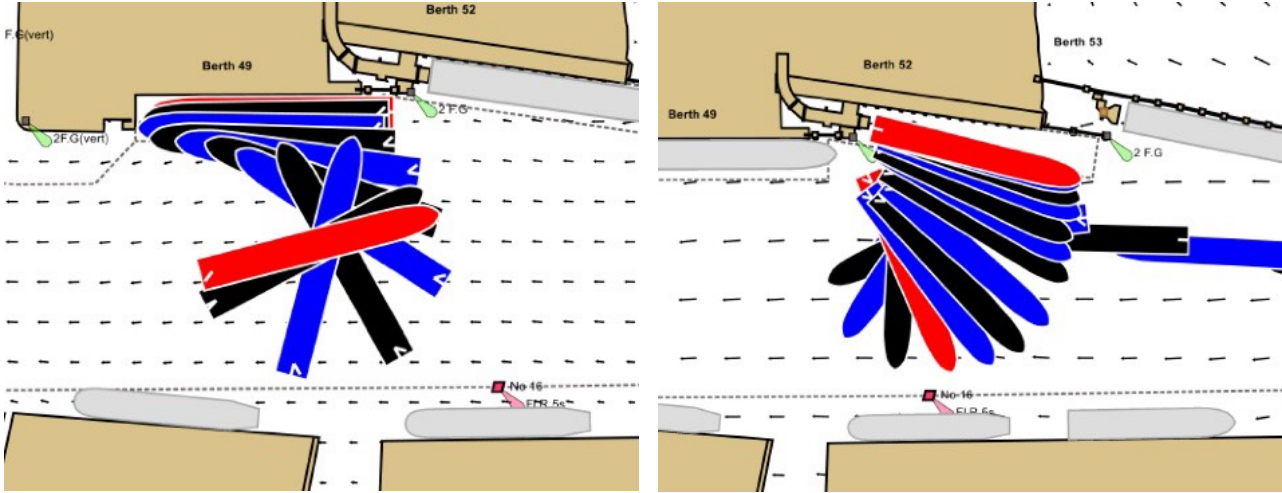


Figure 4.5: Departure from Berth 49 (L) and arrival to Berth 52 (R)

Note: Ship position is shown every minute. Red ship is shown every 10 minutes.

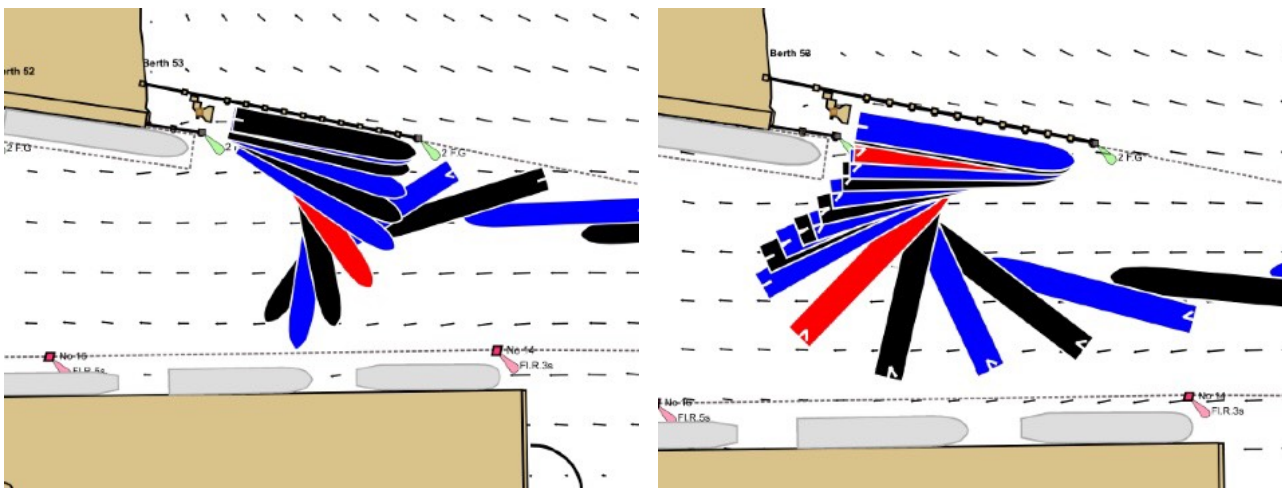


Figure 4.6: Arrival with port swing (L) and starboard swing (R) to the proposed Berth 53

Note: Ship position is shown every minute. Red ship is shown every 10 minutes.

4.1.3. Key findings

The following key findings relating to the preliminary design of the Unified Ferry Terminal were taken from Session 1:

- Changes to the layouts were made to improve navigation to and from the existing and proposed berths, namely at the proposed Berth 53 to improve access. However, the ships were required to swing immediately off the berths within the existing Liffey Channel.
- Whilst it was found to be possible to swing the 240m long Design Vessel 1 adjacent to the respective berths within the existing channel, it was a difficult manoeuvre, and the horizontal clearances between the manoeuvring ship and vessels moored on the adjacent berths were low.

4.2. Session 2 – November 2017

4.2.1. Overview

Following on from Session 1 (September 2017), the low clearances achieved by Design Vessel 1 led to the layout of the berths being reviewed, as well as the introduction of a manoeuvring area to assist in manoeuvring the ships in and out of the Unified Ferry Terminal. Two additional layouts were considered in a second simulation study, Option V1 and V3, which are shown in Figure 4.7 and Figure 4.8 including a manoeuvring area to the east of the proposed ferry terminal. Further details of the layouts are as follows:

- Option V1
 - Berth layouts as Option 2-3 (September 2017) with proposed Berth 53 realigned to the same orientation as previously consented Berth 52;
 - Manoeuvring area to the east of Berth 53, to the north of the Liffey Channel and positioned within the Special Protection Area (SPA).
- Option V3
 - As Option V1 with manoeuvring area to the east of the proposed Berth 53, to the south of the Liffey Channel.

A third option, Option V2, similar to Option V1, with the proposed Berth 53 moved to the north by 75m, was also available during the simulations, but was not required.

All layouts included the existing berths on the Poolbeg Peninsula side of the channel as the southern development was still under consideration. During later simulations, the reclamation on the Poolbeg Peninsula side of the channel, based on Masterplan 2040, reviewed 2018, was included as it presented a greater constraint on the manoeuvring area and on operations to and from the berths.

A total of 12 simulation runs were completed over a two day simulation session. All simulations were carried out by Captain Ian Love and overseen by Captain Michael McKenna.

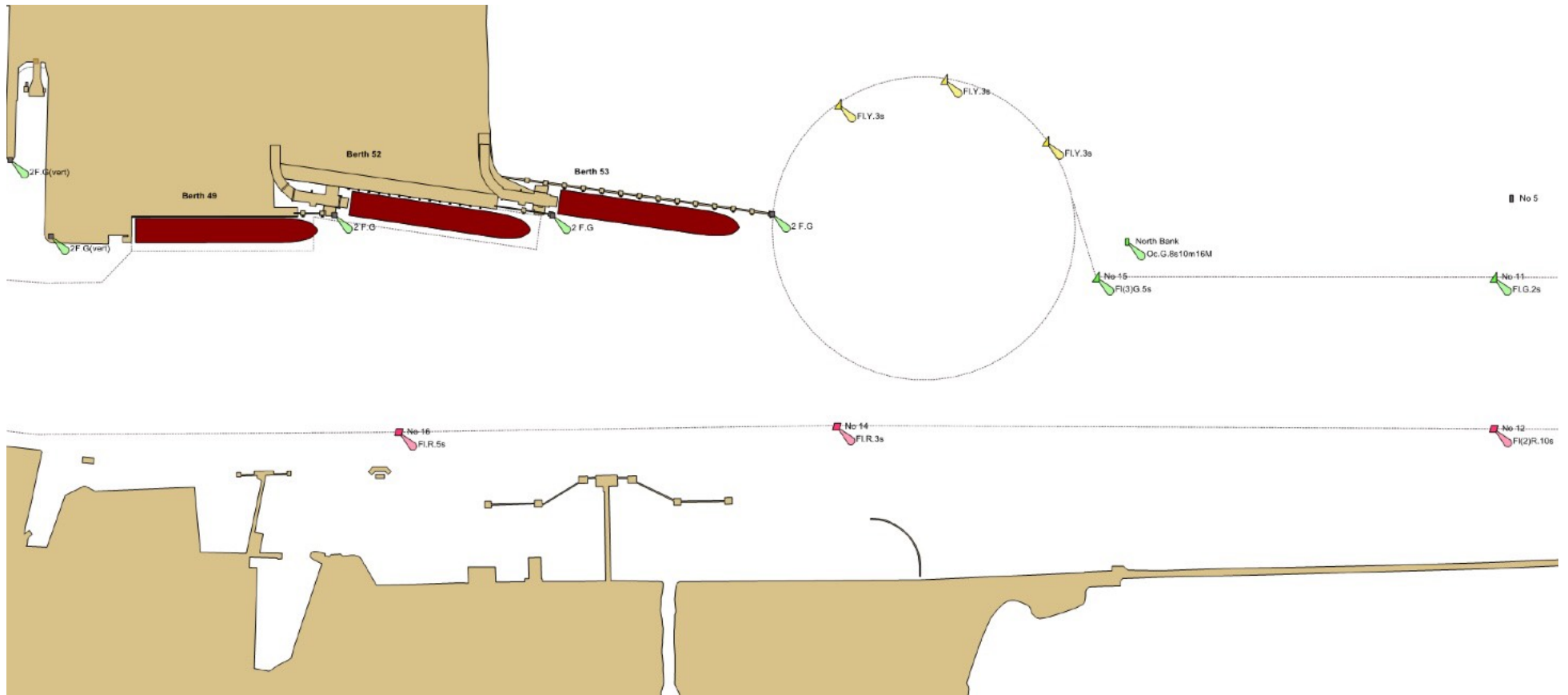


Figure 4.7: Option V1

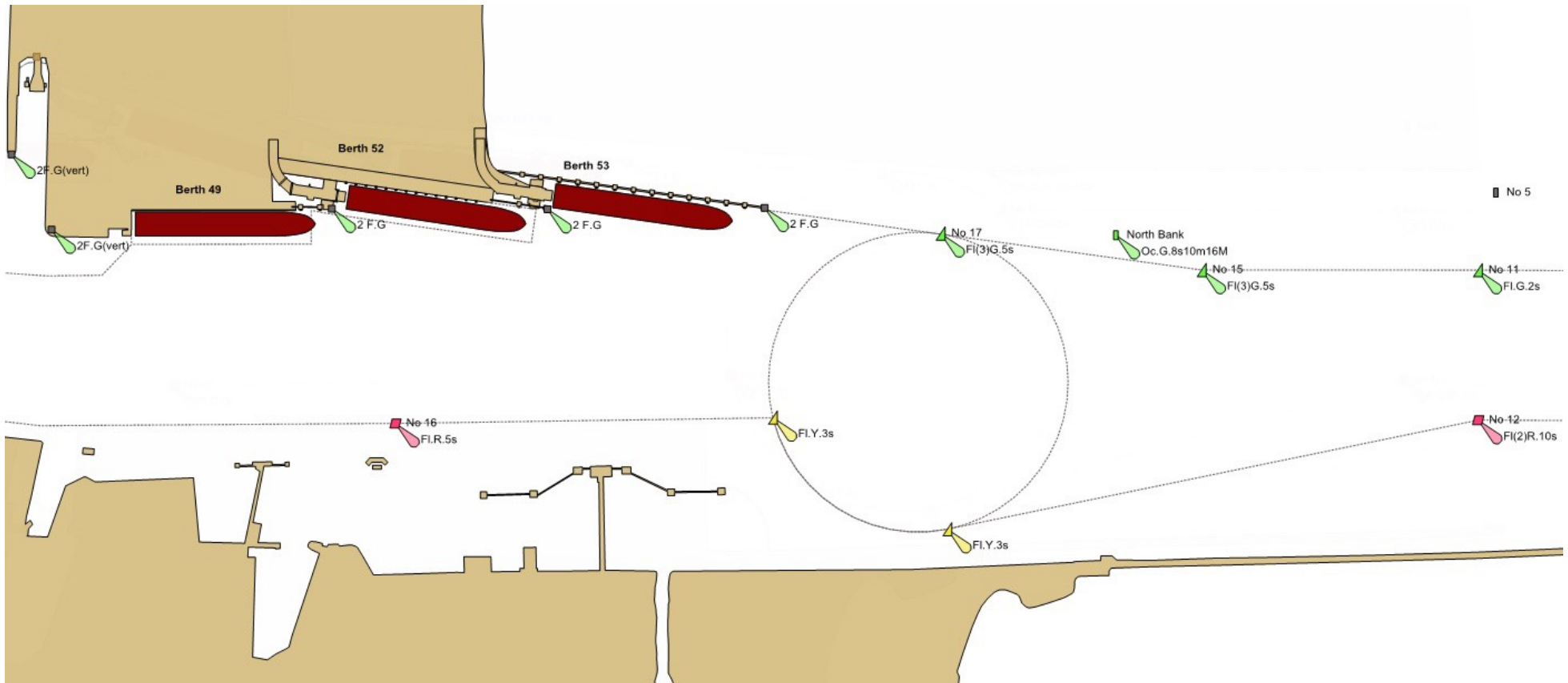


Figure 4.8: Option V3

4.2.2. Discussion of results

Preliminary runs with the Option V1 layout were shown to be feasible and at end of the swing manoeuvre the ship was in a safe position. However, it was not ideally-placed to manoeuvre to any of the three ferry berths, as the ship must manoeuvre around the eastern tip of the proposed Berth 53 structure. A northern manoeuvring area would also require significant dredging within the environmentally sensitive SPA, Figure 2.1) area north of the channel. To minimise the potential impact on the SPA a manoeuvring area was also considered to the south of the Liffey channel following some preliminary simulation runs which was developed in to Option V3.

Manoeuvres of the 240m Design Vessel 1, to all three of the ferry berths (extended Berth 49, consented Berth 52 and proposed Berth 53) for Option V3 in a range of environmental conditions were simulated. In general, the location, dimensions and form/shape of the proposed manoeuvring area worked well from a navigation viewpoint. The pilot was able to manoeuvre the ship in an “unforced” and “natural” manner with good control and clearances throughout the approach, swing and departure manoeuvres. There was also sufficient manoeuvring space to set up for the swing manoeuvre (position and speed), and manoeuvre with wind and current during the swing in a safe manner. Finally, the ship swing position was found to be well placed to make it straightforward and timely to manoeuvre at all three of the ferry berths. This is shown in the multi-track plot of all manoeuvres to and from the berths with the Option V3 layout (Figure 4.8).

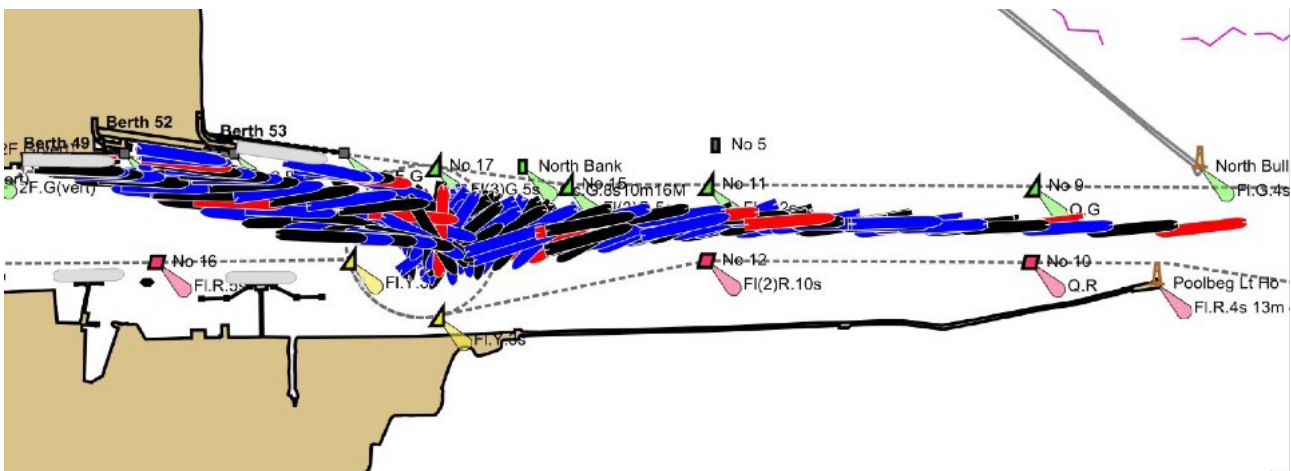


Figure 4.9: Multi-track plot of showing manoeuvring footprint used with the Option V3 layout

Notes: Plots shows overlay of all runs considered for the Option V3 layout.
 Ship position is shown every minute. Red ship is shown every 10 minutes.

4.2.3. Key findings

The following key findings relating to the preliminary design of the ferry terminal were taken from Session 2:

- Swinging the 240m Design Vessel 1 in a manoeuvring area on the north side of the channel (Option V1) was found to be straightforward and safe. At end of the swing manoeuvre the ship was in a safe position, but was not ideally-placed to manoeuvre to any of the three ferry berths, as the ship must manoeuvre around the eastern tip of the proposed Berth 53 structure.

- A northern manoeuvring area (Option V1) would require dredging within the environmentally sensitive SPA area north of the channel. A southern manoeuvring area (Option V3) reduces the dredging required north of the channel.
- The southern manoeuvring area (Option V3) allows for ferry manoeuvres which were “unforced” with good control and clearances throughout the approach, swing and departure manoeuvres, with space to manoeuvre in the wind and current during the swing, in a safe manner.
- From a navigation viewpoint, based on the manoeuvring of Design Vessel 1, it is preferable to swing this vessel in a manoeuvring area with a diameter of approximately 400m, compared to swinging immediately off the berths. The preferred layout was the Option V3, featuring the southern manoeuvring area. It should be noted that manoeuvring adjacent to the berths with vessels with higher manoeuvring capability than Design Vessel 1 was considered in the fifth simulation session.
- The linkspan support structures at both consented Berth 52 and proposed Berth 53 are potentially vulnerable to ship contact that could impose significant lateral loads. It was recommended that the alignments and/or separation of the consented Berth 52 and proposed Berth 53 were adjusted to reduce this vulnerability.
- From a ship handling viewpoint there was a preference for a closed structure at the proposed Berth 53. This eliminates the potential for cross currents at the berth, and also maximises the effectiveness of the ferry’s thrusters and propeller wash acting against a solid structure. The worst option (from a navigation viewpoint) would be to have a part open quay and part closed quay walls, since this could mean the ship could be subject to variable current loads, and variable thruster effectiveness, along the length of Berth 53.
- Ships moored at the proposed new berths (on both sides of the Liffey Channel) may be vulnerable to adverse interaction from passing ships. It is understood that speed limits for all ships transiting the Liffey Channel inside the North Bull and Poolbeg lighthouses will be reviewed accordingly.
- With a proposed future Liffey Channel including a manoeuvring area layout, the marine traffic control systems and ship movement scheduling will need to be reviewed to ensure appropriate spacing and separation of vessels within the navigation channel.

4.3. Session 3 – February 2018

4.3.1. Overview

Following on from the previous simulation sessions, there was a project requirement to revise the berth locations to ensure the development did not encroach on the SPA to the north-east of the proposed ferry terminal.

Session 3 (February 2018) examined three layouts, Option 1 (different from Session 1, September 2017), 3A and 3B, shown in Figure 4.11 and Figure 4.12. The reclamation on the Poolbeg Peninsula side of the channel, based on Dublin Ports Masterplan 2012-2040, reviewed 2018, was included with the manoeuvring area moved east to accommodate the reclamation. Further details of the layouts are as follows:

- Option 1
 - Consented Berth 52 positioned as in the previous simulation sessions, aligned on 098-278°N with a usable berth length from the linkspan of 255m, which includes the ramp from the ferry.
 - Proposed Berth 53 immediately adjacent on a continuous land line and aligned on 095-275°N with a useable berth length of 290m.

■ Option 3A

- Consented Berth 52 positioned as in the second simulation study, aligned on 098-278° with a usable berth length from the linkspan of 355m, which includes the ramp from the ferry.
- Proposed Berth 53 immediately adjacent on a continuous land line and aligned on 095-275°N with a useable berth length of 285m.

■ Option 3B

- Revised the road way access to / from the linkspan at proposed Berth 53 for Option 3A, reducing the length of berth at consented Berth 52 to 315m.
- Inclusion of a container terminal on the southern development, including the booms of the container cranes, allowing for future development of the Dublin Port Masterplan 2012-2040, reviewed 2018.

A total of 12 simulation runs were completed over a two day simulation session to consented Berth 52 and proposed Berth 53. All simulation runs were piloted by Captain Maurice Mahon and overseen by Captain Ian Love and Captain Michael McKenna.

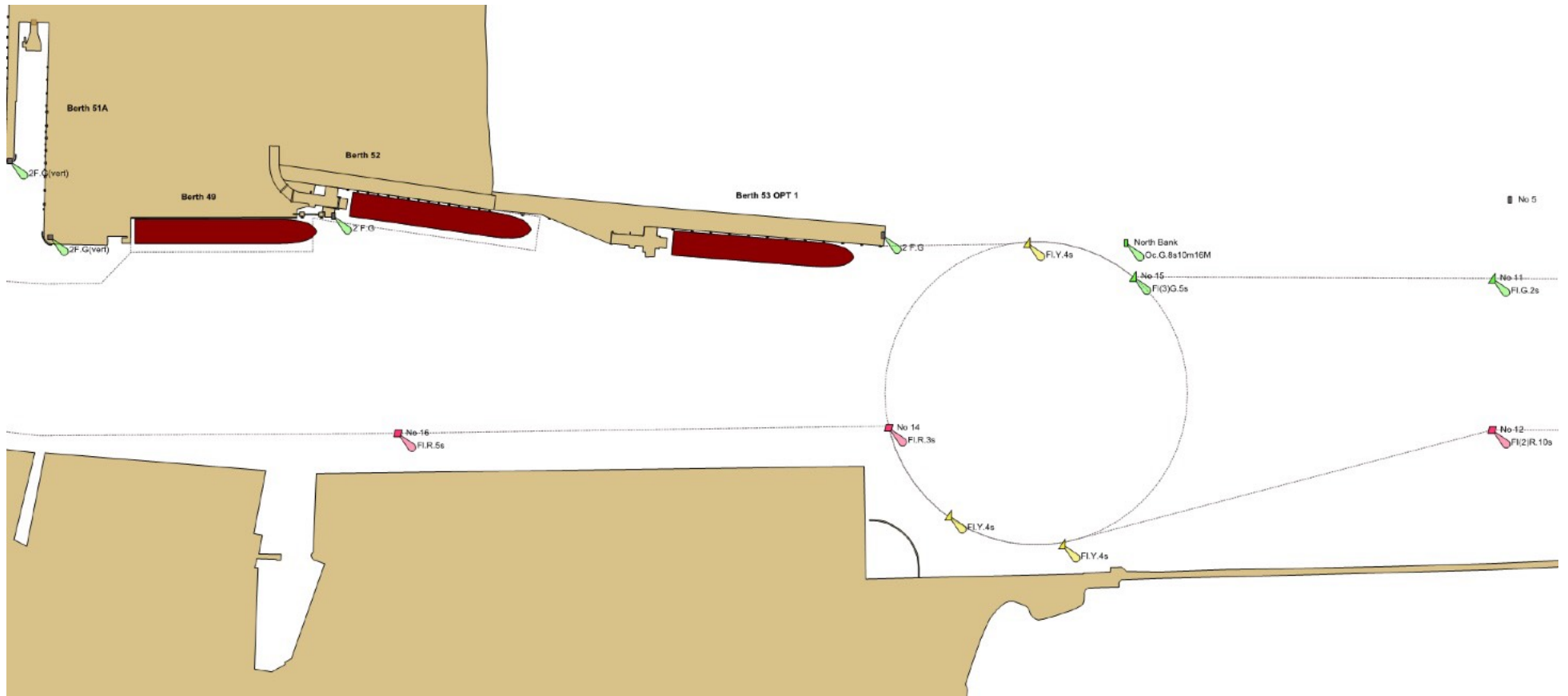


Figure 4.10: Option 1

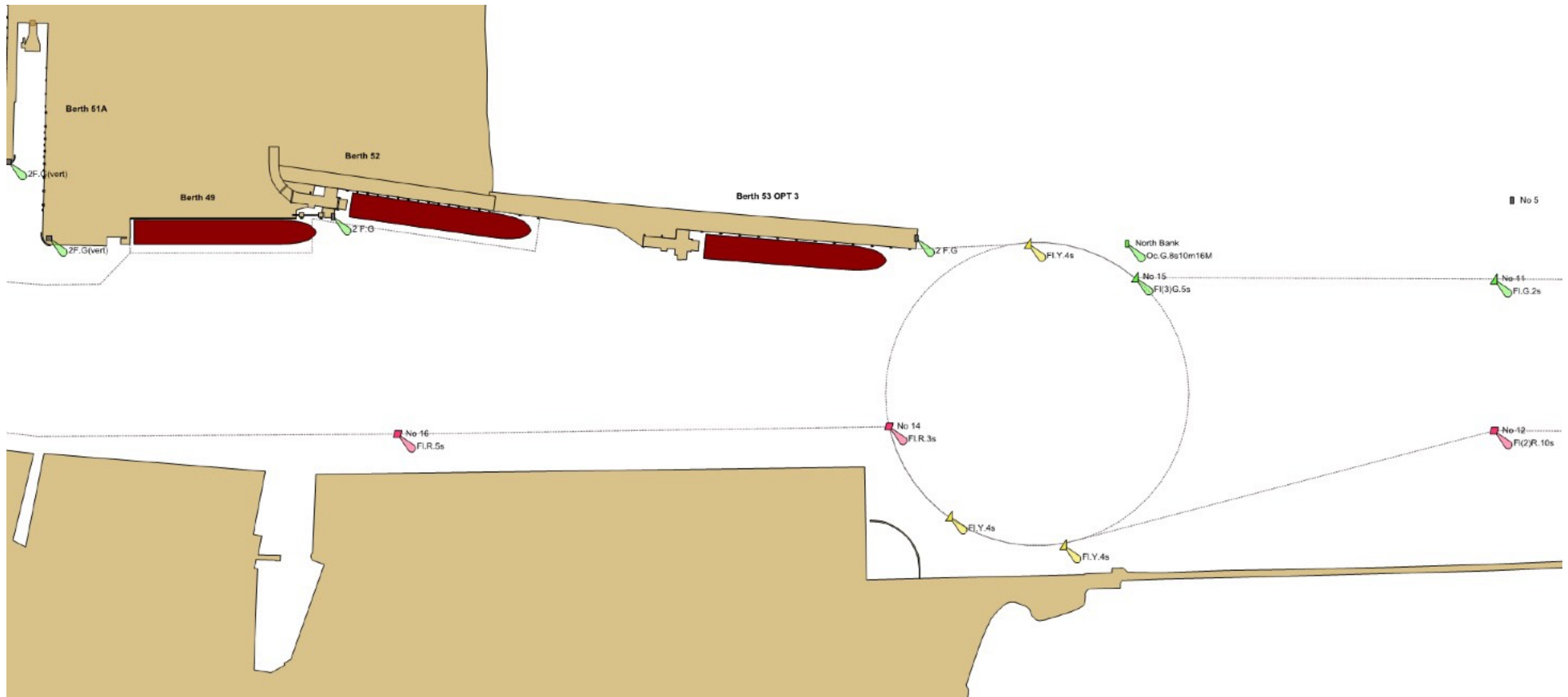


Figure 4.11: Option 3A

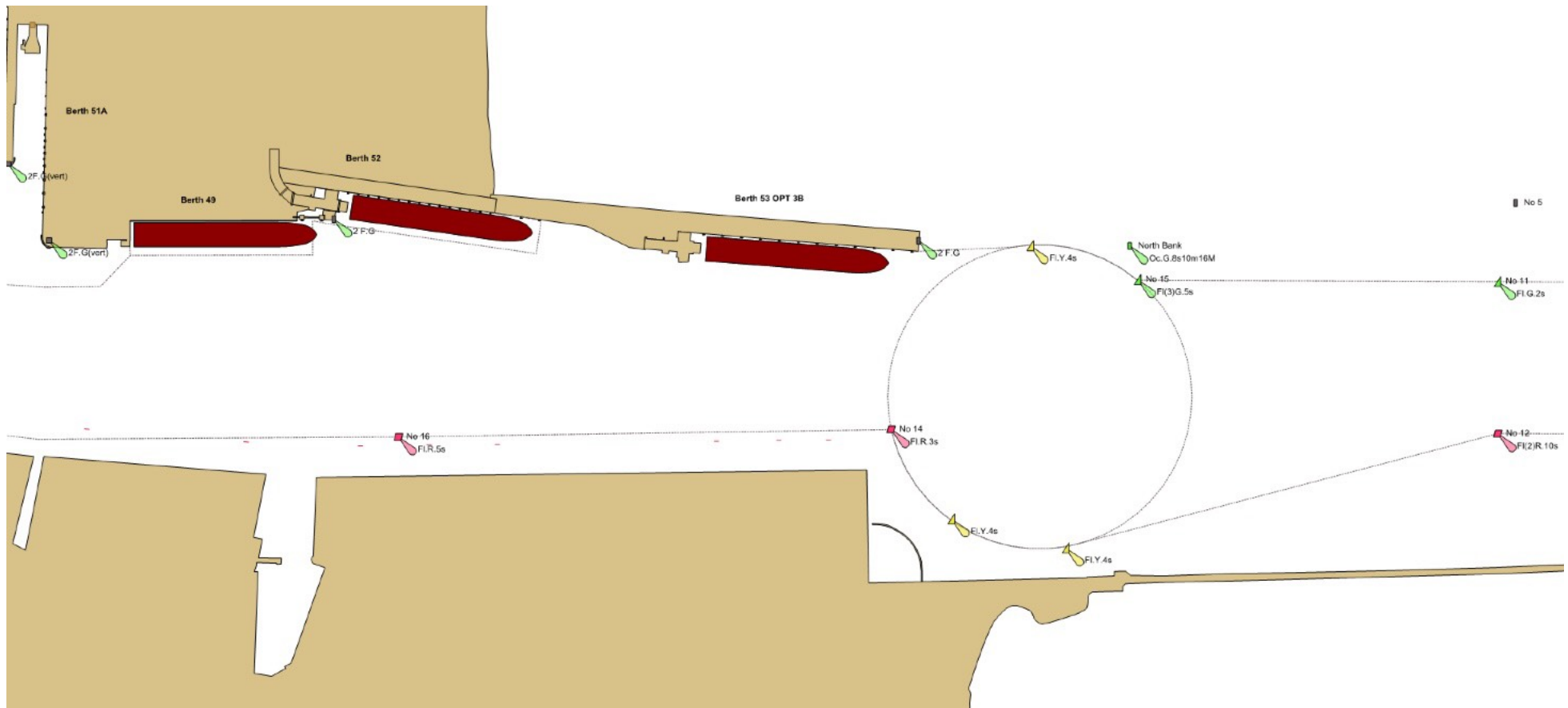


Figure 4.12: Option 3B

4.3.2. Discussion of results

Initially, simulation runs were considered with the Option 1 layout with manoeuvres assessed at the consented Berth 52. This had a useable berth length of 255m, before tapering to the proposed Berth 53 linkspan to provide road access for the berth. The berth length includes the allowance for the bow or stern ramp which could require as much as 10m clearance from the linkspan. Arrival and departure manoeuvres, with the Design Vessel 1, were completed in wind speeds of 25 knots gusting ± 5 knots.

The channel and manoeuvring area were shown to provide sufficient space to manoeuvre the ship. However, whilst the berthing manoeuvres were shown to be possible, the clearances available were not acceptable and left minimal margin for error. It was particularly noted that when using the split engines or with kicks ahead on the engine, as required to bring the stern alongside or away from the berth, there was always a tendency for the ship to come ahead. The issues with the clearance are also likely to be significant in lower wind and current conditions. Additional length of berth was therefore considered necessary for safe manoeuvres to and from the consented Berth 52.

Option 3A provided additional length of useable berth, which included moving the proposed Berth 53 further east and continuing the berthing line to the linkspan access at the proposed Berth 53. The additional berth length allowed the manoeuvre to be carried out without any issues, hence, arrivals and departures, both stern-to and bow-to the ramp, were carried out successfully (Figure 4.13). They were completed with good clearances off the berth structures and allowed a dynamic manoeuvre to be completed, which is typical of ferry operations. In addition, when carrying out the manoeuvre, the pilot did not feel restricted.

Following the simulations with the Option 3A layout, the potential to reduce the length of the consented Berth 52 was also considered. An assessment was carried out based on the simulation runs to Option 3A. A reduction of the berth length by 40m was considered feasible with an improvement to the access for the linkspan at proposed Berth 53. A simulation run was carried out with the revised layout, Option 3B, which confirmed that the change to the layout did not have a negative impact on navigation (Figure 4.14).

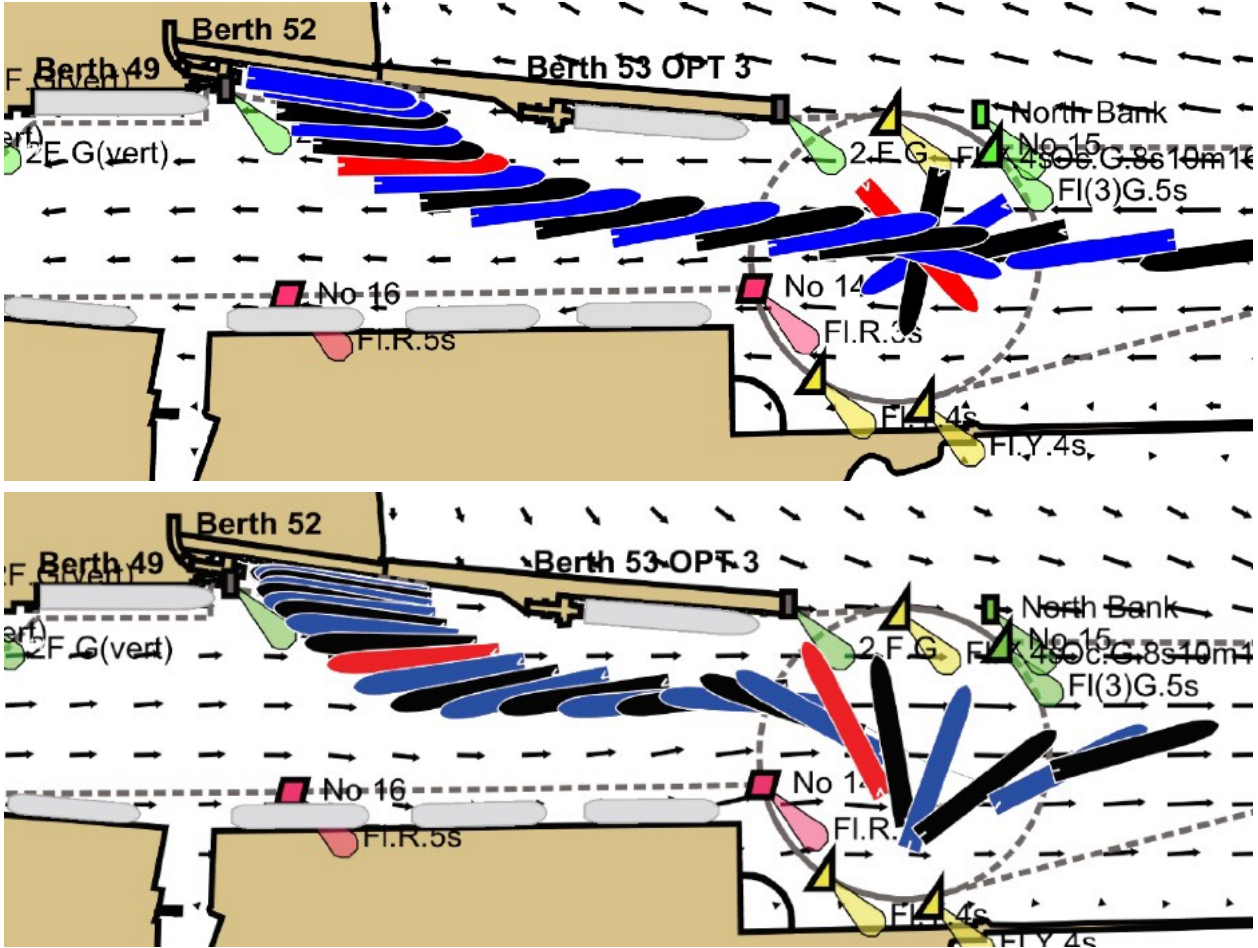


Figure 4.13: Arrival (top) and departure (bottom) for Berth 52, Option 3A

Note: Ship position is shown every minute. Red ship is shown every 10 minutes.

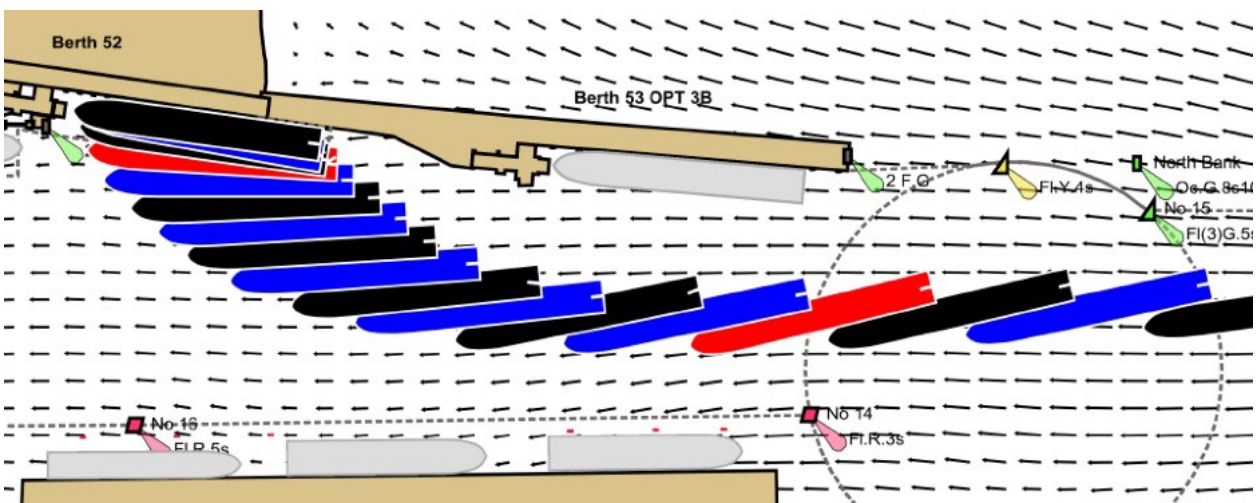


Figure 4.14: Arrival to Berth 52, Option 3B

Note: Ship position is shown every minute. Red ship is shown every 10 minutes.

Manoeuvres to and from proposed Berth 53 were also simulated which confirmed the changes to the Unified Ferry Terminal layout from previous simulations did not impact navigation for the berth.

It was also noted that the channel, manoeuvring area and approach to the berth were sufficient as previously shown.

Navigation simulations for the existing Berths 51 and 51A showed that while navigating into and out of the berths was achievable with 240m vessels, manoeuvring with vessels on adjacent berth(s) becomes difficult and will require manoeuvring and mooring mitigation.

4.3.3. Key findings

The following key findings relating to the preliminary design of the ferry terminal were taken from Session 3:

- Manoeuvres to and from the consented Berth 52 with the Option 1 layout were shown not to be feasible with the 240m Design Vessel 1, due to the available clearances not being sufficient. The margin of error was deemed too small for arrival and departure to and from the berth.
- Manoeuvres to and from the consented Berth 52 with the Option 3A layout, with an additional berth length of 100m at the consented Berth 52, was shown to be feasible with the 240m Design Vessel 1.
- The available berth length at the consented Berth 52 was reduced by 40m, increasing the access to the linkspan at Berth 53. This was based on the previous simulations to Berth 52 for the Option 3A layout and was also confirmed to show sufficient space was available for manoeuvring to the berth with the reduced quay length in Option 3B with the 240m Design Vessel 1.
- Manoeuvres to and from the proposed Berth 53 with the 240m Design Vessel 1 were shown to be feasible, swinging in the manoeuvring area on arrival and departure. Manoeuvres bow-to the berth on arrival and stern-to the berth on departure were also expected to be feasible.
- The channel, manoeuvring area and approach to the berth were sufficient, as previously shown.
- The Option 3B layout, following minor alterations was taken as the Design Freeze layout for March 2018.

4.4. Session 4 – May 2018

4.4.1. Overview

As part of the project design evolution, design changes were made to the proposed berths ensure the development remained outside the SPA. This resulted in a number of new potential berth alternatives being developed, which required new simulations to prove their suitability.

Session 4 (May 2018) focussed on examining seven alternative preliminary Unified Ferry Terminal layout options, Options 4A to 4G, six of which were initially proposed and a seventh which was developed during the simulation session. All layouts contained the proposed reclamation on the Poolbeg Peninsula side of the channel, based on Dublin Port's Masterplan 2012-2040, reviewed 2018, and the manoeuvring area to the east. The focus of the study was to examine potential options to optimise the preliminary design for the ferry terminal.

Details of the layouts considered, relative to the Design Freeze layout, from the February 2018 simulation session, are provided as follows and are shown in Figure 4.15 to Figure 4.21:

- Option 4A
 - Existing Berth 49 moved east and rotated clockwise by 15°;

- Previously consented Berth 52 moved to the east and rotated clockwise by 7° from the previous location with the existing Berth 49 overlapping the berth by 11m;
 - Moved the proposed Berth 53 to the west on the same orientation. The previously consented Berth 52 overlaps the berth by 46m;
 - Manoeuvring area to the east of Berth 53;
 - A minimum clearance of 242m from the stern of the ship of consented Berth 52 to the reclamation of the proposed future works to the south, outside of the MP2 (See Dublin Port's Masterplan 2012-2040, reviewed 2018).
- Option 4B
- Retained Berth 49 in its existing location;
 - Rotated the previously consented Berth 52 clockwise by 10° from the previously consented location with existing Berth 49 overlapping the berth by 11m;
 - Moved the proposed Berth 53 to the west and rotated clockwise by 8°. Previously consented Berth 52 overlaps the berth by 9m;
 - Manoeuvring area to the east of Berth 53;
 - A minimum clearance of 243m from the stern of the ship at the proposed Berth 53 to the reclamation of the proposed future works to the south, outside of the MP2 (See Dublin Port's Masterplan 2012-2040, reviewed 2018).
- Option 4C
- Rotated Berth 49 clockwise by 12° from the existing location;
 - Rotated the previously consented Berth 52 anti-clockwise by 10° and moved to the south;
 - Moved the proposed Berth 53 to the west and rotated clockwise by 10°. Berth 52 overlaps the berth by 12m;
 - Manoeuvring area to the east of Berth 53;
 - A minimum clearance of 229m from the stern of the ship at existing Berth 49 to the reclamation of the proposed future works to the south, outside of the MP2 (See Dublin Port's Masterplan 2012-2040, reviewed 2018).
- Option 4D
- Retained Berth 49 in its existing location;
 - Rotated the previously consented Berth 52 clockwise by 11° and moved to the east;
 - Moved the proposed Berth 53 to the west on the same alignment. Berth 52 overlaps the berth by 22m;
 - Manoeuvring area to the east of Berth 53;
 - A minimum clearance of 251m from the stern of the ship at the consented Berth 52 to the reclamation of the proposed future works to the south, outside of the MP2 (See Dublin Port's Masterplan 2012-2040, reviewed 2018).
- Option 4E
- Retained Berth 49 in its existing location;
 - Rotated the previously consented Berth 52 clockwise by 11° and moved to the east;
 - Moved the proposed Berth 53 to the west and rotated clockwise by 10°. Berth 52 overlaps the berth by 46m;

- Manoeuvring area to the east of Berth 53;
 - A minimum clearance of 261m from the stern of the ship at the consented Berth 52 to the reclamation of the proposed future works to the south, outside of the MP2 (See Dublin Port's Masterplan 2012-2040, reviewed 2018).
- Option 4F
- Rotated Berth 49 clockwise by 4°;
 - Rotated the previously consented Berth 52 clockwise by 10°;
 - Moved the proposed Berth 53 to the west on the same alignment. Berth 52 overlaps by 18m;
 - Manoeuvring area to the east of Berth 53;
 - A minimum clearance of 250m from the stern of the ship at the consented Berth 52 to the reclamation of the proposed future works to the south, outside of the MP2 (See Dublin Port's Masterplan 2012-2040, reviewed 2018).
- Option 4G, based on Option 4E
- Retained Berth 49 in its existing location;
 - Moved the previously consented Berth 52 from Option 4E along the alignment of the berth to the west and rotated anticlockwise by 2°, giving a total orientation from the consented Berth 52 of 9° anticlockwise;
 - Located the proposed Berth 53 as Option 4E;
 - Manoeuvring area to the east of Berth 53;
 - A minimum clearance of 272m from the stern of the ship of Berth 53 to the reclamation of the proposed future works to the south, outside of the MP2 (See Dublin Port's Masterplan 2012-2040, reviewed 2018).

A total of 20 simulation runs were completed over a two day session. All simulation runs were piloted by the HR Wallingford Pilot, Captain Ian Love and overseen by Captain Michael McKenna. The simulations concentrated on 3 layouts, namely Option 4B, 4E and 4G (developed based on 4E). The most critical cases for each design layout were considered to determine an optimal layout, based on the alternative layouts provided.

Prior to simulations being carried out, the layout options were discussed by the Simulation Team to determine the most feasible options. Option 4E was considered the most feasible of the six initially proposed layouts, based on the navigation to each of the three berths being considered.

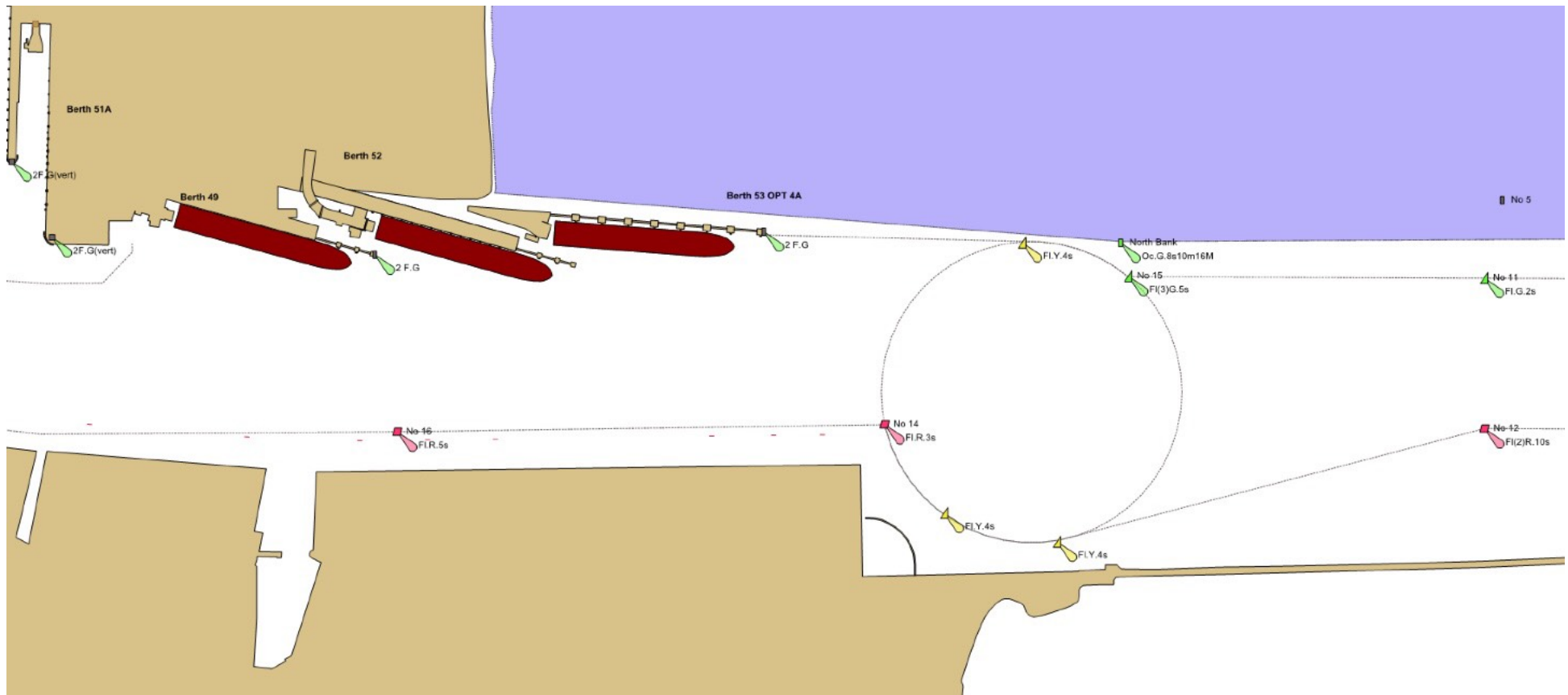


Figure 4.15: Option 4A

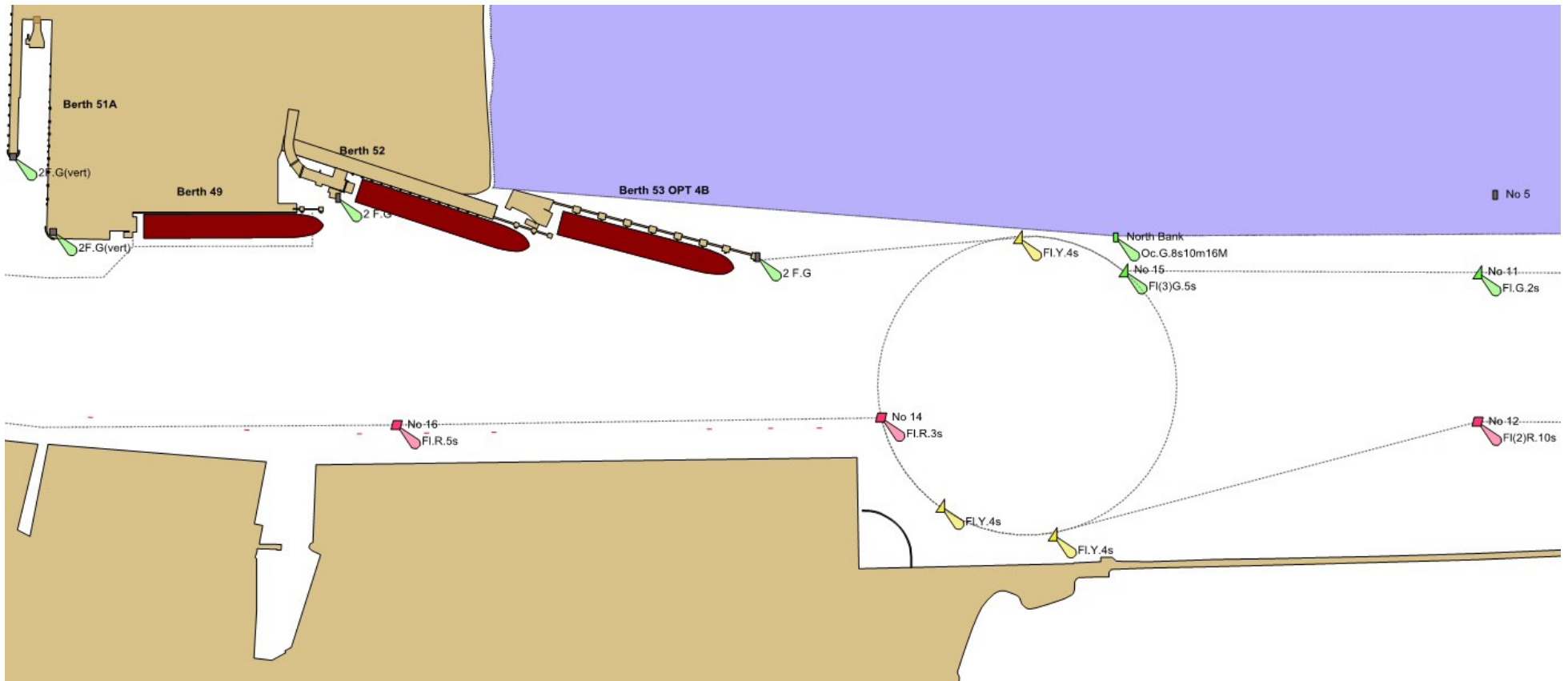


Figure 4.16: Option 4B

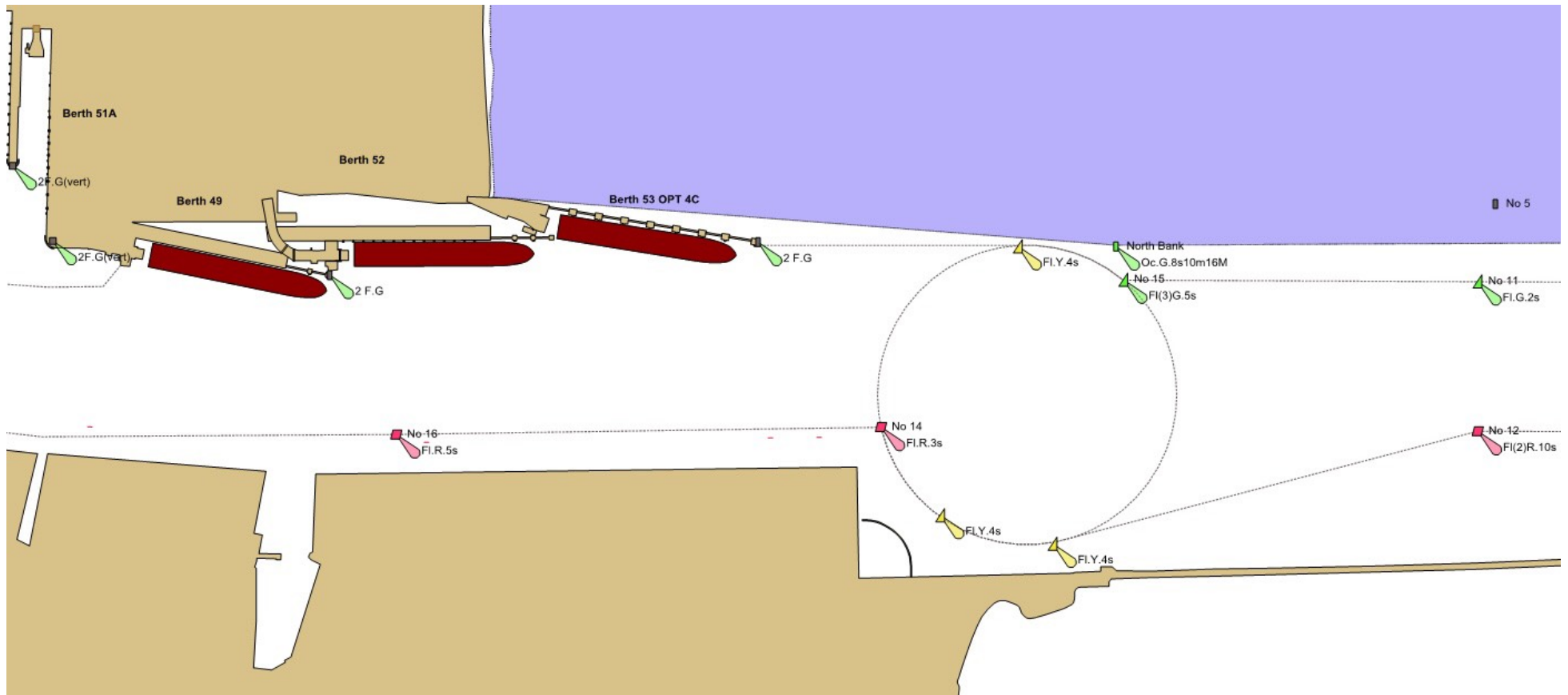


Figure 4.17: Option 4C

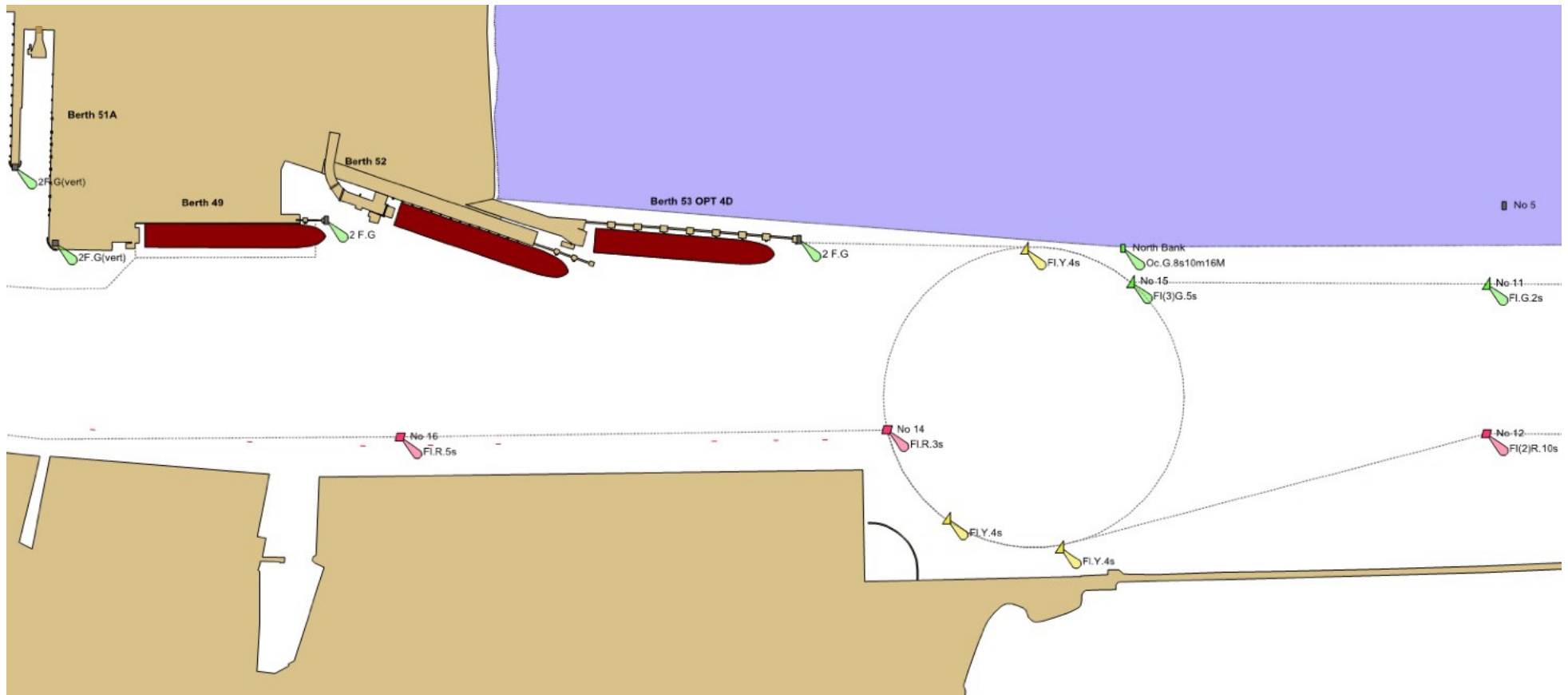


Figure 4.18: Option 4D

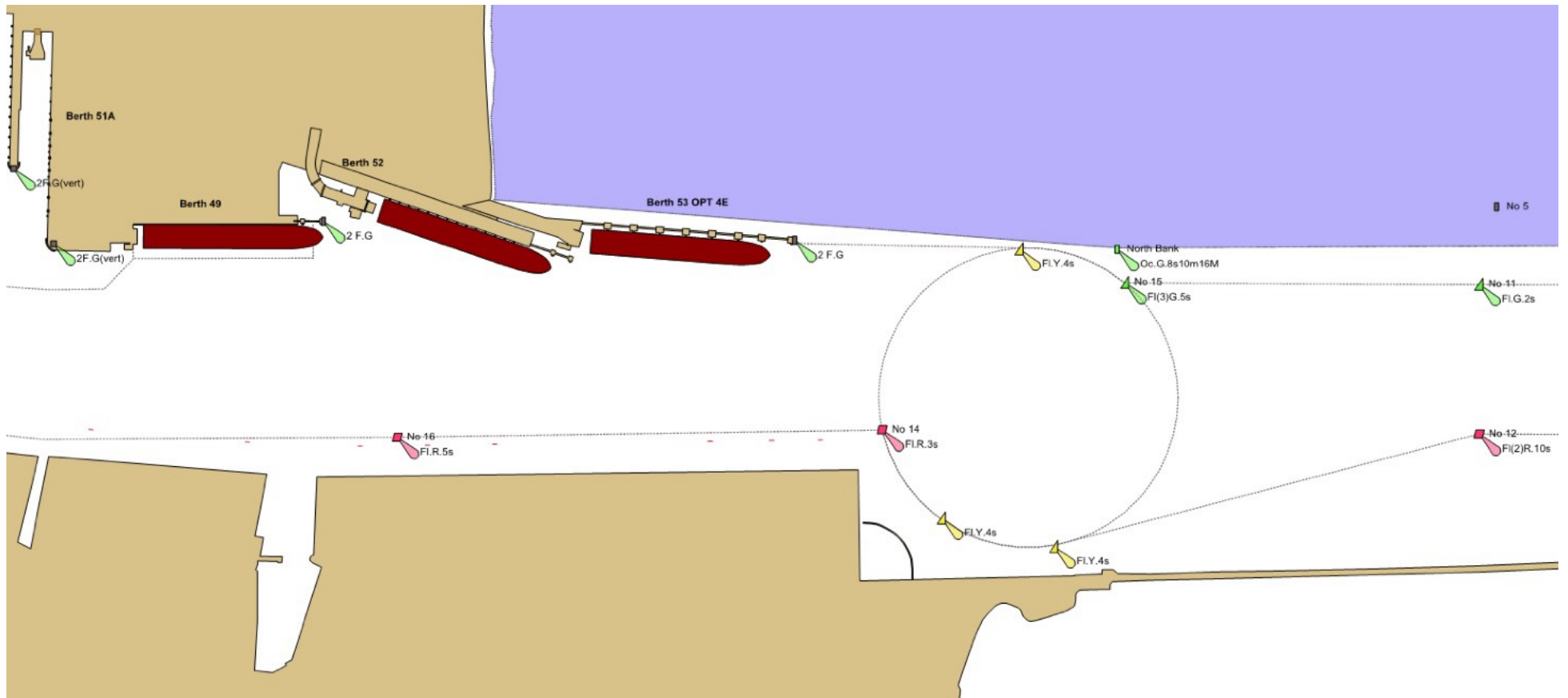


Figure 4.19: Option 4E

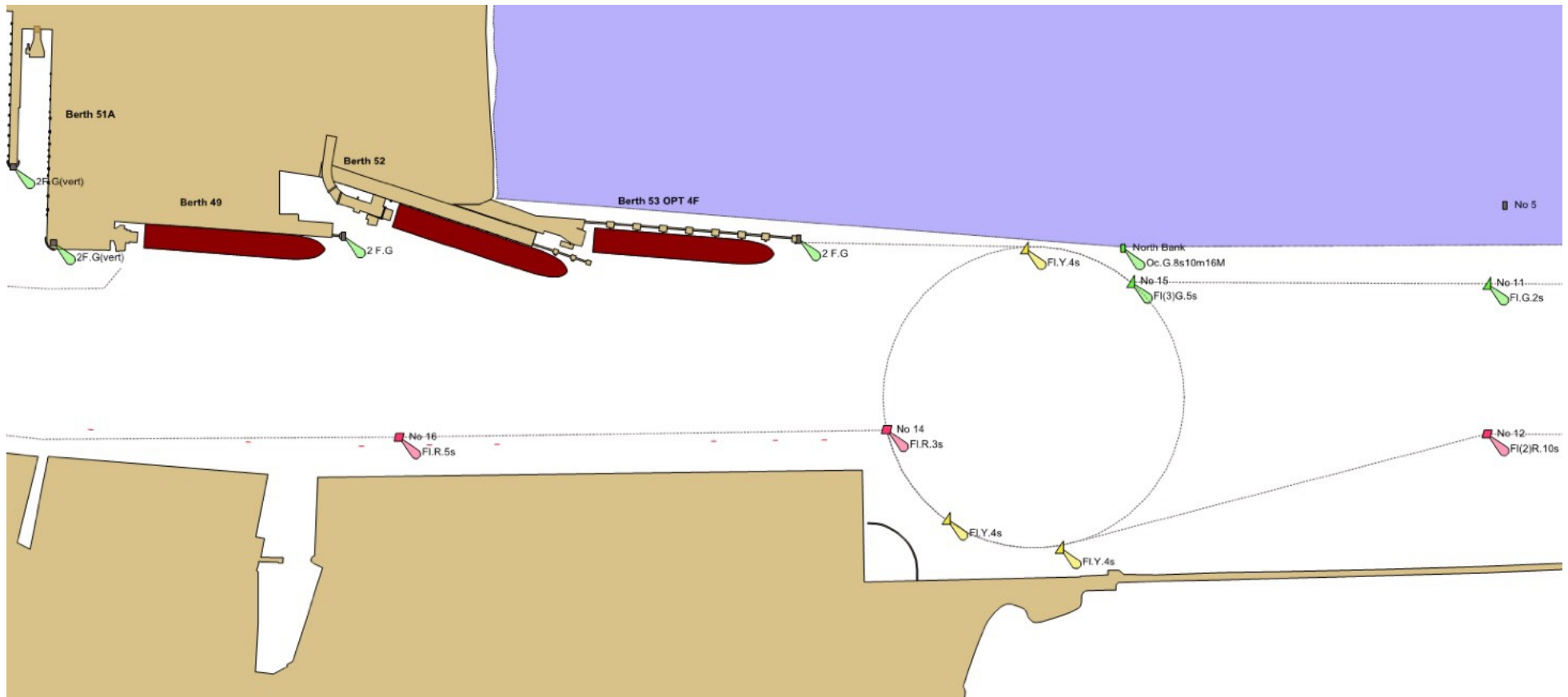


Figure 4.20: Option 4F

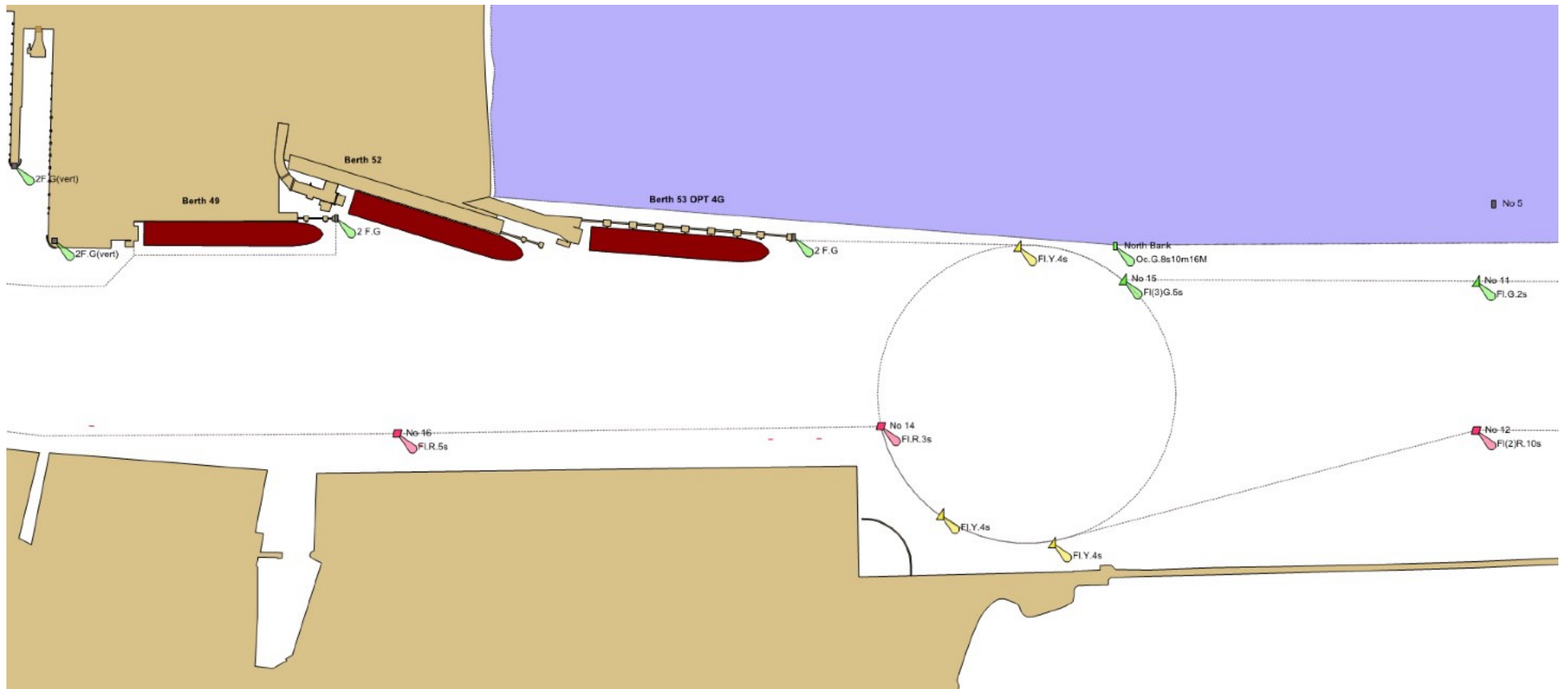


Figure 4.21: Option 4G

4.4.2. Discussion of results

Option 4E

For manoeuvres to existing Berth 49, the alignment of the berth with the channel provided a straightforward manoeuvre with a controlled lateral drift on to and away from the berth. The alignment of the berth with the currents was beneficial and could be used to assist in the manoeuvres. The manoeuvring area was used to swing the vessel either on arrival or departure depending on the side to the vessel was berthing.

When manoeuvring to the now re-orientated Berth 52, with the berth aligned approximately 20° to the channel, the current and predominant wind were more on the shoulder than head on, which meant higher levels of power were required (Figure 4.22). Whilst it was shown to be feasible, the manoeuvre was more onerous when compared with Berth 49 and a berth aligned with the channel was therefore most preferable. It would be expected that the operational thresholds would be lower at the rotated Berth 52 than Berth 49.

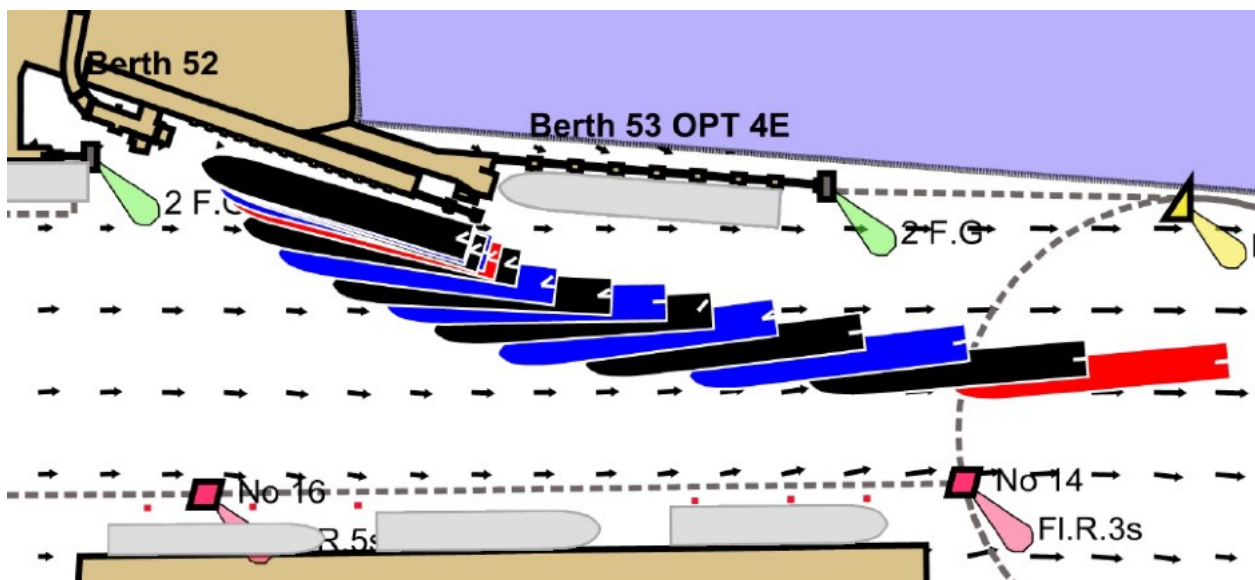


Figure 4.22: Arrival to Berth 52, Option 4E

Note: Ship position is shown every minute. Red ship is shown every 10 minutes.

Option 4G

As a result of the simulation runs with Option 4E, it was identified that the proposed Berth 52 could be moved along the alignment of the berth to the west and orientated in towards the quay (anti-clockwise) to provide an improved layout. This aligned the proposed Berth 52 closer to the channel by approximately 2°, a total rotation of 9° anti-clockwise from the consented Berth 52. As a result of the move of the proposed Berth 52, additional width within the channel was also created with a minimum of 272m between the stern of the ship on Berth 53 to the future reclamation on the south side of the river, increased from 261m for Option 4E.

Arrival and departure manoeuvres were carried out to and from existing Berth 49, re-orientated Berth 52 and proposed Berth 53 using the manoeuvring area to swing the vessel on arrival or departure as required. These were completed for a range of conditions including the predominant south-westerly wind as well as an off berth wind from the north-west and north-east. In each case the conditions which would likely impact the position of the other berths was generally considered.

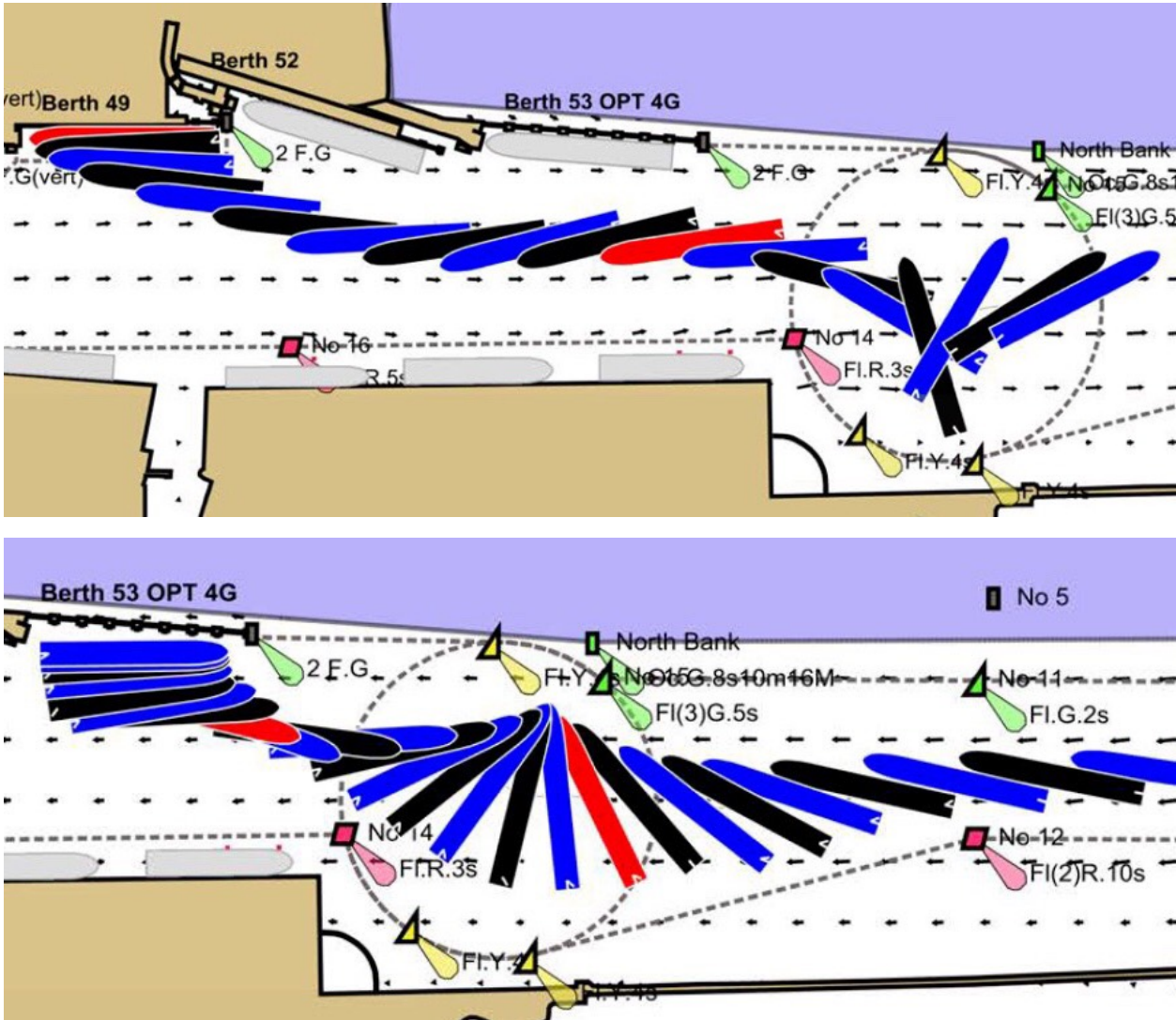


Figure 4.23: Use of manoeuvring area for Option 4G on arrival (top) and departure (bottom)

Note: Ship position is shown every minute. Red ship is shown every 10 minutes

Manoeuvres to the newly re-orientated Berth 52 were shown to be feasible with similarly high power required in the high wind conditions due to the angle of the berth. As with Option 4E, manoeuvres to and from the existing Berth 49 were straightforward with no issues even in the higher end operating conditions.

Manoeuvres to and from the proposed Berth 53 were also shown to be feasible. The orientation of the berth is open to manoeuvring to and from the manoeuvring area which provided a straightforward manoeuvre.

Option 4B

Manoeuvring to the newly re-orientated Berth 52 and proposed Berth 53 was considered for Option 4B to assess the impact of the location and orientation of the proposed Berth 53. When a ship is moored at the proposed Berth 53 the distance between the stern of the ship to the future reclamation on the south side of the river was reduced by 29m when compared with Option 4G. The stern of the ship moored at the proposed Berth 53 was also a concern when manoeuvring to the re-orientated Berth 52, as it restricted the access to the berth.

On departure from the re-orientated Berth 52 the manoeuvre was less comfortable when compared with

Option 4G, due to the alignment of the berth, and it was considered that the layout does not provide sufficient margin for error for safe operations (Figure 4.24). It was concluded that the location of the proposed Berth 53 in Option 4B increases the navigation risk for ship manoeuvring to and from the existing Berth 49 and the newly re-orientated Berth 52.

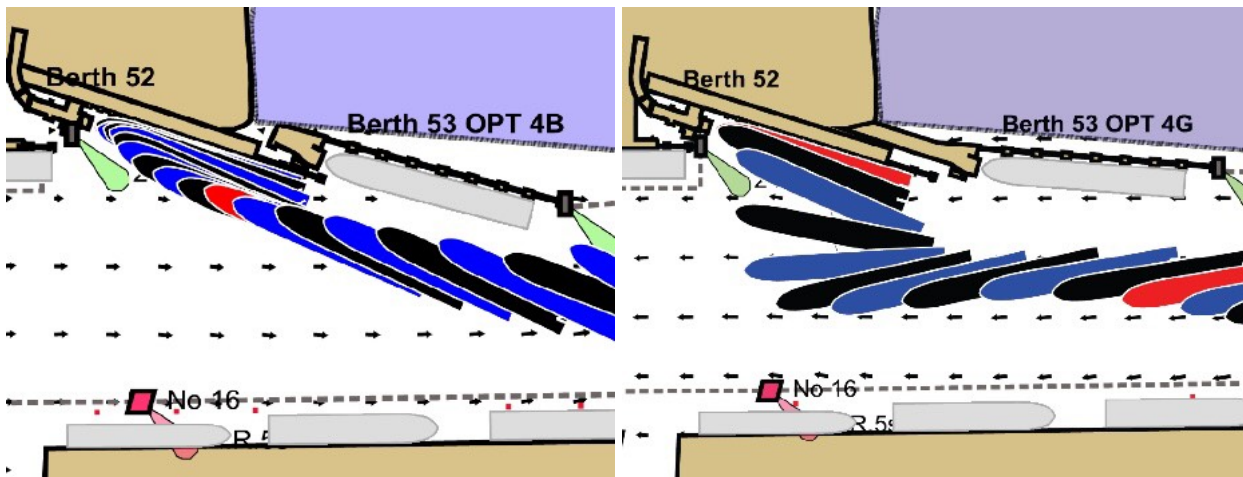


Figure 4.24: Comparison of clearances off the proposed Berth 53, Option 4B (L, 312) and Option 4G (R, 308)

Note: Ship position is shown every minute. Red ship is shown every 10 minutes.

Option 4D

Option 4D was considered as part of the overall assessment of the proposed layout options. The layout is similar to Option 4E with the exception that the previously consented Berth 52 is moved to the east along the orientation of the berth. Given Option 4E was identified as preferable and the simulations showed that improvements would be to move the berth to the west it was not considered further.

Options 4A, 4C and 4F

Simulations carried out for the other options considered as part of the assessment showed that aligning the berths with the channel is most beneficial. Options 4A, 4C and 4F each considered re-orientating existing Berth 49 into the channel. This was considered detrimental to the overall layout. The layouts also provided a reduced distance between the berths and the reclamation to the south with a minimum separation of 229m. The options were therefore not considered further as part of the navigation assessment.

Passing ships

Ships passing off the Unified Ferry Terminal and at the manoeuvring area were considered for both Options 4B and 4G. The simulation considered 2 ships, representing a 148m container ship outbound and a 203m RoPax Ferry inbound, passing off the Unified Ferry Terminal, using two full mission bridge simulators. The navigable channel was reduced by 29m in Option 4B, with the proposed Berth 53 encroaching further in to the channel. The safety margin was therefore significantly reduced and the approach was shown to be more visually imposing. As a result of the reduced clearance, the ship would also have to maintain a slower speed to reduce the impact on the moored ship, which in turn would lead to a higher drift angle and lower clearance. Option 4G provided greater clearances and provides a higher margin of error for passing. Screenshots from the simulation, taken from the same position, are shown in Figure 4.25.

An inbound ship passing an outbound ship at the manoeuvring area was also simulated for the two layouts. Due to the orientation of the proposed Berth 53 in Option 4B, on passing in the manoeuvring area the ship was to the north of the channel which impacted on the rest of the manoeuvre. However, for Option 4G the ship achieved a better position in the channel and was able to safely pass the ship on the proposed Berth 53 berth. This was considered a significantly safer manoeuvre compared with Option 4B.

Comparison with Option 3B

As part of the navigation assessment a comparison with Option 3B, which was taken forward to the Design Freeze layout, was also considered. Whilst Option 4G provided the best compromise of the layout considered, the orientation and location of Berths 52 and 53 in Option 3B was determined to provide the best layout from a navigation perspective.

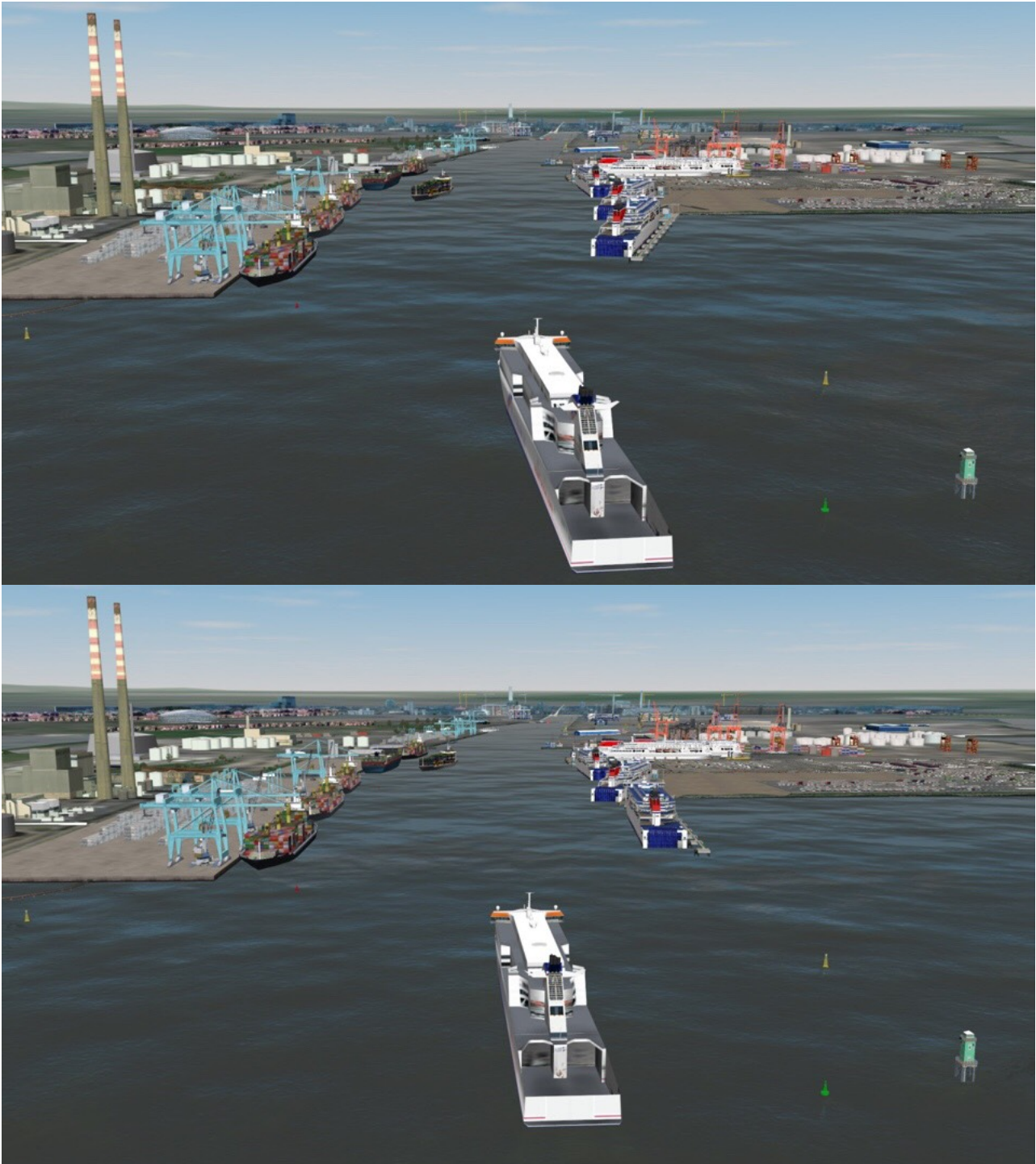


Figure 4.25: Passing ships off the Ferry Terminal, Option 4B (top) and Option 4G (bottom)

4.4.3. Key findings

The following key findings relating to the preliminary design of the Unified Ferry Terminal were taken from Session 4:

- Option 3B, taken forward to the Design Freeze, was still considered the best layout from a navigation perspective.
- Simulated manoeuvres were completed to and from the existing Berth 49, newly re-orientated Berth 52 and proposed Berth 53 for Option 4G and showed that it provided the best result from a navigation standpoint for a range of wind and current conditions. The layout provides the largest navigable area and the highest level of safety for the range of port users.
- Option 4G was optimised, based on Options 4E and 3B, reducing the overall length of the quay by rotating and moving the previously consented Berth 52. Compared with Option 4E, it provides a slightly improved angle of the berth to the channel, additional width in the channel and a better approach to the existing Berth 49.
- The alignment of the berths was shown to have an impact on the operational limits, with the ideal alignment in line with the channel. This reduces the lateral forces from the predominant wind and current loads on the ship. Layouts 4A, 4C and 4F were therefore not examined during the simulation session.
- The alignment of proposed Berth 53 in Option 4B provides an increased navigation risk for manoeuvres to and from existing Berth 49 and re-aligned Berth 52, when compared with Option 4G and the Design Freeze layout.
- Simulated manoeuvres were completed for ships passing off the Unified Ferry Terminal for Option 4B, with a minimum passing distance of 243m from the stern of the ship on the ferry berths to the reclamation to the south (a reduction of 15m from the Design Freeze), and for Option 4G, with a minimum passing distance of 272m (an increase of 14m from Design Freeze). Option 4B was shown to significantly reduce the navigable channel width and is visually more imposing for the Pilot and Master of the ship. This increases the navigation risk for ships manoeuvring past the Unified Ferry Terminal when compared with the Design Freeze and Option 4G.
- As shown in the previous simulation studies, the full extent of the manoeuvring area was required for safe manoeuvring in the range of environmental conditions examined.

4.5. Session 5 – November 2018

4.5.1. Overview

Following a preliminary assessment of the effect on the Great South Wall of ships manoeuvring within the proposed manoeuvring area, it was established that there may be a potential impact on the Great South Wall. The manoeuvring area was de-scoped from the MP2 project to allow for concurrent analysis and studies to be carried out.

Session 5 (November 2018) focused on examining a layout based on Option 4G, without the manoeuvring area but with the existing infrastructure to the south. Dredging to the east of Berth 48 and utilising all the available areas in front of the sludge jetty and the existing Berth 48 in order to optimise the channel space and depth. The focus of the session was to assess manoeuvres with RoPax ferries of 220m, 230m and 240m length but with increased manoeuvrability compared with the previous the design ship, Design Vessel 1. The details of the additional design ships, Design Vessel 2, Design Vessel 3 and Design Vessel 4, are

shown in Table 3.2, although no simulations were carried out with Design Vessel 2 (220m). It is noted some comparison manoeuvres were carried out with Design Vessel 1.

The main design ships for the study, Design Vessel 3 and Design Vessel 4, had 3 bow thrusters, a stern thruster and twin screw propulsion, with twin rudders. The main engine power was based on a 210m vessel that current operates at Dublin and was not increased relative to ship length, as engine power was not expected to limit the manoeuvres. Each design ship had three bow thrusters forward, with a total power of 111t up to 123t, and one stern thruster of 37t up to 41t. The thruster power was based on the assumed power requirements of the ships and was increased based on the increased windage of each design ship. The successful manoeuvres were a function of the available space along with the manoeuvring capability of the design ships.

Details of the layouts considered, relative to the Option 4G (Session 4, May 2018) were:

- Layout Option 5A (see Figure 4.26):
 - Existing Berth 49
 - Re-orientated Berth 52
 - Proposed Berth 53 – remained the same as fourth session (May 2018)
 - Existing infrastructure to the south and additional dredging to the east of Berth 48.
- Layout Option 5B (see Figure 4.27):
 - As Option 5A layout above but utilising the area opposite Berth 49 in front of the sludge jetty up to buoy No. 16 (25m) which allowed the available area to be optimised.

A total of 42 simulation runs were completed during a three day simulation session. All simulation runs were piloted by Captain Michael McKenna and Captain Ian Love.

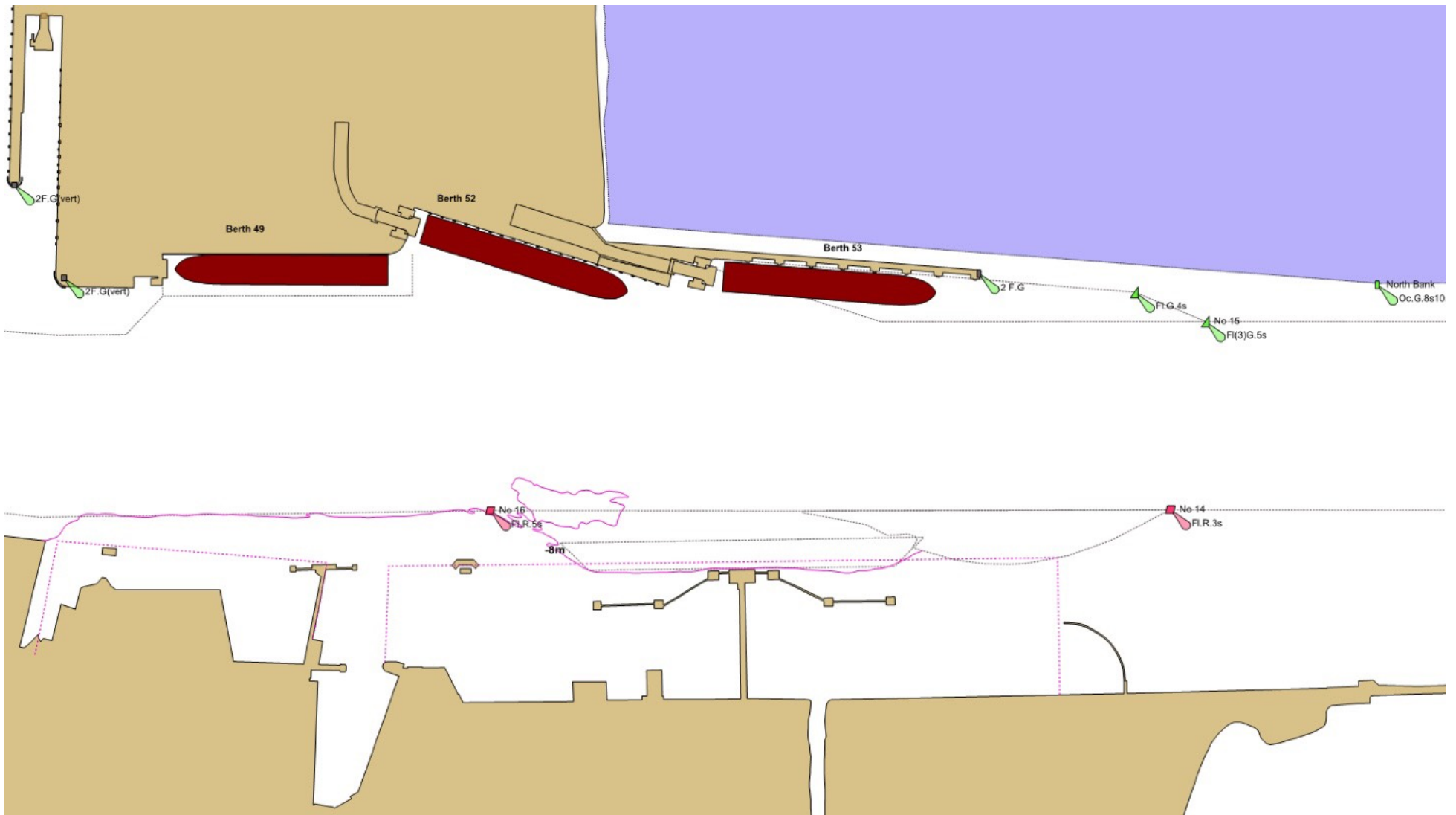


Figure 4.26: Option 5A

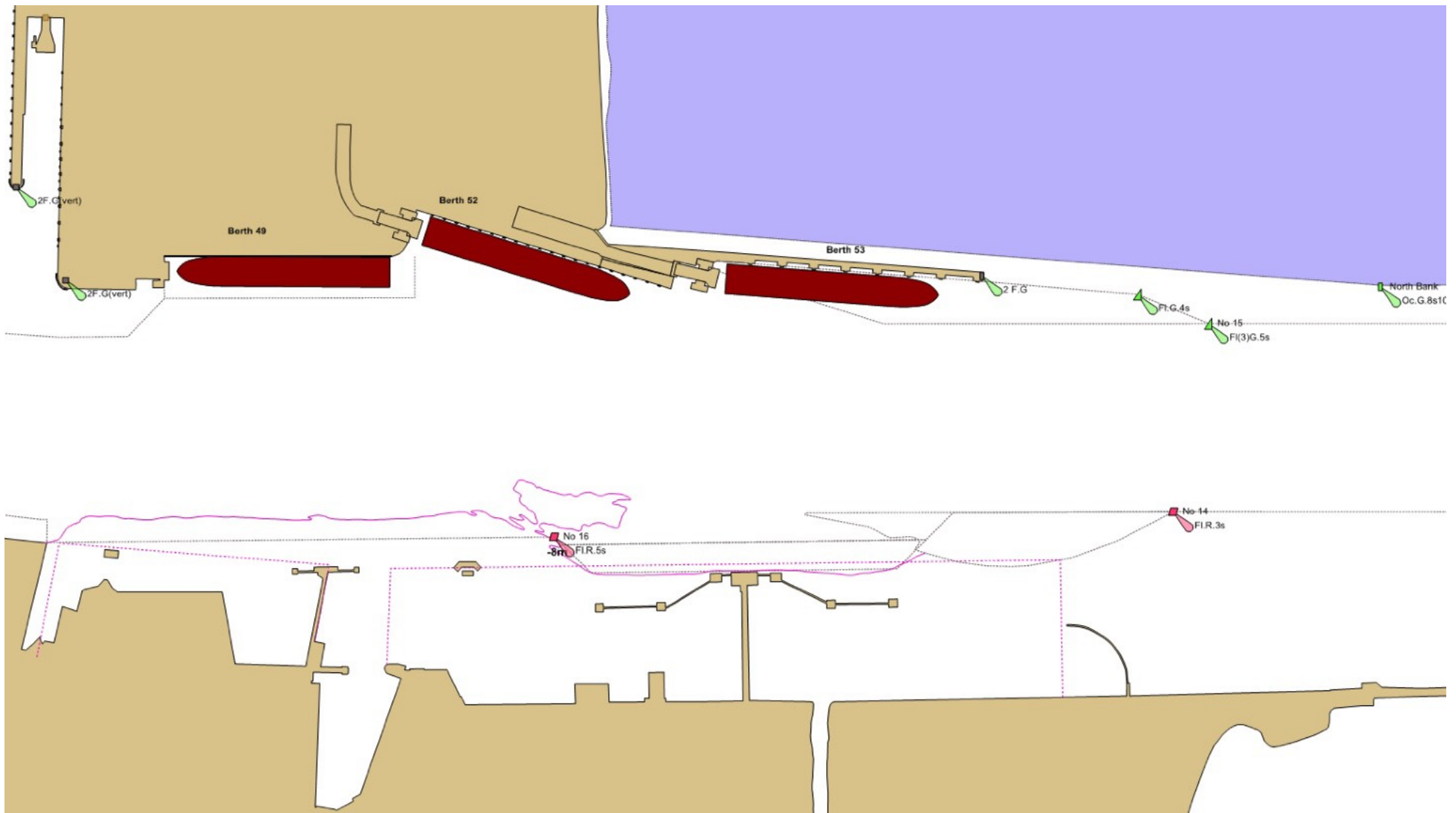


Figure 4.27: Option 5B

4.5.2. Discussion of results

As mentioned above the 220m Design Vessel 2 was discounted due to the successful manoeuvres of the 230m Design Vessel 3. The 230m Design Vessel 3 was used for 22 of the runs, 3 of which were used as familiarisation runs and 4 were simulated without one of the bow thrusters being available. A total of 17 runs were completed with the 240m Design Vessel 4 and comparisons with Design Vessel 1 were examined in 3 of the simulation runs.

Berth 49

Manoeuvres to and from the existing Berth 49 were carried out off the berth, which had a total available width of 280m between the existing southern channel boundary and the quay wall. A total static clearance of 50m was therefore available for the 230m Design Vessel 3. This reduced to 40m with the 240m Design Vessel 4.

Departures from the existing Berth 49 with the 230m Design Vessel 3 were carried out similar to the current manoeuvres with the Ulysses, swinging to port once the ships had been lifted off the berth. Experience gained from initial manoeuvres allowed for clearances within the required limits. Throughout the manoeuvres the pilot felt in control of the ship at all times and the risk of contacting the quay or exceeding the channel boundary were considered to be low.

Arrival manoeuvres were also carried out successfully in a range of conditions. It was noted during the manoeuvre that an additional visual aid on the south side of the channel would be beneficial when positioning the bow close to the edge of the channel. This may take the form of an additional buoy.

Given the clearances achieved when manoeuvring the 230m Design Vessel 3 it was decided that additional width would be required for manoeuvres with the 240m Design Vessel 4. The area in front of the sludge jetty was used in order to optimise the available channel space, maintaining the line of the existing infrastructure and the quay wall line of what will be DPC's proposed development in accordance with the Masterplan, review 2018.

The manoeuvres with the 240m Design Vessel 4 were relatively straightforward, with a similar manoeuvring strategy to the 230m Design Vessel 3 (Figure 4.28). Utilising the area in front of the existing sludge jetty allowed adequate clearances off the berth and channel boundary. During the final berthing on arrival, the ship came within 14m of the ship on the re-orientated Berth 52, however, this could be refined with experience.

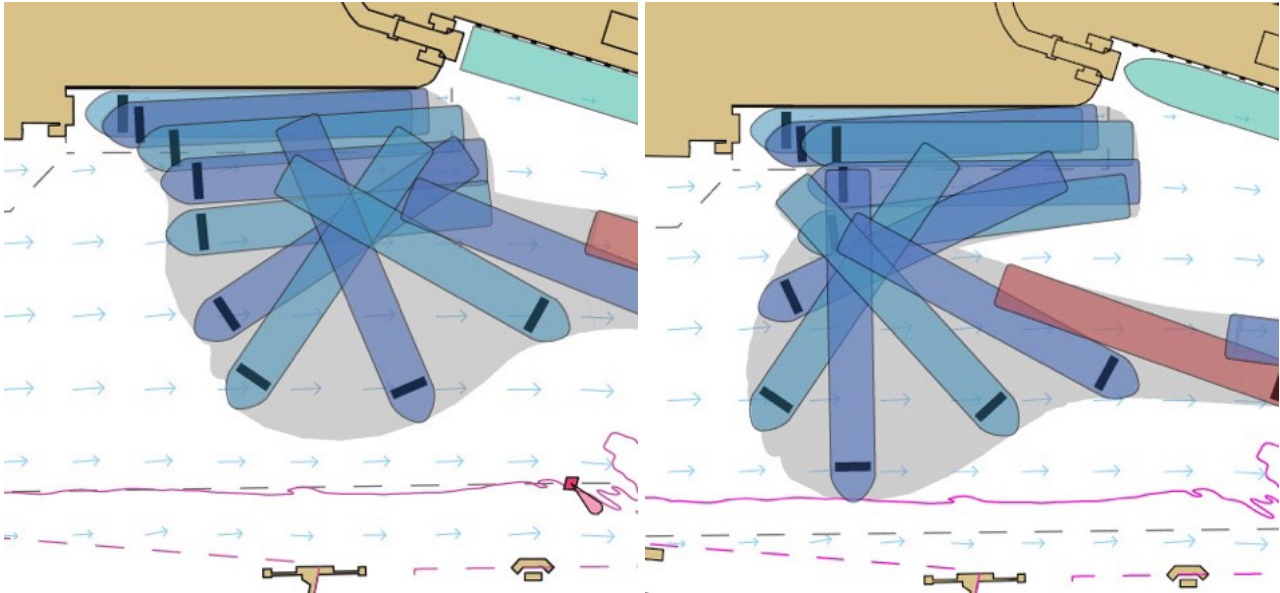


Figure 4.28: Departure from existing Berth 49 for 230m Design Vessel 3 (l) and 240m Design Vessel 4 (r)

Note: Ship position is shown every minute. Red ship is shown every 10 minutes.

Berth 52

The re-orientated Berth 52 was the most challenging of the three for manoeuvring to and from, as it is constrained by the two berths either side and the existing channel, namely at Buoy 16, with a 285m clearance. The area adjacent to the re-orientated Berth 52 and the berth pocket at Berth 48 were used for manoeuvres to and from berth. For manoeuvres carried out using the Berth 48 berth pocket, the minimum clearance to a ship on the proposed Berth 53 was approximately 280m.

Departure manoeuvres with the 230m Design Vessel 3 were considered for both swinging off the berth and manoeuvring astern to the berth pocket at Berth 48 (Figure 4.29). The setback location of the re-orientated Berth 52 provided additional space to manoeuvre, increasing once the bow was taken past Buoy 16. In both cases the manoeuvres were carried out with adequate clearances, with the manoeuvring strategy likely to depend on the wind and tidal conditions.

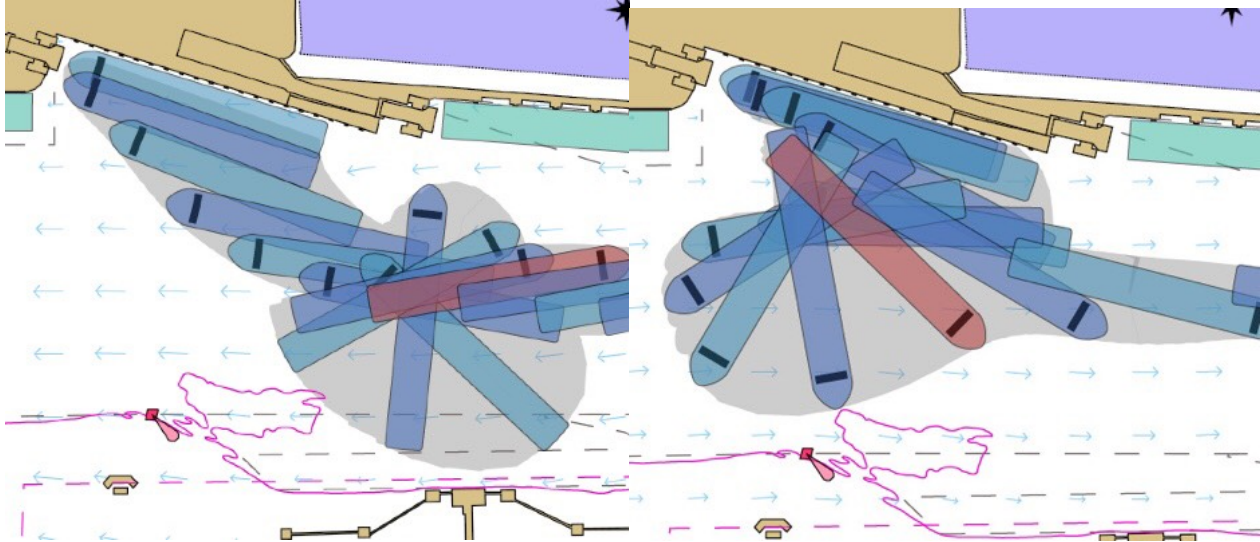


Figure 4.29: Departure from re-orientated Berth 52 for 230m Design Vessel 3 for varying manoeuvring strategies

Note: Ship position is shown every minute. Red ship is shown every 10 minutes.

The manoeuvres on arrival to the re-orientated Berth 52 with the 230m Design Vessel 3 were all carried out using the berth pocket at Berth 48 and using a number of manoeuvring strategies, including port and starboard swings. The available channel section at the re-orientated Berth 52 berth pocket allowed for a more dynamic manoeuvre.

For manoeuvres with the 240m Design Vessel 4, similar manoeuvring strategies were considered, as well as manoeuvring to the east of the proposed Berth 53, using the additional dredging to the east of Berth 48 (Figure 4.30).

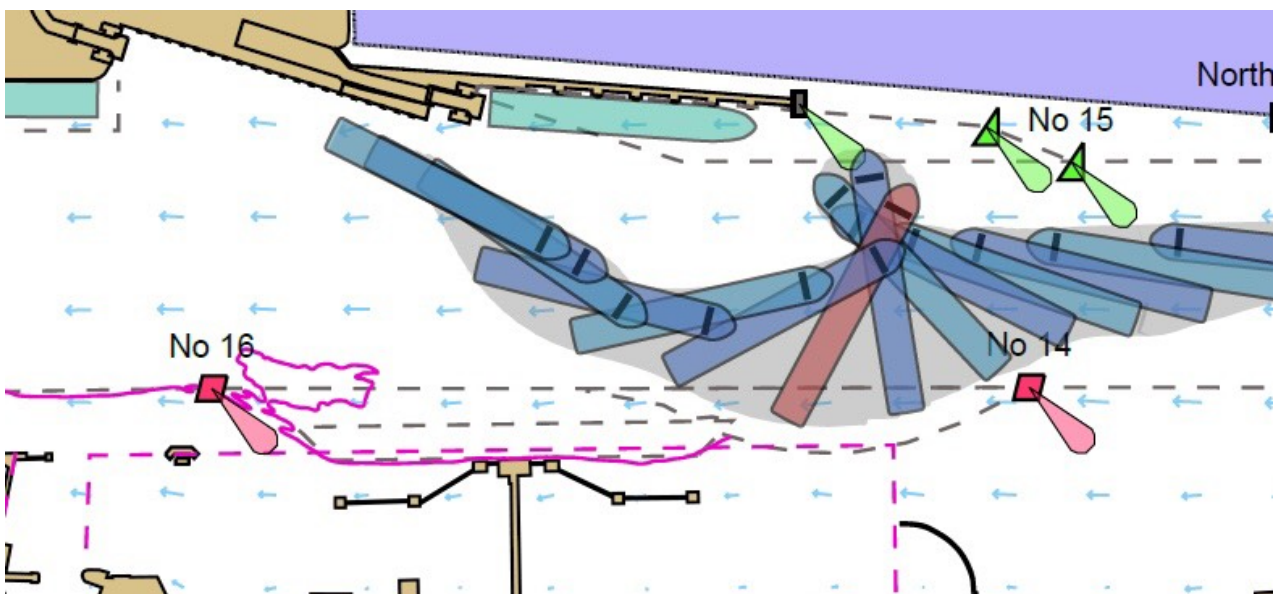


Figure 4.30: Departure to re-orientated Berth 52 with 240m Design Vessel 4 using dredging to the east

Note: Ship position is shown every minute. Red ship is shown every 10 minutes.

Manoeuvring by swinging to starboard, with the bow held off the linkspan at Berth 53 provided adequate clearances however, the stern of the ship had a high lateral speed past Berth 48. Swinging further west, off the re-orientated Berth 52 with the bow to the north, resulted in a minimum clearance of 14m from the channel boundary. This manoeuvre would benefit from the area in front of the sludge jetty being used to optimise the available channel space.

Departing the berth was simulated manoeuvring astern to the Berth 48 berth pocket, bringing the bow round to starboard and swinging to port directly off the berth. Whilst the manoeuvre astern off the berth could be refined by manoeuvring further west of Berth 48, it was shown to be feasible, with adequate clearances over 20m. The port swing was more restrictive with the available space to manoeuvre, leading to a clearance of 13m. This was improved when simulated with the area in front of the sludge jetty used to optimise the available channel space.

Berth 53

The proposed Berth 53 has the largest clearances available, with approximately 310m to the berthing line at Berth 48, reducing to 250m to the existing channel boundary when not considering additional dredging.

The additional dredging to the east of Berth 48 was initially not used for the manoeuvres with the 230m Design Vessel 3 with the berth pocket at Berth 48 used to carry out a straightforward departure. On arrival, with a wind from the south-east and a flood tide, the additional dredging was used for a dynamic manoeuvre.

A total of five arrivals and one departure were carried out for the proposed Berth 53 with the 240m Design Vessel 4. The minimum distance to the channel boundary was approximately 290m, based on the additional dredging proposed to the east of Berth 48, although a small change to the dredged area would increase this to 310m. It is understood that the side slopes of the dredging could be designed to ensure there was no impact on the existing structures.

The arrival manoeuvres examined winds from a range of directions from the north-east clockwise round to the south-west. The ship was typically swung to port with the bow to the south, either swinging early and using the additional dredging with following conditions (Figure 4.31), or swinging slightly later and using the eastern end of the Berth 48 berth pocket in conditions on the ebb tide (Figure 4.32). The additional dredging to the east of Berth 48 provided flexibility for the manoeuvre based on the wind and tidal conditions.

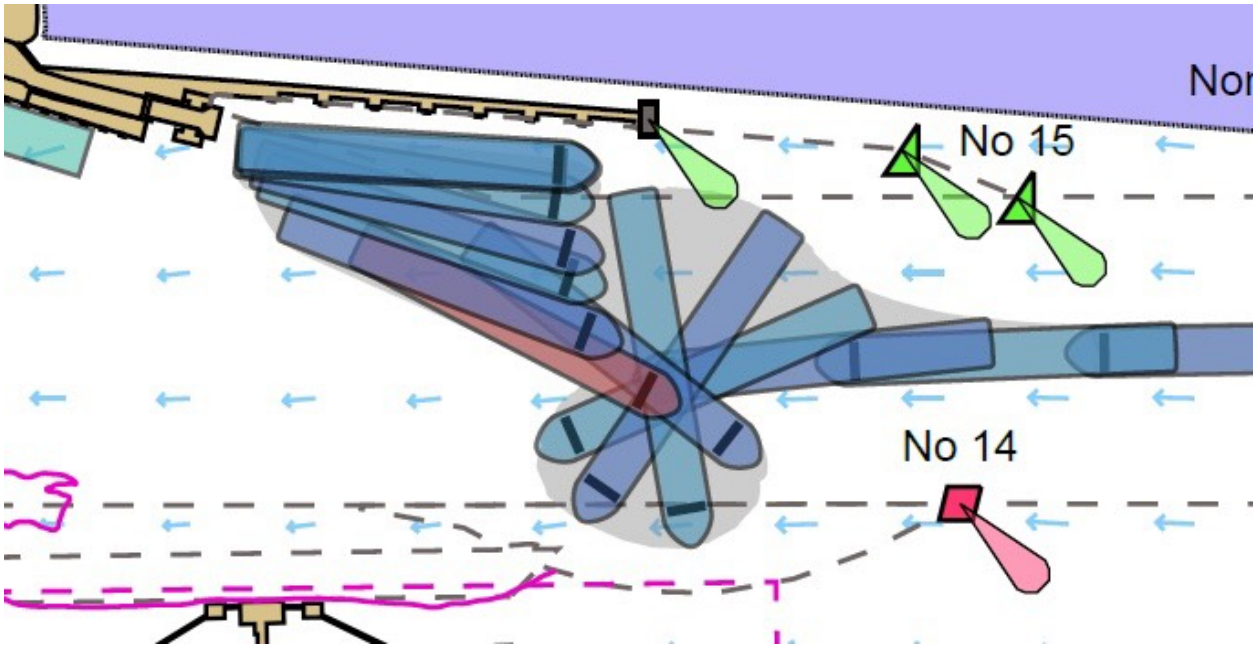


Figure 4.31: Arrival to Berth 53 with a flood tide and easterly wind for the 240m Design Vessel 4

Note: Ship position is shown every minute. Red ship is shown every 10 minutes.

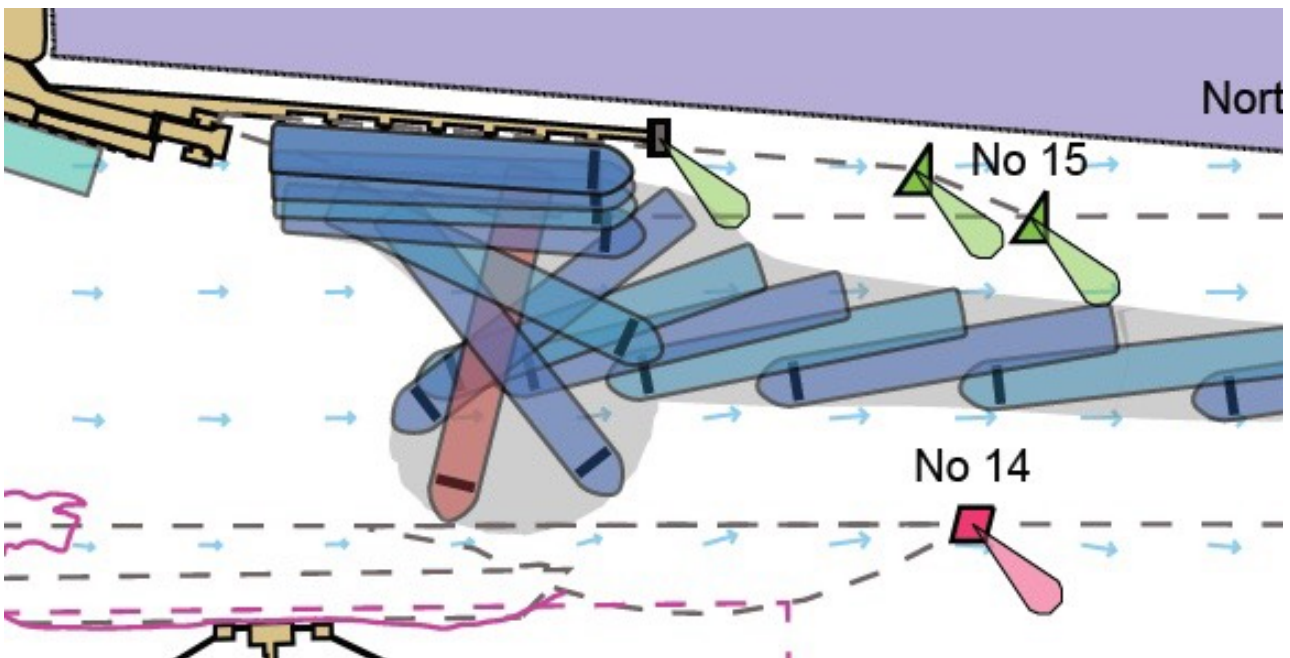


Figure 4.32: Arrival to Berth 53 with an ebb tide and southerly wind for the 240m Design Vessel 4

Note: Ship position is shown every minute. Red ship is shown every 10 minutes.

The departure was a straightforward manoeuvre, requiring the additional dredging to provide sufficient clearances from the channel boundary.

Reduced power

Simulation runs were also carried out with a lower bow thruster power with the 230m RoPax, effectively reducing the number of bow thrusters from three to two, with a total power of 80t. This available power was similar to the Design Vessel 1 but with a stern thruster. The reduced bow thruster power did not significantly impact the manoeuvres, although in one run, the thrusters were used on full power for a long period.

Whilst the available power required to carry out the manoeuvre was not specifically defined in these runs, it gave an indication that lower powered ships would also be able to manoeuvre to and from the berths safely. Prior to any ship being approved by the Harbour Master, an assessment, potentially including real time navigation simulation, should be carried out to assess the manoeuvring capability of the ship at the ferry terminal.

Manoeuvres with Design Vessel 1

There were three simulations runs carried out with Design Vessel 1 manoeuvring to and from Berth 53. These were used to compare the outcomes of runs with the more manoeuvrable 240m Design Vessel 4. The reduced power, in particular at the stern of the vessel, was noticeable, with the length of time to complete the manoeuvres increased and the final berthing was less refined by comparison. The additional dredging to the east of Berth 48 allowed for more refined manoeuvres to be carried out by Design Vessel 1 to and from Berth 53, although the conditions in which the manoeuvres would be feasible would need to be examined further.

4.5.3. Key findings

230m Design Vessel 3

The following key findings relating to the preliminary design of the Unified Ferry Terminal for the 230m Design Vessel 3 were taken from Session 5:

- It was noted during the manoeuvres with the 230m Design Vessel 3 that an additional visual aid on the south side of the channel would be beneficial when positioning the bow close to the edge of the channel. This may take the form of an additional buoy.
- Manoeuvres both to and from the existing Berth 49 with the existing channel were shown to be feasible with the 230m Design Vessel 3. No significant issues would be expected for these ships calling at the berth.
- Manoeuvres both to and from the re-orientated Berth 52 with the existing channel were shown to be feasible with a 230m Design Vessel 3. For manoeuvres when a ship is on Berth 53 and the conditions do not allow manoeuvres off the re-orientated Berth 52, it is understood the vessel will be manoeuvred to the east of the port where large ships up to 300m currently manoeuvre.
- Manoeuvres both to and from the proposed Berth 53 with the existing channel were shown to be feasible with a 230m Design Vessel 3. No significant issues would be expected for these ships calling at the berth.
- Simulation runs with only two of the three bow thrusters available were considered. Whilst the available power required to carry out the manoeuvre was not specifically defined in the runs, it gave an indication that lower powered ships would also be able to safely manoeuvre to and from the berths. Prior to any ship manoeuvring to and from the berths an assessment, potentially including real time navigation

simulation, should be carried out to assess the manoeuvring capability of lower powered ships at the ferry terminal.

240m Design Vessel 4

The following key findings relating to the preliminary design of the Unified Ferry Terminal for the 240m Design Vessel 4 were taken from Session 5:

- Manoeuvres both to and from the existing Berth 49 with the area in front of the sludge jetty used in order to optimise the available channel space were shown to be feasible with a 240m RoPax. No significant issues would be expected for these ships manoeuvring to and from the berth provided the area in front of the sludge jetty is available.
- Manoeuvres both to and from re-orientated Berth 52 were shown to be feasible with the 240m Design Vessel 4, manoeuvring to the east of the proposed Berth 53. The berth was considered the most challenging for manoeuvring given the proximity of the adjacent berths. The use of the area in front of the sludge jetty in order to optimise the available channel space would improve manoeuvres.
- Manoeuvres both to and from the proposed Berth 53 with the additional dredged area to the east of Berth 48 were shown to be feasible with the 240m Design Vessel 4. No significant issues would be expected for these ships calling at the berth provided the additional proposed dredging to the east of Berth 48 is available.
- To improve the efficacy of the dredged area to the east of Berth 48, it would be beneficial to merge it with the berth pocket of Berth 48.

240m Design Vessel 1

- The reduced power considered in runs with Design Vessel 1, in particular at the stern of the vessel, was noticeable with the length of time to complete the manoeuvres increased and the final berthing was less refined by comparison. With refinement of the manoeuvring strategy, the additional dredging to the east of Berth 48 allowed for more refined manoeuvres to be carried out by Design Vessel 1, although the conditions in which the manoeuvres would be feasible would need to be examined further.

Given the available clearances for carrying out the manoeuvres to and from the ferry terminal berths, it is essential to carry out pilot and master familiarisation simulation based exercises prior to conducting the actual manoeuvres.

5. Summary

A series of five navigation simulation sessions were carried out to assess the preliminary layouts for the proposed development of the MP2 Unified Ferry Terminal. The MP2 project considered during the studies included the existing Berth 49 and the previously consented Berth 52 with a new berth to the east, Berth 53 (Figure 2.1). Navigation simulations for the existing Berths 51 and 51A showed that while navigating into and out of the berths was achievable with 240m vessels, manoeuvring with vessels on adjacent berth(s) becomes difficult and will require manoeuvring and mooring mitigation.

The layout evolved over the course of the simulation sessions to improve the navigational safety of manoeuvres to and from the berths, and to adapt to constraints on the design, including the Special Protection Area (SPA) to the north-east of the proposed Berth 53, and maintaining the existing quay wall line to the south, in line with Masterplan 2040 (reviewed 2018).

Initially, the development was considered using the area adjacent to existing Berth 49, previously consented Berth 52 and the proposed Berth 53 to manoeuvre the ships (Session 1 – September 2017). Whilst it was found to be possible to swing the design ship for this layout, the manoeuvres were deemed to be sub-optimal given the clearances achieved due to the manoeuvring characteristics of the Design Vessel 1.

A manoeuvring area was therefore considered to allow ships to be turned on arrival or departure, depending on the particular requirements for the ship (Session 2 – November 2017). This was positioned to the east of the berths and was considered in a location to the north and south of channel. The southern manoeuvring area (Option V3, Figure 4.8) was preferred as it allowed for ferry manoeuvres which were “unforced”, with good control and clearances, and reduced the dredging required north of the channel in the SPA.

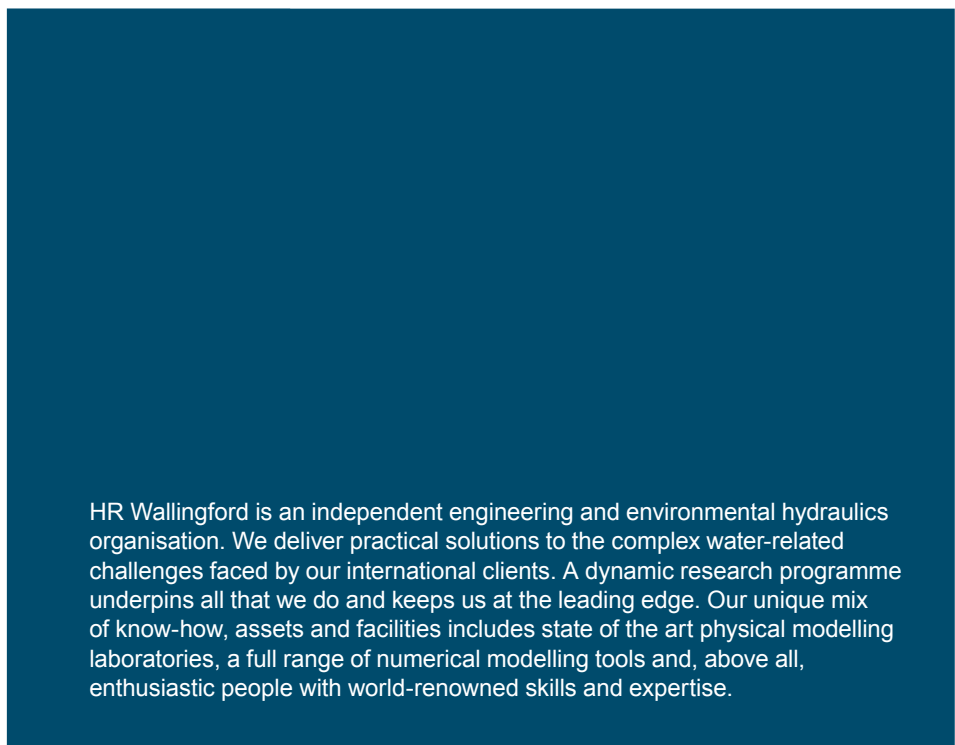
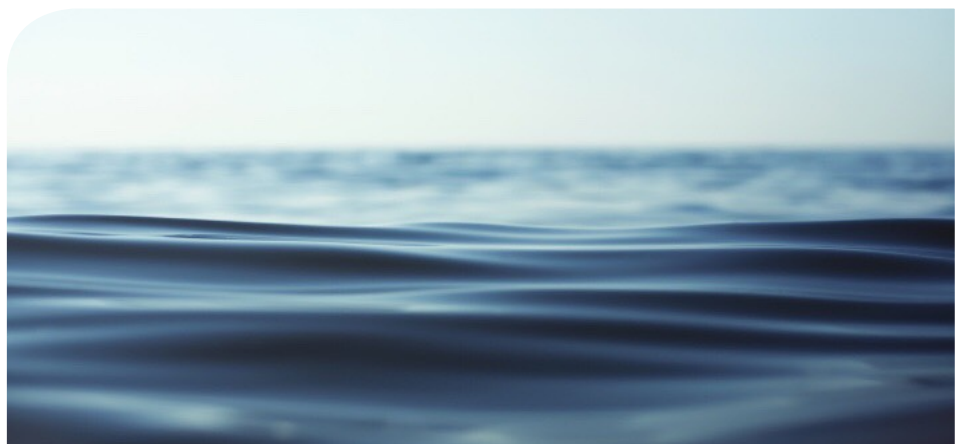
A project requirement to revise the berth locations to ensure the development did not encroach in to the SPA to the north-east of the proposed Unified Ferry Terminal was assessed (Session 3 – February 2018). The layouts proposed moving the berths outside the SPA on a continuous landline on marginally different alignments. At first a shorter berth length at the previously consented Berth 52 was examined. However, the available clearances were not sufficient and the margin of error was deemed too small. A longer berth length, increased by 100m, was shown to be feasible and was later reduced by 40m based on the outcome of the simulations. Manoeuvres to and from the previously consented Berth 52 and the proposed Berth 53 were shown to be feasible with this layout (Option 3B, Figure 4.12).

Session 4 (May 2018) focussed on examining seven alternative preliminary Unified Ferry Terminal layout options, six of which were initially proposed and a seventh which was developed during the simulation session. This examined potential options to optimise the preliminary design for the ferry terminal. It was shown preferable to align the berths with the channel, and therefore more aligned with the prevailing wind and tidal flows. This alignment increases the navigable area, particularly past the proposed Berth 53 and allowed for better manoeuvres to the ferry berths.

Given the subsequent de-scoping of the manoeuvring area, due to the potential impact on the Great South Wall, Session 5 was carried out using more manoeuvrable design ships. Design Vessels 3 and 4 were based on the current and future ships expected at the port. These had higher power thrusters at the bow as well as a stern thruster. This allowed the ships to manoeuvre with a higher level of control in the available space adjacent to the berths. Further to the improved manoeuvring capabilities of Design Vessel 3 and 4, optimisations of the available space were simulated including additional dredging to the east of the berth pocket at Berth 48 and the area in front of the sludge jetty opposite the existing Berth 49. The combined effect of the Design Vessel 3 and 4 and the additional dredging allowed for manoeuvres with sufficient clearances to the three river berths as part of the MP2 Project.



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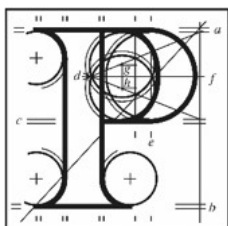
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APPENDIX 5 PROJECT SCOPING & CONSULTATION

Appendix 5-1



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Recording of Meeting PC0252

Case Reference / Description	Reconfigured ferry terminal, roadways, buildings and lands, new jetty, dredging works and all ancillary works at Dublin Port Company Estate, Dublin Port, Alexandra Road, Dublin 1.		
Case Type	Pre-application consultation		
1st / 2nd / 3rd Meeting	1 st meeting with the prospective applicant		
Date	1 st December, 2017	Start Time	11.00
Location	Offices of An Bord Pleanála	End Time	12.25
Chairperson	Brendan Wyse	Executive Officer	Lianna Slowey

Present		
Staff Member	Email Address	Phone
Brendan Wyse, Assistant Director of Planning		
Karla McBride, Senior Planning Inspector		
David Curran, Senior Executive Officer		
Lianna Slowey, Executive Officer	l.slowey@pleanala.ie	01-8737246

Representing Prospective Applicant	
Name	Title
Eamonn O'Reilly	Chief Executive, Dublin Port Company
Michael Sheary	Company Secretary/CFO, Dublin Port Company
Sarah Horgan	Project Manager, Dublin Port Company
Helena Gavin	RPS Planning and Environment (Planning)
Alan Barr	RPS Planning and Environment (Environmental)
Garrett Fennell	Solicitor and Public Affairs Consultant

Introduction

The representatives of An Bord Pleanála (ABP) welcomed the prospective applicant and introductions were made.

ABP referred to the letter received from the prospective applicant dated 13th October, 2017 formally requesting pre-application consultations.

The procedural matters relating to the pre-application consultation process were outlined as follows:

- ABP advised the prospective applicant that the purpose of the first meeting is an information gathering exercise.
- ABP will keep a record of this meeting and any other meetings, if held. Such records will form part of the file which will be made available publicly at the conclusion of the process.
- A further meeting or meetings may be held in respect of the proposed development.
- ABP may request further information and may direct the prospective applicant to engage in public consultations.
- ABP may hold consultations in respect of the proposed development with other bodies.
- The holding of consultations does not prejudice ABP in any way and cannot be relied upon in the formal planning process or any legal proceedings.

- ABP will serve formal notice at the conclusion of the process as to whether or not the proposed development is Strategic Infrastructure Development (SID). It may form a preliminary view at an early stage in the process as to whether the proposed development would likely constitute strategic infrastructure.

The prospective applicant was invited to outline the nature of the proposed development and to highlight any matters they wished to receive advice in relation to.

Presentation by the prospective applicant:

The prospective applicant presented an overview of the proposed development entitled “MP2 Project”. The presentation outlined the historical context of Dublin Port, comparison studies with other European ports, the growth potential for the port and the development towards full capacity by 2040.

The development challenges facing Dublin Port were identified, as follows – 30% growth in port volume throughout the last 5 years; port productivity has increased but Dublin Port has fallen behind in terms of keeping up with the demand; no capacity for expansion as constraints on all sides – Dublin Port will reach its capacity by 2040; need to allow up to 20 years for delivery of this project; aim to maximise expansion via existing brownfield sites within the existing footprint of Dublin Port; further infill now not contemplated; inland port storage area close to Dublin Airport identified.

Development within the port is guided by the Dublin Port Masterplan 2012-2040, a review of which was undertaken during 2017 following recent developments, such as the publication of NTA’s Transport Strategy for the Greater Dublin Area, 2016-2035, the designation of the Poolbeg West Strategic Development Zone and the publication of Dublin City Council’s Dublin City Development Plan 2016-2021. A new Strategic Environmental Assessment (SEA) has commenced for the port area and a formal Masterplan is expected to be prepared and adopted before this application is lodged.

To date one third of the masterplan projects have been delivered – ABR Project (ABP reference: PA0034) is under construction, and the redevelopment of Dublin Port internal road, cycle and pedestrian networks (Dublin City Council PA reg. ref: 3084/16) is under construction.

The proposed MP2 Project is the second major masterplan project and links in to the above-mentioned approved projects. 8 main elements of works were identified as follows (see annotated map on slide 19 of presentation):

1. Infill to the east of Oil Berth no. 4.
2. Demolish the end of the old eastern breakwater (including Harbour Office) and extend Berth 50A westwards.
3. Berth 50A to be extended by 90m over high voltage ESB cables buried beneath the river bed.
4. Demolish 2 existing terminal buildings and the Eucon freight office.
5. Remove all internal roads and fences to create a unified ferry terminal for up to 3 operators.
6. New ferry terminal with check-in facilities for freight and tourist traffic and incorporating facilities for State border control services.
7. Extend Berth 51A northwards by 100m and a double-tier Ro-Ro ramp to be installed.
8. New 330m berth with double-tiered Ro-Ro ramp. These works are envisaged to be the most challenging given the close proximity to SPA but there is a good rationale behind the proposal and the environmental impacts of the proposed works will be assessed. Not certain yet as to whether or not to proceed with this element.

The key points and issues of the proposed development were identified as follows:

- Timescale – target is to submit a planning application by the end of 2018,
- Engagement – there will be a comprehensive community engagement programme building on that carried out for the Masterplan Review 2017,
- Community Gain – there will be a substantial community gain proposal which will form part of the planning application,

- Strategic Infrastructure – Dublin Port Company believes that the project is Strategic Infrastructure and the planning application path is through ABP.
- Long Consent Duration – propose to deliver the MP2 Project over a series of sub-projects co-ordinated with other consented developments and request a 15-year duration of permission, if granted.
- Foreshore – small element of capital dredging required for the extension of berths, not as large scale as ABR Project.
- The project envisages using the infill of Oil Berth no. 4 to facilitate the disposal of contaminated dredge spoil/arising from elsewhere within the port using a similar approach as in the ABR Project. This would require an IED licence from the EPA.
- Alternatives – commitment to expansion using brownfield sites over greenfield sites.
- No expansion into the Bay – eastward development is limited to the provision of an additional river berth.
- Impact on the SPA – proposed additional river berth to be situated on the edge or just within the SPA. The environmental team have commenced assessment of this proposal.

This concludes the prospective applicant's presentation.

Matters discussed:

Current phase of previous approval

ABP inquired as to the current phase of previously approved application PA0034 (ABR Project). The prospective applicant outlined what physical works have started at Alexandra Basin:

- Season 1 dredging has commenced in the bay and will move inwards through 6 phases over 6 years, phase 1 is to be completed by March 2018.
- Crossberth Quay has been built and jetty completed.
- The corner of Alexandra Quay West and Ocean Pier West is completed.
- Ocean Pier West has commenced.

- Dredging of Alexandra Basin to commence next year, quay walls must be built before dredging works can be carried out.

Berths 52 and 53

ABP queried if the contaminated waste treatment facilities at berths 52 and 53 are to be closed off or if the area will still be needed for processing plant. According to the prospective applicant all masterplan projects are relative to each other and there is a balance between the delivery and overlap of projects.

Berth 50A

ABP questioned if there were any harbour heritage features to be retained at berth 50A. The prospective applicant advised that berth 50A forms part of the old eastern breakwater (designed by port engineer Bindon Blood Stoney) but is not a protected structure. It is proposed to reuse the materials from this location within new build areas as was done in the pedestrian and cycle path route which incorporated historical elements into the design.

Proposed jetty

ABP inquired as to the nature of the proposed jetty structure. The prospective applicant outlined that the proposed 2-tier jetty would be a closed structure, approx. 10-12m in width. The feasibility of the jetty is being looked at. No design is in place at present but it is envisaged that the jetty will be a sheet piled structure with tie backs in the centre, similar to others along the river, with corrugated iron and concrete as the proposed materials. The prospective applicant informed the meeting that a closed structure would require less dredging. Detailed hydrographic surveys have been carried out and impact on sediments and erosion have been assessed. Bird counts of the 12 species in the Tolka estuary are ongoing as they are qualifying interests of the SPA. Noise impact is not a serious concern because of the small scale of this element of the project. This project will have the benefit of the environmental and noise studies carried out in relation to the ABR project. ABP queried the impacts of this proposal on the hydrodynamic environment and the morphology of the Tolka Estuary.

Flooding impact on Clontarf coastline

ABP queried the possibility of flooding on the Clontarf coastline. The prospective applicant referred to Dublin City Council's Part X application for flood relief works and assured that there is no increased risk of flooding on Clontarf as a result of the proposed development.

High voltage powerlines

ABP questioned how the existing high voltage powerlines are to be addressed. The prospective applicant detailed that the high voltage powerlines are situated approx. 12m beneath the river bed. It is proposed to bridge the powerlines. The prospective applicant advised that it has previous knowledge and agreement with ESB for similar construction methods.

Community gain

ABP inquired as to the nature of community gain proposed. The prospective applicant outlined that there is a 1-acre site on East Wall Road, opposite a school, which is in their ownership and it is proposed to redevelop these lands as a public park or urban zoo/city farm. Alternatively, there is a proposal to deliver a pedestrian/cycle bridge across Promenade Road (which has consent) to connect to a 4km green route.

Wooden bridge to Bull Island

ABP queried if the wooden bridge to Bull Island is to be taken in charge by Dublin City Council, as per previous application. The prospective applicant advised that they are in the process of transferring lands in the vicinity to Dublin City Council but not the wooden bridge.

Frontage onto East Wall Road

A new cross road with Sherriff Street is proposed and Dublin City Council have approved works to link with ABR projects.

Design of new terminal building

ABP questioned if there is a design in place for the new terminal building. The prospective applicant advised that the terminal facility may be quite small and will be of good quality in terms of design given the location relative to the Tolka Estuary.

Environmental assessment

The prospective applicant outlined the environmental assessment carried out so far. ABR Project team has been retained. In terms of data collection there are significant benefits from the monitoring conditions attached to the previous application. Real time information is available in relation to the health of the estuary. 4 buoys are situated offshore recording real time wave activity which includes data recorded during the recent extreme weather events of Hurricane Ophelia and Storm Brian. Passive Acoustic Monitoring (PAM) and Static Acoustic Monitoring (SAM) are ongoing. Monthly seal surveys are carried out at Bull Island and have identified the presence of seals inside the Bull Wall. There is site specific information available in relation to the dredging works that have been carried out to date. Overwintering surveys of bird species have identified signs that the water quality in the area is improving. Lamprey is now present in the Tolka Estuary. Underwater noise specialists have been engaged as well as a specialist in environmental law.

Treatment of Wastewater

ABP queried if there was to be a treatment facility for wastewater effluent from cruise ships. The prospective applicant advised that cruise ships do not discharge in Dublin Port or Dublin Bay, and that this is subject to international regulations.

Stakeholder engagement process

The prospective applicant circulated a document entitled “An outline of a proposed consultation/information programme for an application by Dublin Port Company to An Bord Pleanála for planning permission for the MP2 Project 2017/2018” which illustrates their stakeholder engagement process. Community engagement is expected to commence in early 2018. Dublin Port Company is a key member of Dublin Bay Biosphere and is in regular consultation with the NPWS. The prospective applicant assured that this application will have more certainty than the ABR project

as it will have the benefit of the knowledge and surveys from the previous application.

Amendments to ABR Project

The prospective applicant identified a possible amendment to the ABR Project and queried whether the appropriate avenue would be via this application or an amendment to the previous application. The possible amendment is in relation to the permitted new berths at Berths 52 and 53 which may require a minor change in orientation for marine safety. ABP advised the prospective applicant to submit more information regarding this as early as possible in the pre-application consultation process.

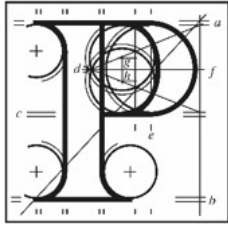
Conclusion

The prospective applicant invited ABP to Dublin Port to conduct a site visit.

Further meetings will be held. The prospective applicant will advise in due course when it requires the next meeting.

Meeting concluded at 12.30 p.m.

Brendan Wyse
Assistant Director of Planning
December, 2017



An
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Record of Meeting 29N.PC0252 2nd meeting

Case Reference / Description	29N.PC0252 Reconfigured ferry terminal, roadways, buildings and lands, new jetty, dredging works and all ancillary works at Dublin Port Company Estate, Dublin Port, Alexandra Road, Dublin 1.		
Case Type	Pre-application consultation		
1st / 2nd / 3rd Meeting	2 nd		
Date	24/04/18	Start Time	11 a.m.
Location	Parnell Room	End Time	12.20 p.m.
Chairperson	Brendan Wyse	Executive Officer	Kieran Somers

Attendees		
Representing An Bord Pleanála		
Staff Member	Email Address	Phone
Brendan Wyse, Assistant Director of Planning		
Karla McBride, Senior Planning Inspector		
David Curran, Senior Executive Officer		
Kieran Somers, Executive Officer	k.somers@pleanala.ie	01-8737107

Representing the Prospective Applicant		
Eamonn O'Reilly, Chief Executive, Dublin Port Company		
Michael Sheary, Company Secretary, Dublin Port Company		
Sarah Horgan, Project Manager		
Helena Gavin, RPS (Planning)		
Alan Barr, RPS (Environmental)		
Garrett Fennell, Solicitor and Public Affairs Consultant		
Adam Cronin, Atkins Byrne Looby		

The meeting commenced at 11 a.m.

The Board referred to its previous meeting with the prospective applicant of the 1st December, 2017 and the record of same. The Board enquired if the prospective applicant had any comments to make on the record of this meeting. The prospective applicant replied that it had no comments to make.

The Board referred to some of the key issues which had been discussed at the first meeting. These included; the Dublin Port masterplan review; the 15-year permission being sought; the proposed new eastern jetty still at design stage and under consideration; community engagement; and ongoing liaison with the National Parks and Wildlife Service (NPWS).

Prospective applicant's presentation:

The prospective applicant recapped on the constituent elements of the proposed development. It said that the amendment it had previously been proposing to the Alexandra Basin Redevelopment [ABR project], in relation to the realignment of Berths 52 and 53, is no longer to be pursued. The design of the project elements have been brought to a stage whereby the preparation of the EIAR can now commence. The prospective applicant held a meeting with representatives from Dublin City Council on the 29th March, 2018.

The prospective applicant advised the Board that the lighthouse lantern affected by the refurbishment of Berth 50A would be re-used elsewhere in the port. The proposal for Berth 51A, including an extension northwards and a double-tier Ro-Ro ramp, has now been omitted from the project.

The proposed infill to the east of oil berth 4 and the refurbishment and lengthening of oil berth 3 will effectively comprise future-proofing in the context of the anticipated reduction in oil products, generally in line with national policy.

Infrastructure will be put in place for shore-side electricity to replace the use of diesel for berthed ships; provision for gas supply will also be included.

The proposed unified ferry terminal building will include check-in facilities for freight and tourist traffic and incorporate other such facilities. The design of the building would take into account the sensitivity of the location. The building would be approximately 20 metres in height. The nearby multi-storey car park would be approximately 14 metres in height with space for about 300 cars. The prospective applicant confirmed that Dublin City Council had not provided any feedback on this as of yet.

The prospective applicant also referred to a new two-tier elevated ramp and bridge structure that would be located in the north-east section of the site. This structure would allow for the separation of inbound and outbound vehicles and it would be similar to the current arrangement at Dover Port in the UK. The prospective applicant also identified an area in the north-west section that would be designated for use for State Services (customs, emigration etc.).

The prospective applicant made reference to the Calor Gas site and the proximity of this Seveso site to the proposed terminal building. It said that it has commenced discussions with the Health and Safety Authority in relation to all relevant sites.

The proposed new eastern jetty will now comprise a 330-metre berth linked to land by a double-tiered Ro-Ro ramp. The entire structure would be approximately 500 metres in length. The structure would be located outside the SPA and can be constructed in such a way so as not to directly impact on the European Site.

The jetty has gone through a number of design iterations which have been the subject of modelling. The structure would run parallel to the SPA site boundary. It will comprise an open structure based on mooring dolphins sitting on piles. A revetment structure underneath will protect the SPA when vessels are turning.

A series of surveys have been undertaken since the time of the previous meeting, including bird counts which were used to inform the design and location of the jetty. The final design of the jetty has been changed quite considerably as a result. Vehicular access would be restricted and foot passengers would travel by bus to and from the terminal building. The prospective applicant said that the proposed jetty would have no impact on the morphology of the SPA. Responding to the Board's query on the matter, it said that no consultations regarding this have taken place so far with the NPWS.

The prospective applicant said that alternatives with respect to the proposed jetty will be set out in the EIAR to accompany the planning application. Noting this, the Board's representatives said that the need for this element of the proposed development would have to be robustly justified in any planning application. The Board also advised the prospective applicant to liaise closely with the NPWS. The prospective applicant undertook to do so and commented that marine safety is a key consideration here and with particular regard to the proposed length of the structure and its relationship to the previously permitted berths under the ABR project. It also noted operational requirements as being of significance.

In a policy context, the prospective applicant said that it had made detailed submissions to the Department with regard to the National Planning Framework – Project Ireland 2040. With regard to Dublin Port generally, the prospective applicant noted the reference in the document to limited expansion into Dublin Harbour. It added that it considers the proposed development to be consistent with the National Planning Framework.

The prospective applicant noted the progress on the review of the Dublin Port masterplan. The draft of the revised masterplan was published on the 16th April, 2018 and a six-week consultation period has now commenced. This will conclude on the 28th May, 2018. It is currently aiming to publish the new masterplan circa July 2018. An SEA has been carried out.

The prospective applicant noted that the proposed development is incorporated in the new masterplan. It said that the future development of all lands within its ownership will be set out in the masterplan. This will provide further justification for the proposed development.

In relation to community gain, the prospective applicant reiterated its proposal for a city farm which would be located on its lands off the East Wall Road. It is having on-going discussions with the Parks Division of the local authority in relation to such an amenity and noted that the management and running of this farm would be a matter for further discussion.

In respect of public and stakeholder consultation, the prospective applicant presented the Board with a matrix of consultations which are to take place. In relation to statutory consultees a time period of six weeks has been allowed and, based on feedback, face-to-face meetings will be arranged thereafter.

The prospective applicant referred in particular to oil berth 4 and the proposed infill to the east. Noting that this is a significant element of the overall project, the prospective applicant said that it would hope to obtain a flexible consent with regard to the types of materials that could be used for infill; these might include contaminated materials which would require a relevant licence from the EPA. The prospective applicant said that it would seek to have more information on this matter by the time of a further meeting with the Board. It also confirmed that any such materials for the proposed infill would come solely from within Dublin Port itself and would comprise mainly dredged materials and demolition waste.

The prospective applicant indicated that its current intention is to lodge the planning application by the end of October 2018.

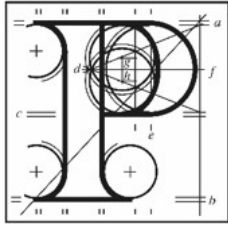
Conclusion:

The Board's representatives said that at least one more meeting would be required for this particular pre-application consultation process. They also undertook to meet with the SID division of the Board in order to provide an update on the project. A further meeting will then be arranged. The record of the instant meeting will issue in the meantime.

The meeting concluded at 12.20 p.m.

Brendan Wyse

Assistant Director of Planning



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Record of Meeting 29N.PC0252 3rd meeting

Case Reference / Description	29N.PC0252 Reconfigured ferry terminal, roadways, buildings and lands, new jetty, dredging works and all ancillary works at Dublin Port Company Estate, Dublin Port, Alexandra Road, Dublin 1.		
Case Type	Pre-application consultation		
1st / 2nd / 3rd Meeting	3 rd		
Date	02/07/18	Start Time	11 a.m.
Location	Parnell Room	End Time	12.35 p.m.
Chairperson	Brendan Wyse	Executive Officer	Kieran Somers

Attendees		
Representing An Bord Pleanála		
Staff Member	Email Address	Phone
Brendan Wyse, Assistant Director of Planning		
Karla McBride, Senior Planning Inspector		
Diarmuid Collins, Senior Administrative Officer		
Kieran Somers, Executive Officer	k.somers@pleanala.ie	01-8737107

Representing the Prospective Applicant		
Eamonn O'Reilly, Chief Executive, Dublin Port Company		
Sarah Horgan, Project Manager		
Helena Gavin, RPS (Planning)		
Alan Barr, RPS (Environmental)		
Garrett Fennell, Solicitor and Public Affairs Consultant		

The meeting commenced at 11 a.m.

The Board referred to its previous meeting with the prospective applicant of the 24th April, 2018 and the record of same. The Board enquired if the prospective applicant had any comments to make on the record of this meeting. The prospective applicant replied that it had no comments.

The Board recapped on some of the matters which had been discussed at the previous meeting with the prospective applicant. These included the unified terminal building, the eastern berth and consultations with the National Parks and Wildlife Service (NPWS). The Board's representatives also advised the prospective applicant that they had met with the SID division of the Board since the time of the last meeting. The following was noted to the prospective applicant arising from this meeting:

- There was a particular focus on Berth 53 and the need for the project should be clearly set out, with particular regard to this berth.
- The matter of effects on industrial heritage should be addressed.
- The possibility of a Luas extension into the port area.
- Impacts on coastal processes and the SPA and consultations with the NPWS.
- The need to explain and justify a 15-year permission.

Prospective applicant's presentation:

Noting that this would likely be the final meeting in respect of this particular pre-application consultation process, the prospective applicant said that there have been some changes to the project since the time of the previous meeting.

The prospective applicant said that it has now completed its review of the Masterplan for the Port; this is due to be published circa 24th July, 2018. The reviewed Masterplan will include an SEA, NIA, a strategic traffic assessment and a strategic flood risk assessment.

The prospective applicant outlined the main differences between the reviewed Masterplan and the original one; these include provision that there will be no deepening of Dublin Port beyond the -10.0 metre CD already permitted; no port expansion by eastern infill into Dublin Bay and development on the Poolbeg Peninsula in a manner that does not involve IROPI. The prospective applicant said that it expects the MP2 project will be the final SID application with regard to development on the north side of the Port.

The prospective applicant set out the proposed indicative layout for the MP2 project with regard to the revised Masterplan. It also set out the main differences between the instant proposal and what was formerly being proposed; these include the reorientation of Berth 52; the omission of the new ferry terminal building, multi-storey car park and 2-tier ramp access structure; no extension now proposed for Berth 51A; no infill of Oil Berth 4 with contaminated waste; a new surface level car park in the east section of the site; a re-organised layout (which is indicative) and a reduced red line area.

With regard to the proposal for Berth 53, the prospective applicant said that it would have reasonable confidence that a robust case can be made with respect to this and that it can demonstrate that no negative effects will arise for the SPA. In relation to the overall industrial heritage of the Port lands, the prospective applicant noted that some demolition will be required as part of the proposed development.

The prospective applicant noted that, with the omission of the proposed new ferry terminal building, the existing waterside Terminal 1 will now be used instead. Proposals in this regard will include for the segregation of passengers and required security measures.

In relation to the 15-year planning permission being sought, the prospective applicant said that this was having regard to the scope of its Masterplan (which provides for up to the year 2040) and stated that the duration was in order to allow a degree of certainty with regard to long-term plans. In all 20 years will be required to provide new facilities. The prospective applicant acknowledged that 15 years is a long period in terms of possible environmental impacts, but it had been informed by a deep understanding of future consequences for the environment. It added that a key challenge for it is to sustain trade and growth whilst continuing to develop the lands in its ownership. In this latter regard, the prospective applicant noted how space constraints and ever-changing markets forces have to be considered.

The prospective applicant acknowledged that the proposed project element of Berth 53 would likely constitute the most significant part of the proposed development. It said that it would not be bringing the project forward if it were of the opinion that this part of the project would result in negative effects on the SPA. The Board's representatives said that they considered this might be the most contentious issue.

In relation to Berth 53, the prospective applicant noted that Berth 52 would be re-orientated in order to facilitate this project element. The prospective applicant said that the proposal for Berth 53 would make the berth as short as possible, that it would be open plan in nature and placed on piles. The revetment structure which

will support and protect the slope along the SPA – Port boundary was further elaborated upon by the prospective applicant. It said that is similar to the concrete mattress and that planning consent has already been obtained for a small section to the east of Berth 52 under the ABR Project. The planning application for the project will seek an extension to the revetment structure which the prospective applicant said would provide protection to the SPA. In response to the Board's query on this, the prospective applicant said that this will run along the planning boundary, but will be outside the area of the SPA. The prospective applicant added that mitigation will be achieved through design.

The prospective applicant advised that it has had meetings with representatives from Dublin City Council. The prospective applicant said it is confident that there will be no direct effects on the Great South Wall as a result of the proposed dredging to accommodate ship turning movements for vessels using Berths 52 and 53. It advised that a similar revetment structure would be installed at this location. The prospective applicant said that potential indirect effects were being considered such as pressures which might arise for the integrity of the wall. It confirmed to the Board that there are no turning movements in this area at the moment.

The prospective applicant noted for the record that it had received no submissions in relation to any visual impact arising from Berth 53 during its formal consultations on the SEA.

With regard to consultations generally, the prospective applicant said that it was satisfied it had been thorough to date. Aspects such as marine archaeology and effects on the built heritage have been discussed with the Department of Culture, Heritage and the Gaeltacht. The prospective applicant advised that it had received a written submission from the NPWS that was generic in content which it wishes to pursue further. The prospective applicant said that it would be seeking a meeting with representatives from the NPWS. It said it hoped such a meeting would take place prior to the lodging of the planning application.

With regard to its revised Masterplan, the prospective applicant said that it had received a detailed response from the NPWS with respect to scoping, but not in relation to the environmental report. The prospective applicant said that it is satisfied it now has a Masterplan in place which avoids the need for IROPI. The Board's representatives emphasised the importance of a meeting with the NPWS prior to seeking closure of the instant pre-application consultation process.

The Board enquired as to why the formerly proposed car park was now being omitted from the project. It was confirmed that surface level parking would be provided in the eastern section of the site.

The prospective applicant said its intention was to maximise the use of land and that State Services would continue to be provided in the NW section of the site as per the previous proposal. It noted for the record that it has a current planning application with Dublin City Council for a new checkout area; it hopes to have structures in relation to this in place by March 2019.

The prospective applicant said that it would not envisage a Luas extension running down to the heart of the Port. Such an extension would not be economically viable and might work against the core principles of the Port. The revised Masterplan includes a commitment to provide a dedicated bus service and a network of

pedestrian and cycle provisions. It is intended that the bus service will link the Point Luas Stop to Clontarf DART station via the Port Estate and that the dedicated bus service would be of particular benefit to employees of Dublin Port.

The prospective applicant said that it is satisfied it can justify the case for the proposed development generally. It is based on the need to accommodate larger ships and increased traffic volumes.

Responding to the Board's query on the matter, the prospective applicant said that proposed capital dredging would be carried out during the winter months so that tern colonies would not be affected. The tern colonies have not been affected to date by ship turning movements. It does not envisage any impacts arising from the proposed development.

Procedures:

Noting that its Guidelines to Applicants have been updated as recently as May 2018, procedures in relation to the making of a formal planning application were given by the Board as follows:

- An application can only be lodged after formal notice has been received by the prospective applicant from the Board.
- The application must be made by way of full completion of an application form to the Board.
- The Board requires as a minimum that the public notice of the application would be in two newspapers circulating in the area to which the proposed development relates, one of which should be a national newspaper. A site notice in accordance with the protocols set out in the Planning and Development Regulations must also be erected. The date of the erection of the site notice is to be inserted; otherwise it should contain the same information as the newspaper notices and should remain in place for the duration of the period during which the public can make submissions to the Board.
- The documentation relating to the application is to be available for public inspection at the offices of the relevant planning authority and the offices of An Bord Pleanála. In this regard, the requirements in terms of the number of copies of the documentation to be lodged with the relevant planning authority and the Board is as follows:
 - Planning Authority – 5 hard copies and 2 electronic copies.
 - An Bord Pleanála – 3 hard copies and 7 electronic copies.
- The Board also requires the prospective applicant to provide a stand-alone website containing all of the application documentation. The address of this website is to be included in the public notice.

- The public notice of the application is to indicate that the application documentation will be available for public inspection after 5 working days from the date of the publication of the notice so as to ensure that the documentation is in place for such inspection.
- The time period for the making of submissions by the public is to be at least seven weeks from the date the documents become available for inspection (not from the date of publication of the public notices). The Board requires that the public notice must indicate the deadline time and date for the making of submissions to the Board. The Board said that it can offer administrative advice on procedural matters relating to the public notice which would include the confirmation of last dates for the making of written submissions. With regard to the public notice generally, the Board advised that, in this particular case, it should refer to the nearby Seveso Site and state clearly that a 15-year planning permission is being sought. The Board also suggested that the prospective applicant ought to consider referencing any demolition being proposed
- The service of notice of the application on any prescribed bodies must include a clear statement that the person served can make submissions to the Board by the same deadline as specified in the public notice.
- The service letter on the planning authority with the necessary copies of the documents should be addressed to the Chief Executive and should also alert the authority to the Board's requirement that the application documentation be made available for public inspection/purchase by the planning authority in accordance with the terms of the public notice (copies of any newspaper/site notices should be provided to the planning authority). It is the Board's intention that all of the application documentation will remain available for public inspection during the currency of the application.
- The depositing of the application documentation and the making of the application to the Board should take place immediately after the publication of the notice and the completion of the service requirements. The application documentation should include a copy of all letters serving notice of the application on prescribed bodies and the local authority, copies of the actual newspaper notices as published and the site notice.
- The fee for lodging an application is €100,000. The fee for making a submission in respect of an application is €50 (except for certain prescribed bodies which are exempt from this fee). There is an existing provision enabling the Board to recover its costs for processing any application from the applicant. In addition, it was pointed out that the legislation also enables the Board direct payment of costs or a contribution towards same to the planning authority and third parties.

- The Board also drew the prospective applicant's attention to the fact that the forthcoming Regulations to transpose the 2014 EIA Directive may require applicants to register EIA development on a central portal on the Department's website prior to lodging an application for planning permission. An acknowledgement from the Department in this latter regard will be required to accompany the planning application to the Board if the application is made after the commencement of these Regulations.
- The public notices should be prepared in the context of including references to any Seveso Site consideration or demolition of industrial heritage if considered necessary.

The sequencing of the making of the application was summarised as follows:

1. Publish newspaper notices.
2. Serve copy of relevant documents on bodies/persons required to be notified of the application. Deposit required number of copies with relevant planning authority.
3. Deposit required number of copies of application documentation with An Bord Pleanála and make an application to it.

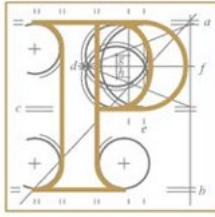
Conclusion:

The record of the instant meeting will issue to the prospective applicant as soon as possible. The prospective applicant said it will decide at that point whether or not it will request closure of this pre-application case. Once such a request is received, the reporting inspector will complete a report and recommendation to the Board. The prospective applicant was advised that it should allow a few weeks for the formal SID determination to issue.

The meeting concluded at 12.35 p.m.

Brendan Wyse

Assistant Director of Planning



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Board Direction

Ref: 29N.PC0252

At a meeting held on 9th August 2018, the Board considered the report of the inspector as well as the documents on file.

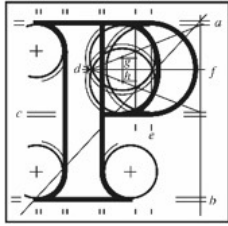
The Board determined that the proposed development is strategic infrastructure development, generally in accordance with the Inspector's reasoning and recommendation.

In relation to the schedule of prescribed bodies, the following changes are recommended:

- Exclude the Railway Procurement Agency

Note: The prospective applicant should be advised to submit a separate document (to the EIAR) with the planning application which outlines the mitigation measures, in the interest of convenience and ease of reference.

Board Member: _____ Date: 9th August 2018
Maria FitzGerald



An
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Inspector's Report 29N.PC0252

Development

Reconfigured ferry terminal, roadways, buildings and lands, new jetty, dredging works and all ancillary works.

Location

Dublin Port Company Estate, Dublin Port, Alexandra Road, Dublin 1.

Planning Authority

Dublin City Council

Prospective Applicant

Dublin Port Company

Inspector

Karla Mc Bride

1.0 Introduction

- 1.1. Dublin Port Company requested Pre-Application Consultations under Section 37B of the Planning and Development Act, 2000, as amended, for works in the Eastern section of Dublin Port. Three Pre-Application Consultations took place between An Bord Pleanála (the Board) and the prospective applicant on 1st December 2017, 24th April 2018 and 2nd July 2018 (see appended signed Records).
- 1.2. The primary purpose of these meetings was to address the issue of whether or not the proposed development constitutes strategic infrastructure for the purposes of the 2000 Act, as amended by the Planning and Development (Strategic Infrastructure) Act, 2006, and to consider matters relating to the proper planning and sustainable development of the area or the environment which may have a bearing on the Board's decision, and procedures involved in making the application
- 1.3. This Report provides an overview of the proposed project, a summary of the meetings and the advice provided by the Board, the legislative provisions, and it recommends a list of Prescribed Bodies that should be forwarded copies of the application.

2.0 Site Location

- 2.1. The site of the proposed development is located within Dublin Port Estate. It occupies the Eastern side of the port which incorporates the Irish Ferries and Sea Truck terminals, extensive surface car parking and existing Berths 52 and 53. Planning permission was previously granted for the infilling of these berths under the ARB Project (29N.PA0034) for the redevelopment of Alexandra Basin and associated works. The site is bound to the N and E by the South Dublin Bay and Tolka Estuary SPA, and to the S by the River Liffey and the navigation channel.

3.0 Proposed development

- 3.1. The proposed development of the c. 57ha site would comprise:
 1. Demolition of the old eastern breakwater (including the Harbour Office) and the extension of Berth 50A westwards.

2. Further extension of Berth 50A by c.90m over high voltage ESB cables (buried beneath the river bed).
 3. Reconstruction of Oil Berth 3 to future proof it for future uses as a container berth as petroleum volumes decrease.
 4. New Berth 53 and access ramp which would extend eastwards for c.400m (open plan structure on piles with revetments (concrete mattress protection) along the SPA site boundary.
 5. Slight reorientation of permitted Berth 52.
 6. Dredging to -10mOD (N & S side of Liffey) and new quay walls (c.1000m).
- 3.2. The project was substantially amended during the pre-application consultations. The originally proposed demolition of existing terminal buildings, construction of a new terminal building, multi-storey car park and 2-tier elevated ramp and bridge structure, and works at Berth 51A and Oil Berth 4 were omitted.
- 3.3. A 15-year planning permission is being sought.

4.0 Prospective applicants case

- 4.1. Dublin Port Company is proposing to carry out further works at Dublin Port which would comprise the second phase of the overall strategy for the port up to 2040, as set out in the Dublin Port Masterplan 2012-2040 (recently reviewed). The first phase comprised the ABR Project which was permitted by the Board under 29N.PC0034 and these works have commenced. It was stated that the currently proposed MP2 Project would take account of economic growth trends and forecasts and that it is anticipated that Dublin Port will have reached full capacity by 2040.
- 4.2. The key elements of the Applicant's submission in support of the case being designated as strategic infrastructure are summarised as follows:
- It exceeds the statutory thresholds as specified in the Seventh Schedule of the 2006 Act as amended by S.78 of the 2010 Act, and it would:
 - Make provision for an intermodal transshipment facility, an intermodal terminal and passenger facility, which will exceed 5ha.
 - Involve the construction of one or more quays exceeding 100m.

- Enable a vessel of over 1,350 tonnes to enter within it.
- Satisfies criteria (a), (b) and (c) of S.37A (2) of the 2006 Act and supports national, regional and local policies and objectives.
 - (a) It would be of strategic economic importance to the region and state, the port currently handles 44% of all port volumes for goods, and it handled c.1.8m passengers, c.500,000 tourist vehicles and c.109 cruise vessels in 2016.
 - (b) It would contribute of national and regional spatial planning objectives which identify the need for high quality international, national and regional connectivity whilst recognising the role of Dublin Port as a Tier 1 Port.
 - (c) It would have a significant effect on the area of more than one planning authority as the works will have an economic impact on counties within the GDA and beyond.

4.3. Proposal is of a class of development falling within the Seventh Schedule and complies with all criteria set out in section 37(A)(2) of the Act, and the proposed development should be deemed a SID.

5.0 Pre-Application Consultations

5.1. Three Consultation meetings were held in 2017 and 2018.

5.2. The **first** Consultation meeting was held on 1st December 2017. The prospective applicant provided an update on the economic position of the port which is operating close to capacity, the status of the recently reviewed Dublin Port Masterplan and details of the nature and extent of the proposed works. The policy context for the project was explained (including European, national regional and local policy), the major constraints and options considered were identified, and the consultations undertaken to date were outlined.

5.3. The **second** Consultation meeting was held on 24th April 2018. The prospective applicant provided an update on the status of the project which included several amendments and omissions as well as design details in relation to the new terminal building, multi-storey car park, 2-tier elevated ramp and bridge structure, the

reorientation of permitted Berth 52 and proposed new jetty/Berth 53 which would be separated from the SPA boundary by a revetment structure. The key ecological site was identified as the South Dublin Bay and Tolka Estuary SPA and the key heritage sites included the old harbour office and lantern and the Great South Wall. Further survey details were presented in relation to ecology, birds and industrial heritage and it was indicated that a City Farm was the preferred the community gain option. It was confirmed that initial discussions had taken place with Dublin City Council and the Health and Safety Authority in relation to nearby Seveso sites.

5.4. The **third** and final Consultation meeting was held on 2nd July 2018. The prospective applicant provided a further update on the status of the project which included several amendments and omissions (including the omission of the new terminal building, multi-storey car park, 2-tier elevated ramp and bridge structure, Berth 51A extension and the infill of Oil Berth 4). Further details were provided in relation to the indicative layout of the site, the reorientation of permitted Berth 52, the scale and design of the proposed new jetty/Berth 53 and associated revetment structures, and additional dredging to accommodate turning movements for vessels using Berths 52 and 53. Discussions with the Department of Culture, Heritage and the Gaeltacht in relation to marine archaeology were referred to. The extension of the Luas was not considered economically feasible and public transport connectivity was described. It was confirmed that there would be no expansion into Dublin Bay and that the MP2 Project would be final SID application for the N side of the Port.

5.5. The Board's advice to the prospective applicant during the pre-application consultation meetings is summarised below:

- (a) Clearly state the rational and justification for the proposed development.
- (b) The request for a 15-year planning permission should be justified.
- (c) Scale and rational for the proposed new jetty/Berth 53 should be clearly stated and the need justified; consult with the NPWS in relation to potential impacts on the South Dublin Bay and Tolka Estuary SPA; and potential visual impacts should be assessed.
- (d) Detailed assessment of construction and design of the new jetty/Berth 53 required along with layout and servicing details including boundary treatment, buffers, landscaping and phasing.

- (e) Have regard to current national advice in relation to the implementation of EIA Directive 2014/52/EU in relation to EIS developments.
- (f) A comprehensive and detailed EIAR should be prepared which has particular regard to the impact of the proposed development on coastal processes, ecology (aquatic and terrestrial), archaeology, industrial heritage, water quality, flood risk and traffic management (including any new or modified road or rail proposals such as a Luas extension).
- (g) A comprehensive and detailed NIS should be prepared having regard to the presence of several European sites in the surrounding area.
- (h) Due consideration should be given to in-combination effects on the environment with other proposed developments in the wider area.
- (i) Public consultation should be as extensive as possible and consultations should take place with Prescribed Bodies and the local community.

6.0 Legislative provisions

- 6.1. The Board is asked to decide if the proposal is or is not Strategic Infrastructure Development as defined by Section 37A of the Planning and Development Planning Act 2000 as amended by Section 5 of the Planning and Development (Strategic Infrastructure) Act 2006 and by Section 78 of the Planning and Development (Amendment) Act 2010.

Strategic Infrastructure is defined in the Seventh Schedule of the 2006 Act and under Transport Infrastructure as:

A harbour or port installation (which may include facilities in the form of loading or unloading areas, vehicle queuing and parking areas, ship repair areas, areas for berthing or dry docking of ships, areas for the weighing, handling or transport of goods or the movement or transport of passengers (including customs or passport control facilities), associated administrative offices or other similar facilities directly related to and forming an integral part of the installation) –

- (a) Where the area or additional area of water enclosed would be 20ha or more, or
- (b) Which would involve the reclamation of 5ha or more of land, or
- (c) Which would involve the construction of one or more quays which or each of which would exceed 100m in length, or
- (d) Which would enable a vessel of over 1350 tonnes to enter within it.

6.2. Section 37A of the Planning and Development Act, 2000, as amended by the Planning and Development (Strategic Infrastructure) Act, 2006 and the Local Government Reform Act 2014, requires that any development specified in the Seventh Schedule should be made to the Board if the proposed development falls within one or more of the following:

- (a) the development would be of strategic economic or social importance to the State or the region in which it would be situate;
- (b) the development would contribute substantially to the fulfilment of any of the objectives in the National Spatial Strategy or in any regional spatial and economic strategy in force in respect of the area or areas in which it would be situate;
- (c) the development would have significant effect on the area of more than one planning authority.

7.0 Assessment

- 7.1. In my opinion the proposed development comprises a Seventh Schedule development as it meets the threshold requirements (c) and (d) as set out in section 6.1 above as it would comprise the construction of a jetty in excess of 100m and it would enable a vessel of over 1350 tonnes to enter within it.
- 7.2. There is an identified lack of spare capacity within the existing port estate to accommodate any additional cargo and vehicular transport generated by the predicted increase in the number of vessels and/or vessel size that would use Dublin Port in the future.
- 7.3. I consider that the proposed development meets the requirements of condition (a) of Section 37(A) (2) of the Planning and Development (Strategic Infrastructure) Act 2006 as it would be of strategic economic importance to the state and region due to its scale, location and the contribution it would make to connecting the eastern region to national, European and international markets. Dublin Port has been identified as Core Port of international significance in the Trans European Network (TEN-T) Guidelines and it forms part of the European Union's Core Transportation Network, and it is also designated as a Tier 1 Port of national importance in the National Ports Policy 2013.
- 7.4. Section 37(A) (2) (b) of the above Act requires the development to contribute substantially to the fulfilment of any of the objectives in the National Spatial Strategy (Project Ireland 2040-National Planning Framework, February 2018) or in any regional spatial and economic strategy in force in respect of the area or areas in which it would be situate.
- 7.5. European and national policy seeks to ensure that Ireland remains linked to international markets and regional policy recognises the economic and transport significance of Dublin Port and acknowledges the need to protect capacity and improve access. In my view the proposed development is of a scale that would substantially contribute to the spatial, economic and transportation objectives for the region as set out in Section 37(A)(2)(b).

- 7.6. The proposed development, which would serve the economies of Greater Dublin Area and beyond, would have a significant effect on more than one planning authority, having regard to Section 37(A) (2) (c) of the above Act.

8.0 Recommendation

I recommend that the Board serve a notice on the prospective applicant, pursuant to Section 37(B)(4) Planning and Development Act 2000, as amended, stating that it is of the opinion that the proposed development constitutes a strategic infrastructure development for the following reason:

Reasons and considerations

Having regard to the size, scale and location of the proposed port related development it is considered that the proposed development comprising a reconfigured ferry terminal, roadways, buildings and lands, new jetty, dredging works and all ancillary works at Dublin Port Company Estate, Dublin Port, Alexandra Road, Dublin 1, constitutes development that falls within the definition of transport infrastructure in the Seventh Schedule and is considered to be of strategic importance by reference to the requirements of Section 37A (2) (c) & (d) of the Act. An application for permission for the proposed development must therefore be made directly to An Bord Pleanála under S.37E of the Act.

9.0 Prescribed Bodies

The following is a schedule of prescribed bodies considered relevant for the purposes of Section 37E (3) (c) of the Principal Act.

- i. Minister for Housing, Planning and Local Government (Foreshore Unit)
- ii. Minister for Culture, Heritage and the Gaeltacht (Development Applications Unit)
- iii. Minister for Agriculture, Food and the Marine
- iv. Minister for Communications, Climate Action and Environment
- v. Minister for Transport, Tourism and Sport

- vi. Dublin City Council
- vii. Irish Water
- viii. Inland Fisheries Ireland
- ix. Transport Infrastructure Ireland
- x. Railway Procurement Agency
- xi. C.I.E
- xii. Environmental Protection Agency
- xiii. The Heritage Council
- xiv. An Taisce
- xv. Health & Safety Authority
- xvi. Irish Marine Institute
- xvii. Failte Ireland

Further notifications should also be made where deemed appropriate.

Note: The prospective applicant should be advised to submit a separate document (to the EIAR) with the planning application which outlines the mitigation measures, in the interest of convenience and ease of reference.

Karla Mc Bride
Planning Inspector

1st August 2018

APPENDIX 5 PROJECT SCOPING & CONSULTATION

Appendix 5-2

To:	DPC	From:	Helena Gavin
Cc:		Date:	29.03.2018
Project:	MP2 PROJECT	Email:	helena.gavin@rpsgroup.com
Project No:	MH17030	File Ref:	CP1770
Subject:	Pre-application Consultation Meeting No1 Dublin City Council		

ATTENDANCE

Planning Authority DCC: John O’Hara, Mary Conway
 Applicants DPC: E O’Reilly, S Horgan, J Kelleher, C Kennedy
 Planners RPS: H Gavin
 Environment RPS: A Barr
 Engineers ABL: A Cronin, B Ward

PROPOSED DEVELOPMENT

A briefing presentation was made to DCC by DPC (see Appendix A). This included context for the project, rationale and an indicative layout.

COMMENTARY FROM DCC AND ASSOCIATED DISCUSSION

Questions

- Depth of channel via ABR. (JOH)
- Bus access to the terminal in terms of modal access. Note that decrease in car storage would be benefit. Noted recognition of low energy bus route. (JOH)
- Sought clarity on port growth figures with respect to 2007. (MC)
- Sought clarity on foot passenger access. (MC)
- Clarity with regard to eastern breakwater and how will this be assessed, (JOH)
- Clarity on electric plug-in for ships. (JOH)
- Clarity on CNG, what does this mean and what this development will do? (JOH)
- Information on softening edges to greenway, division and material. (MC)
- Any storage (oil) on site? (MC)

Advices

- Advised application be clear on what project is being proposed for community gain. (MC)
- Advised a common position be reached on the SPAR/ Eastern Bypass between NTA, TIAA, DCC and DPC. (MC)

- Advised (MC) that with regard to all topics being assessed that DCC staff are comfortable as to what is being proposed when it comes to an oral hearing. MC suggested topics be divided according to discipline and meetings arranged when necessary. Topic may include:
 - Environment
 - Roads & traffic
 - Flood risk etc.

ENDS



Appendix A
Pre-application Consultation Presentation

MP2 Project

First consultation meeting with
Dublin City Council

ABP Ref: 29N.PC0252

29th March 2018



Dublin Port Company

- Eamonn O Reilly, Chief Executive
- Cormac Kennedy, Head of Property
- Sarah Horgan, Project Manager
- James Kelleher, Port Heritage and Communications

Advisors

- Helena Gavin, RPS (planning)
- Alan Barr, RPS (environmental)
- Adam Cronin, Atkins Byrne Looby (design team lead)
- Barry Ward, Atkins Byrne Looby (design team architect)

1. Context:

- Historical
- Comparison with other European ports
- Growth
- Development towards full capacity by 2040

2. Outline of Design & Presentation of drawings

3. Overview of Environmental Impact Assessment

4. Consultations/Engagements

5. Feedback/Questions



Historical context

- Port traditionally developed based on successive Harbour Works Order
- Applied for HWO for Area 9 in 1979
- Area 9 became the Dublin Gateway project (PA0007)
- Planning refused in 2010
- Over the 31 years from 1979 to 2010, volumes grew by 4.7% per annum, more than a four fold increase

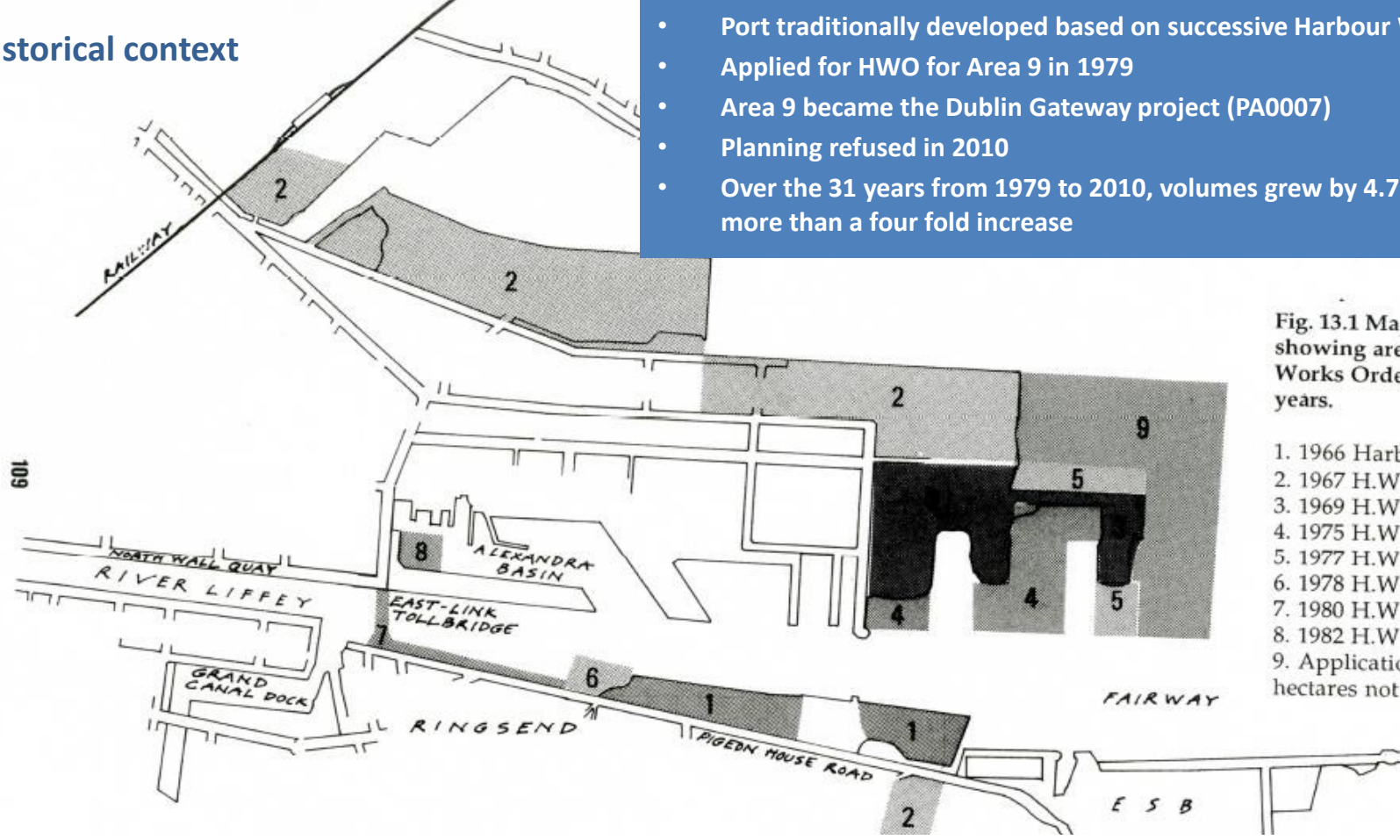
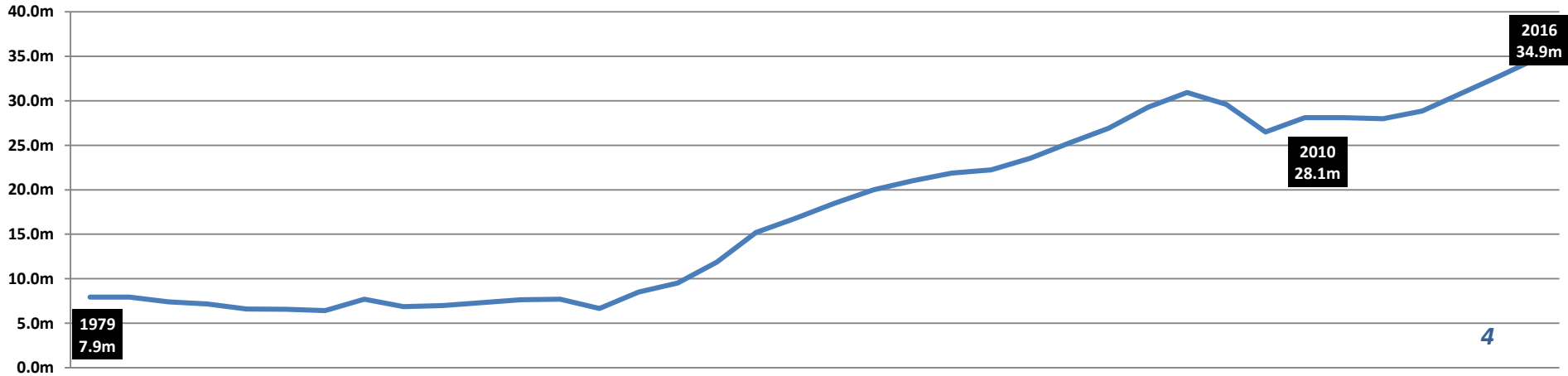


Fig. 13.1 Map of Dublin Port showing areas of Harbour Works Orders in recent years.

1. 1966 Harbour Works Order
2. 1967 H.W.O.
3. 1969 H.W.O.
4. 1975 H.W.O.
5. 1977 H.W.O.
6. 1978 H.W.O.
7. 1980 H.W.O.
8. 1982 H.W.O.
9. Application for 38 hectares not yet granted.



- Ports such as Barcelona and Rotterdam have completed major future-proofed development projects within the last decade
- Development in Dublin is focussed on smaller individual projects that allow Dublin Port to be developed to capacity by about 2040 before a large greenfield project at another location is required in order to provide capacity for growth after 2040

	<i>Tonnes 2016</i>	<i>Area for future expansion</i>	<i>Ratio (hectares per million tonnes)</i>
Barcelona	47.5m	300 ha	6.3
Rotterdam	461.2m	600 ha	1.3
Dublin	34.9m	nil	0.0

	<i>Tonnes 2016</i>	<i>Land area</i>	<i>Tonnes per hectare p.a.</i>
Barcelona	47.5m	1,082 ha	44,000
Rotterdam	461.2m	7,833 ha	59,000
Dublin	34.9m	309 ha	113,000

<i>Growing port volumes</i>			
1950 to 1980	3.2%	2.9m	7.3m
1980 to 2010	4.7%	7.3m	28.9m
2010 to 2040	3.3%	28.9m	77.2m

<i>Growing population</i>	
1950	3.0m
1980	3.4m
2010	4.6m
2040	5.6m

30% growth in the five years from 2013 to 2017



- There is a limit to the development possible in Dublin Port because of constraints on all sides
- It is foreseeable that a new greenfield port development will be required by about 2040
- In the meantime and before this happens, DPC is working to maximise the utilisation of the brownfield capacity in Dublin Port
- Development is guided by the Dublin Port Masterplan 2012-2040
- The vision in this Masterplan can be realised by four major development projects:
 - The first is the ABR Project (PA0007) which is under construction
 - The second major Masterplan project is the MP2 Project (PC0252)
 - The third and fourth project would be on the Poolbeg Peninsula (and could include the SPAR)
- These major projects are supported by two other projects:
 - Relocation of non-core activities from existing port lands to Dublin Inland Port
 - Redevelopment of the port's internal road, cycle and pedestrian network
- Taken together, these projects will provide capacity for projected growth to about 2040
- The project to develop new and additional port facilities outside Dublin has a 20 year leadtime
- Vital for DPC that the MP2 Project planning application is robust

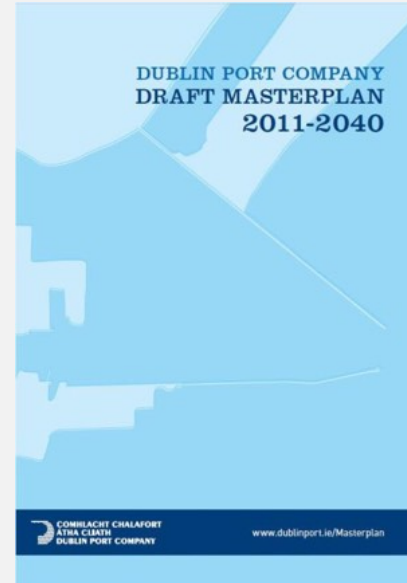
5th April 2011



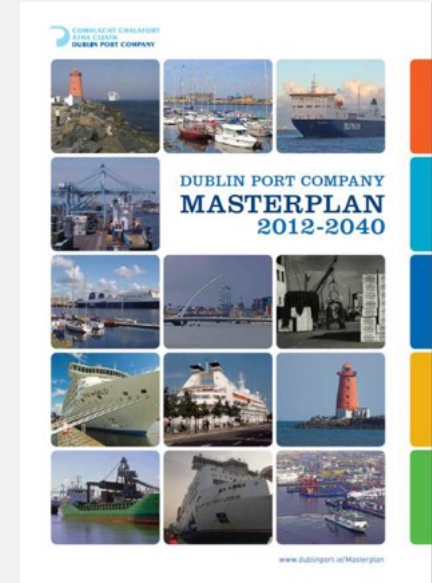
28th July 2011



2nd November 2011



29th February 2012



- Pre consultation meetings – January 2011
- Soft Values seminar – 25th February 2011
- Masterplan Newsletter posted to 60,000 households
- 500 posters and 25,000 flyers
- Customer briefing session – 20th April 2011
- Local open days:
 - East Wall - 26th April 2011
 - Ringsend - 27th April 2011
 - Clontarf - 28th April 2011
- Conference - 11th May
- Direct briefings with various groups
- Public consultation ended 31st May
- Draft Masterplan consultation period - 3rd November to 2nd December 2011
- Plan launched 29th February 2012





Franchise Policy

May 2014

 **COMHLACHT CHALAFORT
ÁTHA CLIATH
DUBLIN PORT COMPANY**

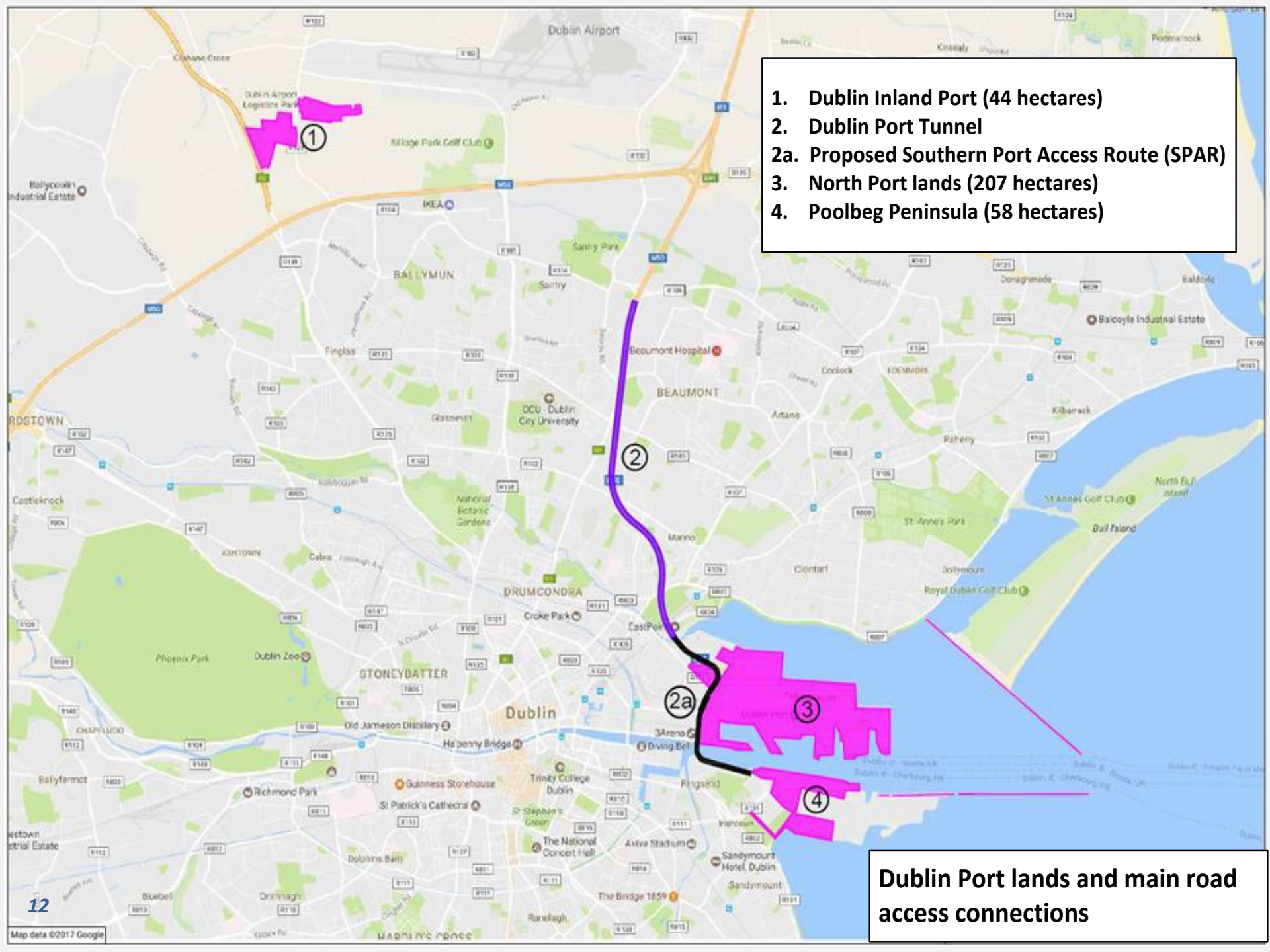
- Economic recovery leading to a return to annual compounding growth in port volumes
- Commencement of the Alexandra Basin Redevelopment (ABR) Project which, in itself, includes about one-third of the infrastructure development options originally identified in the Masterplan
- Recovering control over 11.2 hectares of Port lands making them available for redevelopment
- Completion of a number of site redevelopments in Dublin Port to provide an additional 16.1 hectares of accessible port lands
- Redevelopment of 720m of quay walls
- Purchase by DPC of a 44 hectare site adjacent to Dublin Airport for the development of a new Dublin Inland Port facility
- Publication of the National Ports Policy, March 2013
- Publication by the Competition Authority of its report Competition in the Irish Ports Sector, November 2013
- Publication of DPC's Franchise Policy, May 2014
- Publication by NTA of its Transport Strategy for the Greater Dublin Area, 2016 to 2035
- Creation of the Dublin Bay Biosphere in June 2015 as a joint initiative by:
 - DPC
 - Dublin City Council
 - Fingal County Council
 - Dun Laoghaire Rathdown County Council
 - Department of Arts, Heritage and the Gaeltacht
 - Fáilte Ireland
- Creation of the Poolbeg West Strategic Development Zone, May 2016
- Publication by Dublin City Council of the Dublin City Development Plan 2016 to 2021
- Publication of Project Ireland 2040 National Planning Framework, February 2018



Masterplan Review 2017

Consultation Paper

January 2017 | www.dublinport.ie/masterplan

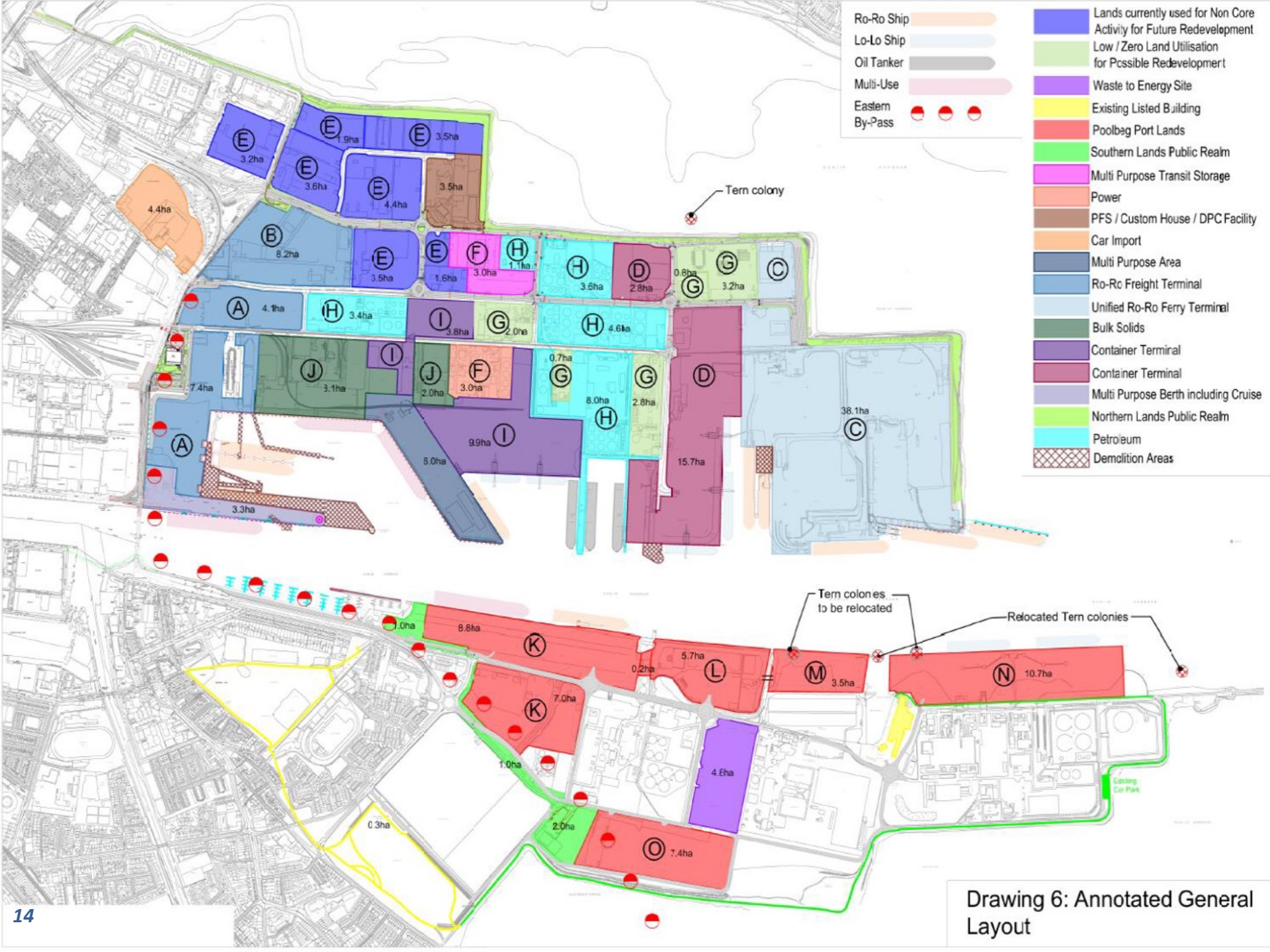


- 1. Dublin Inland Port (44 hectares)
- 2. Dublin Port Tunnel
- 2a. Proposed Southern Port Access Route (SPAR)
- 3. North Port lands (207 hectares)
- 4. Poolbeg Peninsula (58 hectares)

Dublin Port lands and main road access connections

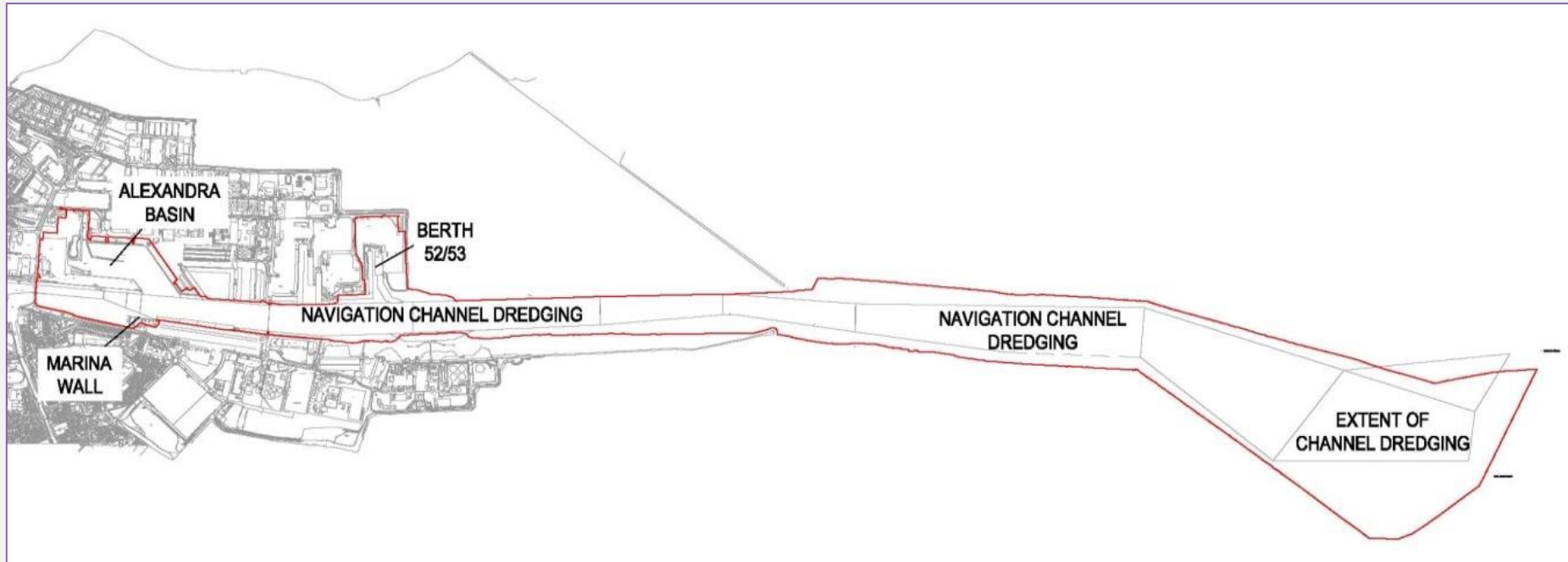
1. **ABR Project (PA0034) - under construction**
2. **Redevelopment of Dublin Port internal road, cycle and pedestrian networks (DCC ref 3084/16) – under construction**
3. **MP2 Project is the second major Masterplan project and links in to ABR Project and internal road, cycle and pedestrian networks project**
4. **44 hectare site purchased to create Dublin Inland Port and development has commenced (FCC F16A/0598 & F18A/0139)**



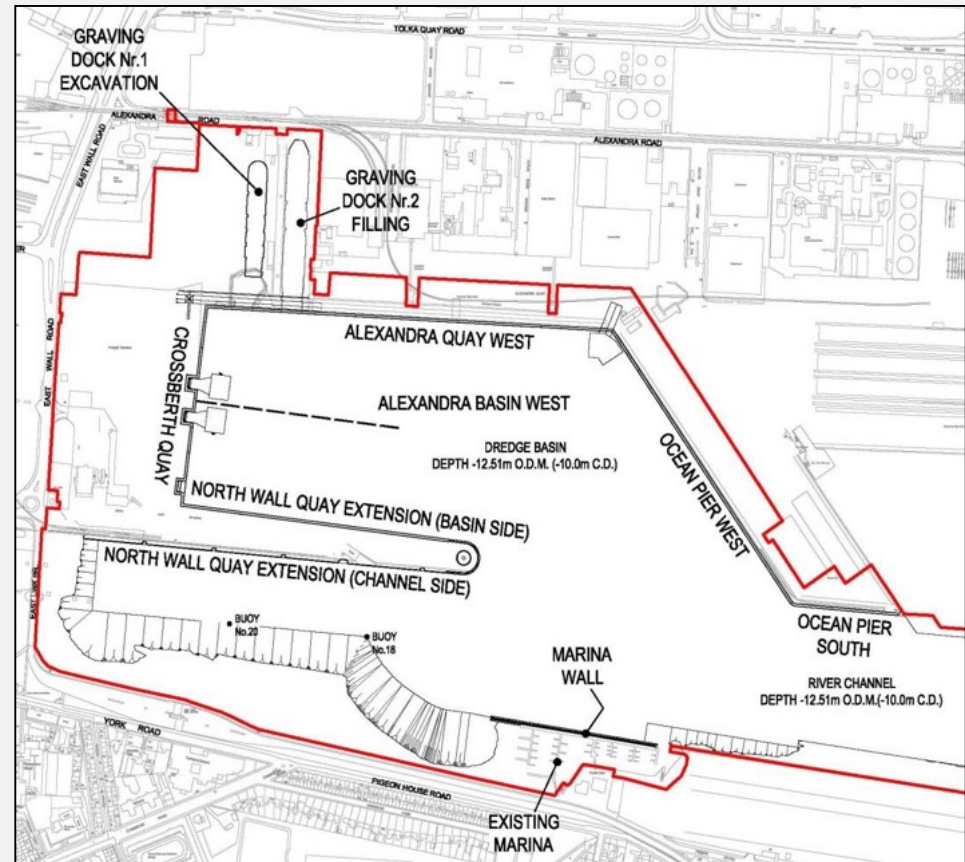


Drawing 6: Annotated General Layout

- Dredging of Liffey Channel to -10m CD, from East Link Bridge to Dublin Bay Buoy over a six year period
- Construction of surge protection / retaining wall at Poolbeg Marina
- Year 1 of 6 completed (October 2017 to March 2018)
- Overall completion by March 2023



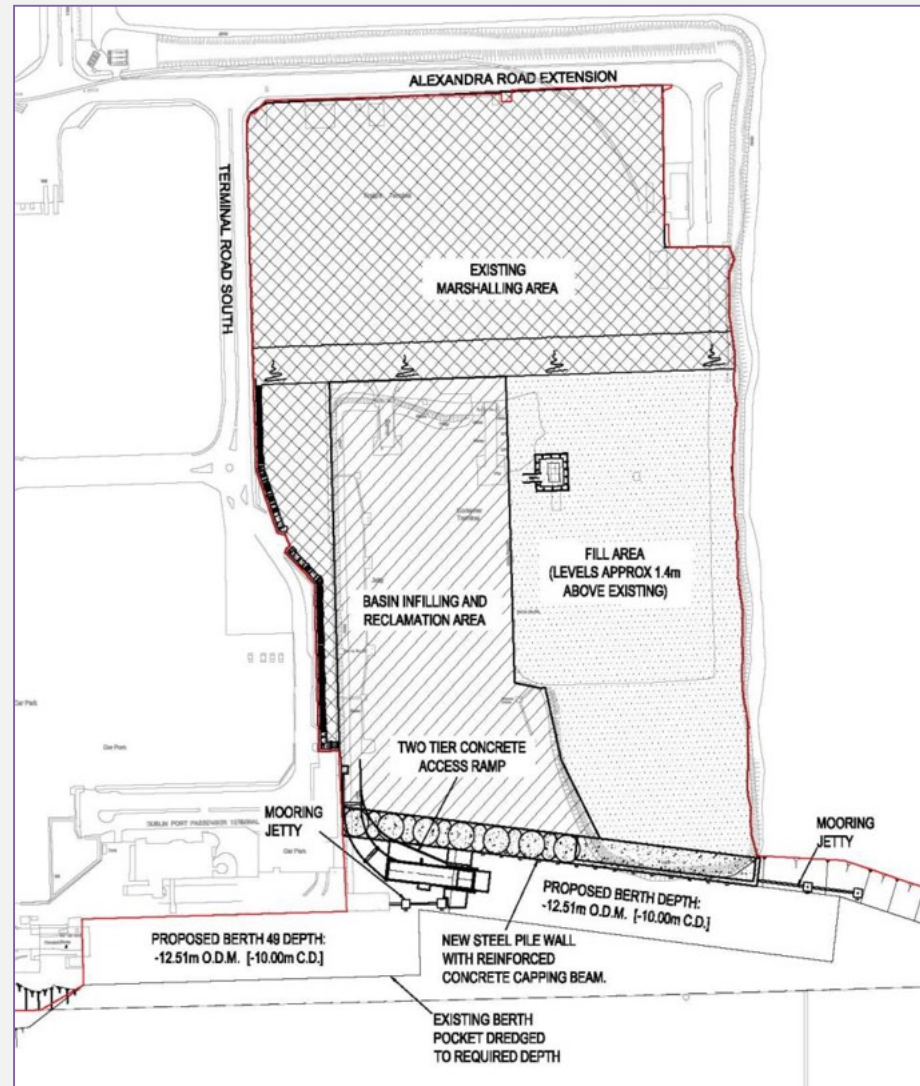
- Dismantling of infrastructure and removal of infill material
- Quay wall refurbishment/construction
- Installation of Ro-Ro ramps
- Ro-Ro jetty construction
- Dredging of basin and berths to -10.0m Chart Datum
- Treatment of contaminated dredged material and re-use as infill on site
- Excavation and restoration of Graving Dock No. 1
- Infilling of Graving Dock No. 2 with treated dredged material
- Relocation of ore concentrates loading operations to Alexandra Quay West Extension
- Development of cultural heritage interpretative space
- Construction works 50% complete by end 2018



- Dismantling and removal of existing infrastructure
- Infilling of existing Berth 52 / 53 with treated dredged material
- Raising of existing surface levels by approx. 1.4m
- Quay wall construction
- Mooring jetty construction
- Installation of Ro-Ro ramp
- Construction due to start in 2020

Indicative timings for MP2 Project

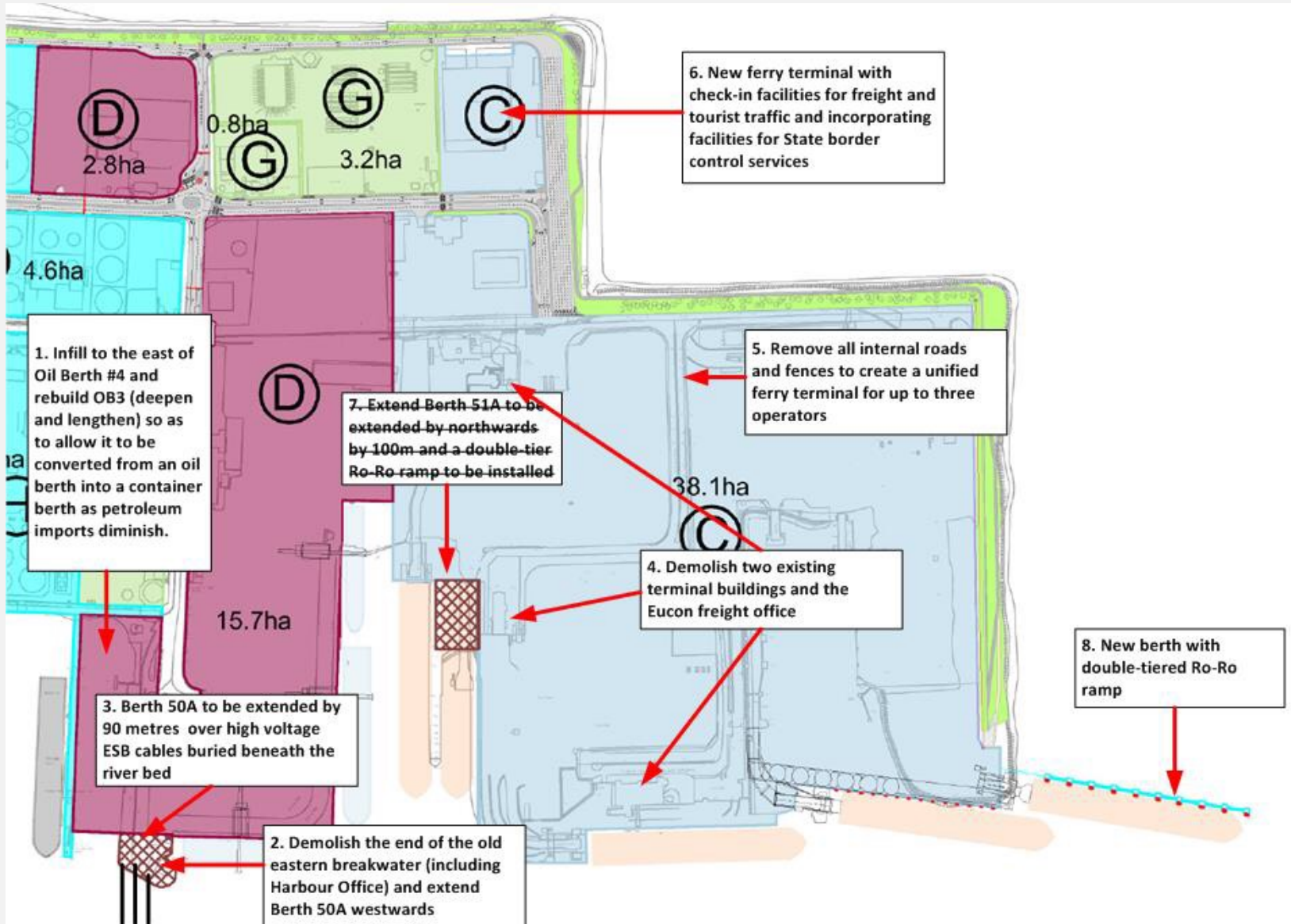
- Lodge with ABP end 2018
- Grant end 2019
- Foreshore and other consents by end 2020
- Construction commencement in 2021



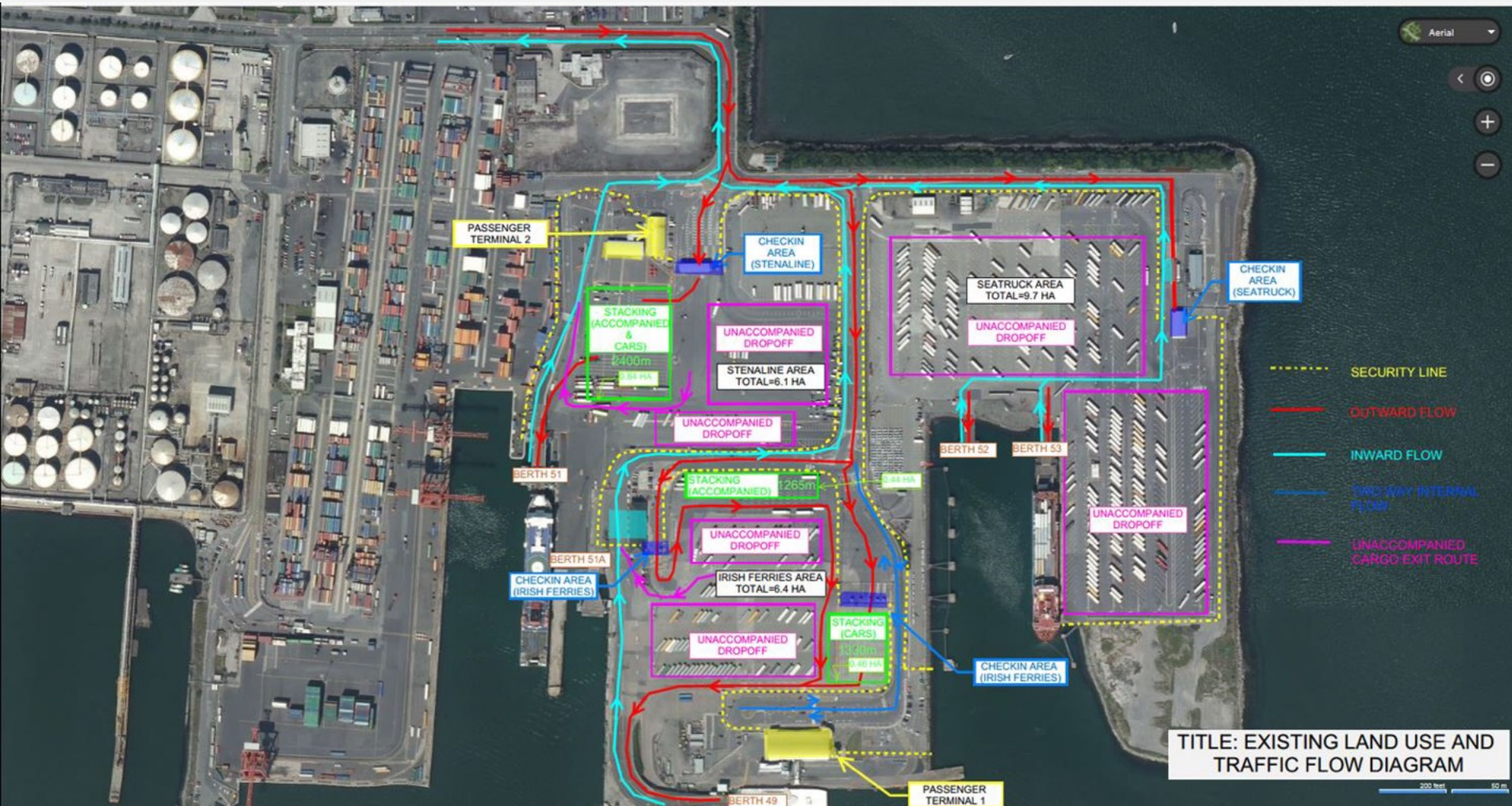
MP2 Project – location of works



MP2 Project – main elements of the proposed works



Outline of Design & Presentation of drawings



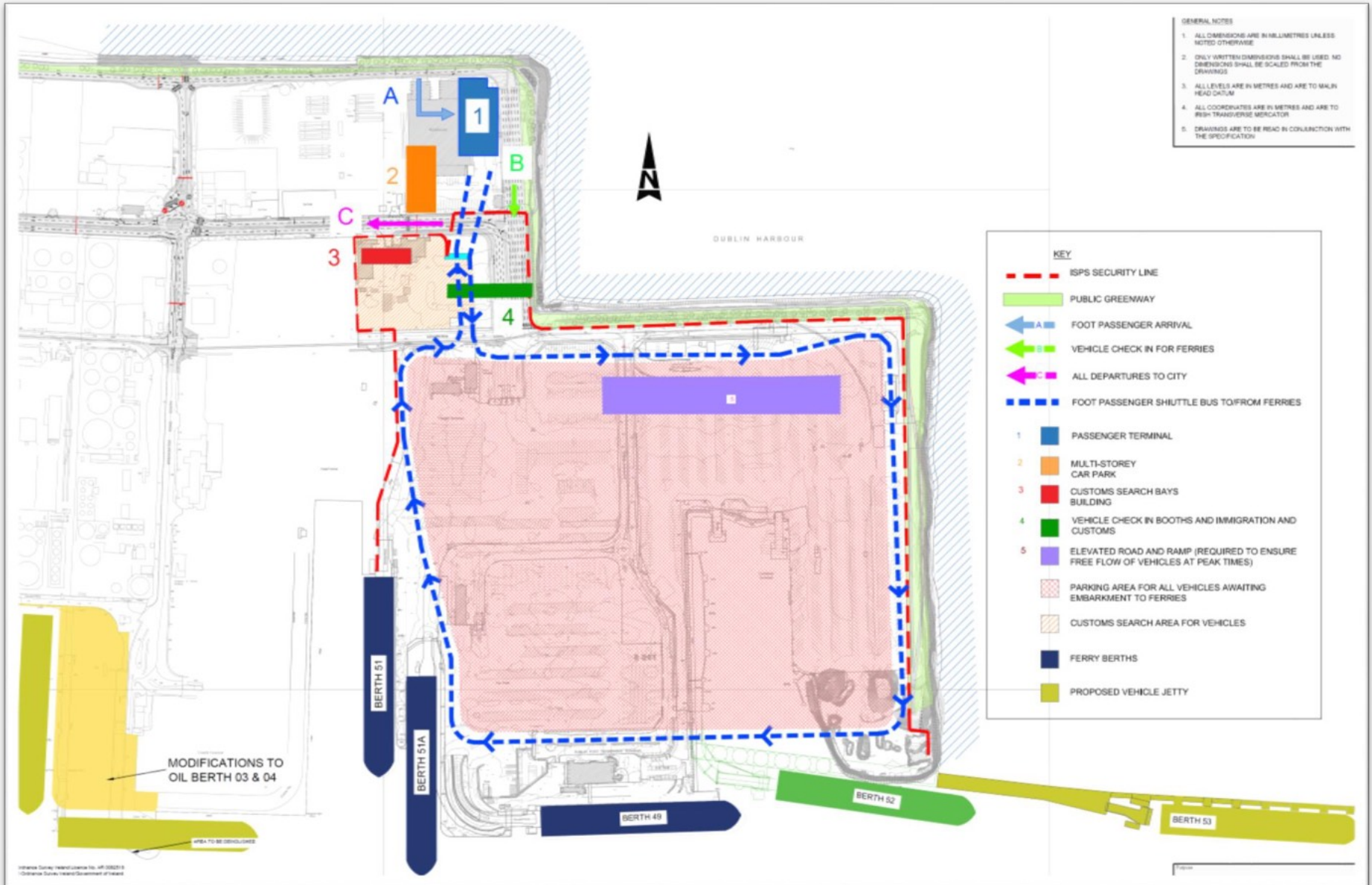
Outline of Design & Presentation of drawings



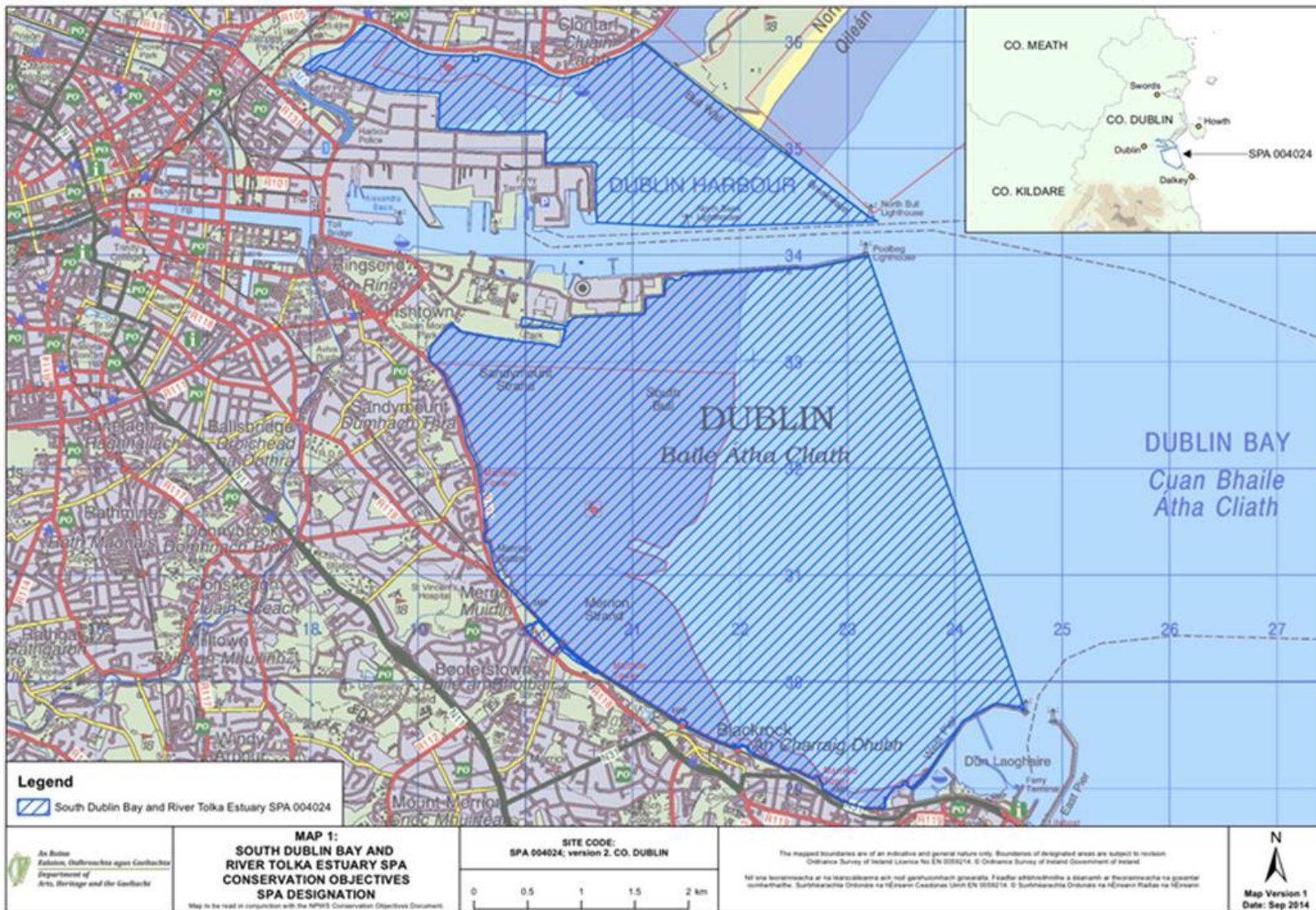
- GENERAL NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
 2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
 3. ALL LEVELS ARE IN METRES AND ARE TO MAIN HEAD DATUM
 4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
 5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

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Outline of Design & Presentation of drawings



South Dublin Bay and River Tolka SPA 004024



Timescale – Target is to submit a planning application by end 2018

Engagement - There will be a comprehensive community engagement programme building on that carried out for our Masterplan Review 2017.

Community Gain – There will be a substantial community gain proposal which will form part of the planning application

Strategic Infrastructure – DPC believes that the project is Strategic Infrastructure and that the planning application path is, therefore, through An Bord Pleanála.

Long consent duration – DPC would like a long implementation period to allow the MP2 Project to be delivered in a series of sub-projects co-ordinated with other consented developments (including the ABR Project; the road, cycle and pedestrian network redevelopment project; relocation of non-core activities to Dublin Inland Port) and scheduled to obviate /minimise disruption to existing growing port traffic.

Foreshore – The project will involve a small (by comparison with the ABR Project) amount of capital dredging which will require foreshore approval from the Department of Housing, Planning and Local Government as well as licencing from EPA.

IED – The project envisages using the infill of Oil Berth #4 to facilitate the disposal of contaminated dredge spoil / arisings from elsewhere within the port using a similar approach as in the ABR Project.

Alternatives – Masterplan’s SPA points towards maximising the development of Dublin Port’s brownfield sites before considering greenfield development either in Dublin or elsewhere. For the MP2 Project, this approach points towards consideration of alternatives from among the Masterplan infrastructure development options.

No expansion into the Bay – The Masterplan Review 2017 removes the option of expanding the footprint of the port by expansion into the bay. The MP2 Project recognises this by limiting eastwards development to the provision of an additional river berth.

Impact on the SPA – The proposed additional river berth would be on the edge or just within the SPA. An iterative process of engineering design / environmental assessment will decide, firstly, whether this element will be in the planning application and, secondly, if it is, the nature of the structure that would be proposed.



Dublin Port Company Meeting Notes

**Project Name:
CP1770_MP2 Project**

**Document Title:
DCC Consultation Meeting
Noise & Air Quality**

**Document Date:
02/05/2018**



Meeting Notes Dublin Port Company	
Meeting Meetings for:	DCC Consultation Meeting Noise and Air Quality
Project Title:	MP2 Project
Identifier:	CP1770
Meeting Objective:	Consultation meeting with DCC to discuss Noise, Vibration and Air Quality with respect to the EIAR

Location:	Dublin Port Centre		
Date:	02/05/2018	Time:	3.00pm – 4.30pm

Attendees:	Name	Acronym	Role
	Paul Rutherford	PR	DCC Noise & Vibration
	Barbara Halfpenny	BH	DCC Air Quality
	Alan Barr	AB	RPS
	Tony McNally	TMcN	RPS
Facilitator:	Alan Barr		
Minute Taker:	Tony McNally		

Item	Action	Allocated To:	Due Date:
1			
1.1	AB outlined works completed to date in the ABR Project, the monitoring programmes in place and the full compliance achieved with environmental conditions.	Note	
1.2	AB then outlined the MP2 project and the proposed works and potential significant issues. Reference was made to the Design Freeze Drawings.	Note	
1.3	The extent of current monitoring in the Port Estate was discussed including noise and dust measurements through the ABR Project monitoring programme and air quality monitoring programmes NOx, SOx and PM. This information would be used to support the MP2 Project planning application. DCC expressed interest in DPC monitoring and suggested it should be reviewed in the context of DCC and EPA monitoring results and the CAFE Directive.	RPS	
1.4	The nature and locations for noise monitoring stations were discussed. The existing ABR monitoring locations will be retained. The monitoring site at Poolbeg Marina was agreed with DCC as appropriate for noise monitoring for nearest sensitive receptors on the south side of the Liffey. DCC suggested that baseline monitoring should also be carried out at Clontarf.	RPS	

1.5	PR suggested use of the single event level formula and comparison with noise maps. Other useful parameters that could be addressed in an application included Leq, L90, L(day, evening and night). Data should address normal Port operations, current and anticipated noise levels. Tonal/frequency analysis may prove useful for addressing residents concerns about nuisance noise sources.	RPS	
1.6	DCC have prepared a Best Practice for Construction guidance document. BH will forward a copy of same. It should be closely adhered to and cited in any application. It also deals with vibration limits. DCC suggested that it may be useful to obtain some baseline vibration data on the south side of the river in the vicinity of sensitive receptors at Pigeon House Road.	DCC	
1.7	BH will forward a copy of DCC's most recent air quality annual report based on monitoring at Coleraine St and Civic Offices. Monitoring had previously included a station at St Anne's Park.	DCC	
1.8	PR and BH confirmed that there was no personnel in DCC specifically assigned to Public Health and guidance on an appropriate contact should be sought from Mary Conway.	RPS	

Dublin Port Company Meeting Notes

**Project Name:
CP1770_MP2 Project**

**Document Title:
DCC Consultation Meeting
Archaeology**

**Document Date:
14/05/2018**



Meeting Notes Dublin Port Company	
Meeting Meetings for:	DCC Consultation Meeting Archaeology
Project Title:	MP2 Project
Identifier:	CP1770
Meeting Objective:	Consultation meeting with DCC to discuss Archaeology with respect to the EIAR

Location:	Planning Department, Civic Offices, Wood Quay, Dublin City Council		
Date:	14/05/2018	Time:	11.30am – 1.00pm

Attendees:	Name	Acronym	Role
	Ruth Johnson	PR	DCC Noise & Vibration
Niall Colfer	BH	DCC Air Quality	
Alan Barr	AB	RPS	
Tony McNally	TMcN	RPS	
Niall Brady	NB	ADCO	
Sarah Horgan	SH	DPC	
Facilitator:	Alan Barr		
Minute Taker:	Tony McNally		

Item	Action	Allocated To:	Due Date:
1			
1.1	RJ suggested that a meeting with the Conservation Officers should also be arranged regarding the MP2 Project. An appropriate contact is Paraic Fallon Head of Conservation. Relevant personnel may include Mary McDonald (Conservation Officer) and Niamh Kiernan (Asst. Conservation Officer).	RPS	
1.2	AB briefly outlined the ABR Project which has now been operational for 2 years and the extent of works completed to date including quay wall construction and capital dredging.	Note	
1.3	NB outlined the archaeological monitoring undertaken for ABR and some results to date. Monitoring was in place for SI, construction and capital dredging operations. Finds included a Patent Slip in ABW dating to approx mid 19th century, and some 200 ships timbers of fragments during the capital dredge. An intact vessel likely to date from the 18th century was also discovered a short distance outside the breakwater walls.	RPS	
1.4	NC offered to send information relating to the provenance of millstones found aboard the wreck.	ADCO	

1.5	The operation of an exclusion zone around the wreck was discussed.	Note	
1.6	RJ enquired about proposed shortening of the North Wall Quay Extension. AB informed that it will not take place until later in the ABR project and if required.	Note	
1.7	AB Introduced the MP2 Project, the next major element of the DPC Master Plan 2012 - 2040. It is likely to be within the remit of ABP as Strategic Infrastructure.	Note	
1.8	<p>AB set out the main elements of MP2 as follows:</p> <p>In-filling of Oil Berth 4 and creation of riverside berth. This entails removal of a quay structure which is mostly granite and dates to the 19th century. It marks the original entrance to Dublin Port. The structure will be scanned and surveyed. The lantern house from the lighthouse that stood on this site is in storage and it is proposed to re-use it appropriately.</p> <p>Construction of a new riverside berth at the eastern end of the Port using an open pile structure and dolphins. Details of construction are to be finalised.</p> <p>Creation of a manoeuvring area for vessels in the adjacent channel. The potential impact on the Great South Wall and engineering mitigation was discussed. Initial SI and archaeological investigations will be undertaken. Archaeological licence application has been submitted with a view to carrying out survey work in June 2018. Planning application is anticipated in the last quarter of this year.</p> <p>Construction of a Unified Ferry Terminal. A general discussion took place in relation to clearing structures from the site, Port operations and maximising the efficient use of Port lands and brown field sites and traffic flow management. NB confirmed there were no archaeological features of interest in this site.</p> <p>In response to an enquiry from RJ, AB confirmed that an oral hearing would take place. AB and NB confirmed that only supportive submissions had been made in relation to archaeology during the oral hearing for the ABR Project.</p> <p>NB outlined the storage arrangements for archaeological finds in Dublin Port. He confirmed that Karl Brady was the contact person in National Monuments section. Meetings with National Monuments and National Museum had approved DPC to use recovered granite blocks sympathetically. The options for ultimate fate of timber finds</p>	<p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p>	

	<p>was discussed.</p> <p>RJ and NC identified the potential benefit of a Maritime Museum. They welcomed the appointment of the DPC Archivist.</p> <p>RJ commented on the scale of the project and the usefulness of the meeting. She confirmed that the strategy being pursued in relation to archaeology appeared to be appropriate.</p> <p>NC confirmed that DPC and their team were well aware of the Industrial Heritage issues in the area.</p> <p>RJ stated that DCC had nothing further to add at this stage but invited DPC to submit any relevant materials for comment during preparation of the EIAR.</p> <p>NB questioned whether DCC had any particular concerns. RJ summarised the key issues for DCC. Regarding dredging and possible impacts on the Great South Wall, she stated that it was important that the archaeology and built heritage inform the engineering solutions being considered and that a geophysical survey be completed at an early stage. NC voiced concern about possible vibration impacts.</p> <p>Above and below water investigations should proceed in relation to berths and removal of port operations structure.</p> <p>AB confirmed that a discussion of ABR archaeological monitoring would be appropriate in the MP2 EIAR. He confirmed that consultation on the Masterplan review would end in May and an SEA Statement issued. The Masterplan Review will go to DPC Board for approval probably in June/July. The MP2 Project is consistent with the Masterplan as set out.</p>	<p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>ADCO/RPS</p> <p>ADCO/RPS</p> <p>Note</p>	
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Dublin Port Company Meeting Notes

**Project Name:
CP1770_MP2 Project**

**Document Title:
DCC Consultation Meeting
Water Quality and Waste**

**Document Date:
17/05/2018**



Meeting Notes Dublin Port Company	
Meeting Meetings for:	DCC Consultation Meeting Water Quality and Waste
Project Title:	MP2 Project
Identifier:	CP1770
Meeting Objective:	Consultation meeting with DCC to discuss Water Quality and Waste with respect to the EIAR

Location:	WFD Office, Marrowbone Lane, Dublin City Council		
Date:	17/05/2018	Time:	14.30pm – 15.30pm

Attendees:	Name	Acronym	Role
	Gerry O'Connell	GOC	DCC WFD, Flood Advisory Offices
	Imelda Averill	IA	DCC Scientific Services
	Brian White	BW	DCC Waste
	Des Boyhan	DB	Regulation/Enforcement
	Hilda Robinson	HR	DCC WFD Office
	Annmarie McLoughlin	AL	DCC Waste
	Joe McGrath	JMG	Regulation/Enforcement DPC PMO
	Tony McNally	TMN	RPS Waste RPS Environment
Facilitator:	Tony McNally		
Minute Taker:	Tony McNally		

Item	Action	Allocated To:	Due Date:
1			
1.1	TMN briefly outlined the ABR Project which has now been operational for 2 years and the extent of works completed to date including quay wall construction and capital dredging. Upcoming works were also described.	None	
1.2	TMN outlined the water quality monitoring undertaken for ABR and some results to date. Real time high frequency monitoring is in place at four locations in the inner harbour for a range of WQ parameters. Real time high frequency monitoring is also in place at four locations in Dublin Bay for turbidity, wave and current monitoring and marine mammal monitoring.	Note	
1.3	GOC welcomed the fact that DPC had voluntarily undertaken to continue monitoring on a year round basis. He expressed interest in results on wave and current data in relation to floods management and prediction.	Note	
1.4	The role of the Liaison Group was outlined and BW expressed an interest in attending and requested minutes of the latest	RPS	

	<p>Liaison Group meeting. GOC confirmed that an invitation should extend to BW.</p>		
1.5	<p>TMN updated in relation to the review of DPC's Masterplan 2012 - 2040 and associated timelines. He confirmed that consultation on the Masterplan review would end in May and an SEA Statement issued. The Masterplan Review will go to DPC Board for approval probably in June/July. He then introduced the MP2 Project, the next major element of the Master Plan. The MP2 Project is consistent with the Masterplan as set out. It is likely to be within the remit of ABP as Strategic Infrastructure and will be subject to an oral hearing.</p>	Note	
1.6	<p>TMN set out the main elements of MP2 as follows:</p> <p>In-filling of Oil Berth 4 and creation of riverside berth. This entails removal of a quay structure and creation of riverside berths.</p> <p>Construction of a new riverside berth at the eastern end of the Port using an open pile structure and dolphins. Details of construction are to be finalised. DB questioned in relation to impact of the structure on sediment movement and deposition. TMN referred to modelling undertaken to inform structure design to prevent any impact.</p> <p>Creation of a manoeuvring area for vessels in the adjacent channel. The potential impact on the Great South Wall and engineering mitigation was discussed.</p> <p>Construction of a Unified Ferry Terminal. A general discussion took place in relation to clearing structures from the site, Port operations and maximising the efficient use of Port lands and brown field sites and traffic flow management.</p>	Note	
1.7	<p>Planning application is anticipated in the last quarter of this year.</p>	Note	
1.8	<p>DB queried in relation to use of green infrastructure as part of the development. SUDs to minimize surface water drainage and greening are DCC policy, and he cited the Philadelphia model for greening. AML made reference to the Greenway</p>	Note	

	around the site perimeter. GOC also alluded to the flood protection role of embankments around the site.		
1.9	DB mentioned the Inland Port development which has the potential to impact on the Santry River which is a focus for DCC remediation work. It was clarified that this was a separate project subject to its own planning consents.	Note	
1.10	The locations of existing monitoring points were discussed in relation to MP2. DCC agreed that the monitoring was comprehensive. IA mentioned the possible need for a further IED licence and the possibility of an additional monitoring point in the Tolka Estuary to the east of the MP2 site. The difficulties with tidal range and siting of permanent monitoring stations here was mentioned by TMN.	Note	
1.11	DB requested coordinates for all monitoring locations to include in their database. The proactive role of DPC in relation to environmental issues and cooperation with research initiatives by other NGO and third level institutions was discussed.	RPS	
1.12	BW queried waste management plans. TMN outlined the role of the CEMP in providing minimum requirements to contractors and the subsequent submission of a detailed waste management plan by the appointed contractor. AML outlined the responsibility of the principal contractor in recording waste movements. BW and HR were approving of the approach being implemented through the PMO during procurement and ongoing operations.	Note	
1.13	BW offered to forward DCC's waste management Best Practice Guidance for construction activities. He suggested that the preparation of a Waste Management Plan should happen at the earliest possible juncture and before operations commence.	DCC BW	
1.14	DCC confirmed they were satisfied with the approach being taken to preparation of the EIAR. They had no other issues to raise at this stage but would be available for further consultation as required.	Note	

Dublin Port Company Meeting Notes

**Project Name:
CP1770_MP2 Project**

**Document Title:
DCC Consultation Meeting
Archaeology, Conservation & Heritage Section**

**Document Date:
31/05/2018**



Meeting Notes Dublin Port Company	
Meeting Meetings for:	DCC Consultation Meeting Archaeology, Conservation & Heritage Section
Project Title:	MP2 Project
Identifier:	CP1770
Meeting Objective:	Consultation meeting with DCC to discuss Archaeology, Conservation and Heritage with respect to the EIAR

Location:	Planning Department, Civic Offices, Wood Quay, Dublin City Council		
Date:	31/05/2018	Time:	2.00pm – 3.30pm

Attendees:	Name	Acronym	Role
	Paraic Fallon	PF	Senior Planner DCC
	Deirdre O'Reilly	DOR	Senior Planner DCC
	Mary McDonald	MMcD	A/Conservation Officer DCC
	Niamh Kiernan	NK	Asst Conservation Officer DCC
	Anne Marie McLoughlin	AMCL	DPC PMO
	Niall Brady	NB	ADCO
	Chris Southgate	CS	Southgate Assocs
	Tony McNally	TMcN	RPS
Facilitator:	Tony McNally		
Minute Taker:	Tony McNally		

Item	Action	Allocated To:	Due Date:
1	Introductions		
1.1	TMcN provided an agenda for the meeting and roundtable introductions were made.		
2	Update on the ABR Project Archaeological Monitoring Programme		
2.1	TMcN briefly outlined the ABR Project which has now been operational for 2 years and the extent of works completed to date including quay wall construction and capital dredging. Planned future elements were also described including demolition of the Bulk Jetty and construction of a new RoRo Jetty in Alexandra Basin West.		
2.2	NB outlined the archaeological monitoring undertaken for ABR and some results to date. Monitoring was in place for SI, construction and capital dredging operations. Finds included a Patent Slip in ABW dating to approx mid 19th century, and some 200 ships timbers or fragments during the capital dredge. The abundance of timbers reflects the dredging location at the old Dublin Bar. An intact vessel likely to be a coastal trader dating from the 18th century was also discovered a short distance outside the breakwater walls. The location and operation of an exclusion zone around the wreck was described. The impact of two severe storms was outlined including the deposition of about 1m sediment on the wreck. Artefacts are being stored in Dublin Port and National Museum have visited the storage facilities and approved the arrangements in place.		

2.3	<p>MMcD mentioned dredging and proximity of operations to quay walls. TMcN clarified that berthing pockets are positioned along quay walls and that maintenance dredge operates up to walls. New quay walls are required to allow deepening of some berths through capital dredging.</p> <p>PF asked about the stability of the wreck environment in terms of sediment movements, currents and vessel traffic. NB outlined a monitoring regime including annual multi-beam survey and diver inspection. TMcN outlined sediment and current dynamics in the vicinity of the wreck site and that navigation channel slopes will be stable.</p> <p>TMcN confirmed DPC's commitment to compliance with planning conditions to date and outlined the extensive environmental monitoring, permanent environmental staff on site, regular meetings of and reporting to a regulator's Liaison Group. The role of DPC's Communications Manager in public liaison was described.</p>		
3	Update on Dublin Port Master Plan 2040	Allocated To:	Due Date:
3.1	<p>TMcN Introduced the MP2 Project, the next major element of the DPC Master Plan 2012 - 2040. The Master Plan has been reviewed to ensure its continued relevance and the SEA/EIA of the Review has been subject to public consultation. No significant comments have been received to date.</p> <p>In reply to DOR, TMcN confirmed that MP2 is within the remit of ABP as Strategic Infrastructure. Further projects required to deliver the Master Plan were briefly outlined (SPAR and Poolbeg Peninsula).</p>		
4	Description and Discussion of the proposed MP2 Project	Allocated To:	Due Date:
4.1	<p>4 TMcN set out the main elements of MP2 as follows:</p> <p>In-filling of Oil Berth 4 and creation of riverside berth. This entails removal of a quay structure which is mostly granite and dates to the 19th century. It marks the original entrance to Dublin Port. NB confirmed that the structure will be scanned (laser and multibeam) and dive surveyed.</p> <p>TMcN informed that the lantern house from the lighthouse that stood on this site is in storage and it is proposed to re-use it appropriately, perhaps as a focal point on the greenway being developed. DCC welcomed this initiative.</p>	DPC	
4.2	<p>Construction of a new riverside berth at the eastern end of the Port using an open pile structure and dolphins. Precise details of</p>		

<p>4.3</p>	<p>construction are to be finalised. Modelling of current and sediment movement have confirmed that the structure will not impact on the SPA.</p> <p>Creation of a manoeuvring area for vessels in the adjacent channel. TMcN informed that there would be a requirement for a manoeuvring area that would entail capital dredging. The side slopes of the channel and interaction with the Great South Wall was an issue to resolve.</p>	<p>DPC</p>	
<p>4.4</p>	<p>DCC expressed concerns for potential impact of works, increased vessel traffic and larger vessels, and more activity in the manoeuvring area on the fragile structure of the Great South Wall. Issues raised were erosion/deposition, currents and prop wash and possible undermining or deformation of the Wall. They highlighted the need for detailed modelling of potential impact.</p>	<p>DPC</p>	
<p>4.5</p>	<p>MMcD pointed out that numerous conservation campaigns have addressed the condition of the wall with varying degrees of success. NB pointed out DPC's concerns to ensure the integrity of the Wall and that it would continue to function as an effective breakwater. CS suggested that protection and conservation works were required. NB pointed out that geophysical surveys were required before works commenced.</p>		
	<p>DCC highlighted the need for conservation and heritage considerations to lead engineering works and proposals associated with the Great South Wall. They stressed the need for a detailed survey at this juncture for the Great South Wall, to inform the EIAR further. They asked whether a detailed building survey existed and whether historic surveys are available. TMcN alluded to the laser monitoring of the Wall in recent years and extensive archive in the possession of DPC and the appointment of an archivist by DPC. Identification of historic drawings will be part of the EIAR process.</p> <p>PF pointed out the hitherto fragmented approach to conservation during multiple individual projects. He suggested that a long term strategic overview study to future proof assets within the Port estate was required. Such an approach would be advantageous in considering future development proposed in the Master Plan.</p>		
<p>4.6</p>	<p>TMcN referred to the target timelines for submission of the planning application in October of this year. He informed that a licence for archaeological monitoring was currently with National Monuments and it was planned that such monitoring would commence in June 2018.</p>		

4.7	<p>DCC requested that MP2 be presented to them again, perhaps in September, and ahead of submission for planning. At such a meeting, DCC anticipates an integrated attendance from their side combining perhaps planning, archaeology, conservation and heritage.</p> <p>They are however very keen to support this regionally and nationally important project and welcome the initiative overall.</p>		
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Dublin Port Company Meeting Notes

**Project Name:
CP1770_MP2 Project**

**Document Title:
DCC Consultation Meeting
Traffic & Transportation**

**Document Date:
25/06/2018**



Meeting Notes Dublin Port Company	
Meeting Meetings for:	DCC Consultation Meeting Traffic & Transportation
Project Title:	MP2 Project
Identifier:	CP1770
Meeting Objective:	Consultation meeting with DCC to discuss Traffic & Transportation with respect to the EIAR

Location:	Dublin City Council, Block 2		
Date:	25/06/2018	Time:	9.30am – 11.00am

Attendees:	Name	Acronym	Role
	Edel Kelly	EK	DCC
	Stephanie Farrington	SF	DCC
	Brendan O'Brien	BO'B	DCC
	Seamus Storan	SS	DCC
	Helen Smirnova	HS	DCC
	Sarah Horgan	SH	DPC
	Kevin Holland	KH	ABL
	Matt Foy	MF	ABL
	Celine Daly	CD	RPS
	Alan Barr	AB	RPS
Facilitator:	Alan Barr		
Minute Taker:	Celine Daly		

Item	Action	Allocated To:	Due Date:
1			
1.1	AB briefly outlined the ABR Project which has now been operational for 2 years and the extent of works completed to date including quay wall construction and capital dredging.	None	
1.2	AB also outlined the extent of the Internal Roads Project which had been granted planning permission from DCC. It was confirmed that the internal roads would be upgraded in advance of the construction of the MP2 Project.	Note	
1.3	AB and CD provided an update in relation to the review of DPC's Masterplan 2012 - 2040 and associated timelines. It was confirmed that Masterplan Review will go to the DPC Board for approval in June 2018. CD discussed traffic & Transportation aspects of the Masterplan Review including a supporting Strategic Transportation Study. The discussion centred around the capacity of the Dublin Port Tunnel, the SPAR and Mobility Management Plan.	Note	

1.4	<p>CD then introduced the MP2 Project, the next major element of the Masterplan. The MP2 Project is consistent with the Masterplan as set out. It is likely to be within the remit of ABP as Strategic Infrastructure and will be subject to an Oral Hearing. The construction phasing and movement of Seatruck and P&O was discussed.</p>	Note	
1.5	<p>AB & KH set out the main elements of MP2 as follows:</p> <p>In-filling of Oil Berth 4 and creation of riverside berth. This entails removal of a quay structure and creation of riverside berths.</p> <p>Construction of a new riverside berth at the eastern end of the Port using an open pile structure and dolphins.</p> <p>Creation of a manoeuvring area for vessels in the adjacent channel.</p> <p>Construction of a Unified Ferry Terminal. A general discussion took place in relation to clearing structures from the site, Port operations and maximising the efficient use of Port lands and brown field sites and traffic flow management.</p>	Note	
1.6	<p>Planning application is anticipated in the last quarter of this year.</p>	Note	
1.7	<p>CD set out the proposed methodology for the Traffic and Transportation Study for the MP2 Project:</p> <ul style="list-style-type: none"> • Traffic surveys carried out on the 23 May 2018 for 24 junctions on the Northern Lands and along East Wall Road. 24 hours surveyed at each junction with classified turning movements; • The information will be used to build the base traffic flow model; • 3 peak hours will be considered; • The AM peak within the Port which tends to be 5:45am to 6:45am due to the accompanied Ro-Ro vessels facilitating freight vehicles to enter and leave Dublin City Centre before the cordon becomes active at 7:00am; 	RPS	

<p>1.8</p>	<ul style="list-style-type: none"> • The typical external AM peak hour of 8:00am to 9:00am; • The typical PM peak hour of 5:00pm to 6:00pm. The arrival of the large Ro-Ros combined with traffic exiting the Eastpoint Business Park in the evening makes this the single PM peak hour; • The traffic surveyed at Seatruck will be moved to the A Plots at the western side of the Port; • The traffic surveyed at P&O will be moved to the UFT; • A growth factor of 3.3% will be applied to the internal Port network, and the traffic growth rates from the TII Project Appraisal Guidelines for Dublin will be applied to the external road network; • The flows will be assessed in a Linked LinSig traffic model; • The objective is to demonstrate that the internal road, cycle and pedestrian network that received planning permission in 2016 could accommodate the traffic generated by the Port in the Northern Lands up to the end of the Masterplan. In effect, show that the road mitigation measures have already been approved for the MP2. <p>The following queries were raised</p> <p>BO'B – The EIAR must show no intensification on East Wall Road. Concern was raised that there was the potential for intensification at the existing entrance to P&O if Seatruck and P&O operate from adjacent sites as a result of the phasing of the works for a period of time. He was particularly concerned also with Upper Sheriff Street and Castleforbes Road. He understood the long timeframes associated with the Masterplan, but wanted to understand the short term construction phasing required for the continuing construction of the ABR, the proposed construction of MP2, the timings of the closure of the East Wall Road junctions, and basically what was going to happen in Year 1, Year 2 etc.... It was confirmed that the construction sequence would be contained in the Planning Application.</p> <p>EK – Concerns that existing foot passengers at P&Q, which currently enjoy a location along East Wall Road closer to the sustainable transport network, would now be located 2km</p>	<p>ABL / RPS</p> <p>Note</p>	
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<p>1.9</p>	<p>within the Port away from the road network. SH confirmed that P&O doesn't currently have foot passengers. The only foot passengers currently at the Port are Irish Ferries and Stena, which are already located within the UFT footprint.</p> <p>EK – There would be an intensification of passengers at the Eastern End of the North Port Estate. A multi-modal Mobility Management Plan (MMP) was required for both staff and passengers. This point was reinforced by BO'B. CD Responded that the Traffic and Transportation Assessment (TTA) would contain a localised MMP for both of the administration centres in the UFT and the DFT to deal with localised active transport matters specific to their Plots.</p> <p>BO'B – There needs to be confirmation of the public transport provision to the UFT. CD summarised the suite of sustainable transport enhancements contained within the Masterplan Review generally, highlighting the aspiration for an enhanced public transport provision to connect UFT to the Luas and the DART. CD also explained that the cycle lockers at the Port Centre would be used to facilitate multi-modal active travel options at MP2.</p>	<p>RPS</p> <p>DPC / ABL / RPS</p>	
<p>1.9</p>	<p>EK recommended that contact is maintained with DCC Traffic and that another meeting should be called when RPS has adequately advanced the TTA.</p>	<p>RPS</p>	
<p>1.10</p>	<p>EK also recommended that it would be beneficial if DCC could receive an early view of draft reports for comment, prior to submission of the Planning Application.</p>	<p>RPS/DPC</p>	

To:	DPC	From:	Helena Gavin
Cc:		Date:	03.07.2018
Project:	MP2 PROJECT	Email:	helena.gavin@rpsgroup.com
Project No:	MH17030	File Ref:	CP1770
Subject:	Pre-application Consultation Meeting No2 Dublin City Council		

ATTENDANCE

Planning Authority DCC: John O’Hara, Mary Conway

Applicants DPC: S Horgan,

Planners RPS: H Gavin

Environment RPS: A Barr

Engineers ABL: S McCarthy

Project Management: G Fennell

A briefing presentation was made to DCC by RPS/ABL (see Appendix A). This included updated on scope for the project, rationale and layout.

COMMENTARY FROM DCC AND ASSOCIATED DISCUSSION

Questions

- Queried what issues were being raised internally, esp roads and archaeology. (JOH)
- Queried what issues were being raised at ABP level. (JOH)
- Ensure that NPWS issues are addressed especially birds and national monuments (JOH)
- Existing terminal is all that is needed? (MC)
- On the VIA views, suggest including view from Great South Wall and ensure Clontarf views are orientated towards the project, otherwise noted that nothing will really change. (JOH,MC)
- Site of community gain zoned Z6, noted that project not consistent with zoning.(JOH)
- Issue site location to MC. [Note that Parks have not briefed planning.]

ABR Project Compliance

- Accepting of insert to be added to CEMP but include detailed cover note. (MC)

ENDS



Appendix A
Pre-application Consultation Presentation

MP2 Project

Consultation meeting with
Dublin City Council

ABP Ref 29N.PC0252

3rd July 2018



Dublin Port Company

- Sarah Horgan, Project Manager

Advisors

- Helena Gavin, RPS (planning)
- Alan Barr, RPS (environmental)
- Shane McCarthy, Atkins Byrne Looby (engineering)
- Garrett Fennell, Solicitor & Public Affairs Consultant

- **First meeting with An Bord Pleanála – 1st December 2017**
- **First Consultation with Dublin City Council – 29th March 2018**
- **Second meeting with An Bord Pleanála – 24th April 2018**

- **Proposed project elements have now been finalised**
- **Preparation of EIAR has commenced**
- **Target to lodge a planning application is October 2018**
- **DPC now requesting An Bord Pleanála to determine whether the proposed project is SID**

- **Masterplan 2040 – Reviewed 2018**
- **Progression of DPC’s thinking through to the final scope of the MP2 Project**
- **Overview of key project elements**
- **Issues & AOB**



Dublin Port Masterplan 2040 Reviewed 2018 Draft

April 2018 | www.dublinport.ie/masterplan

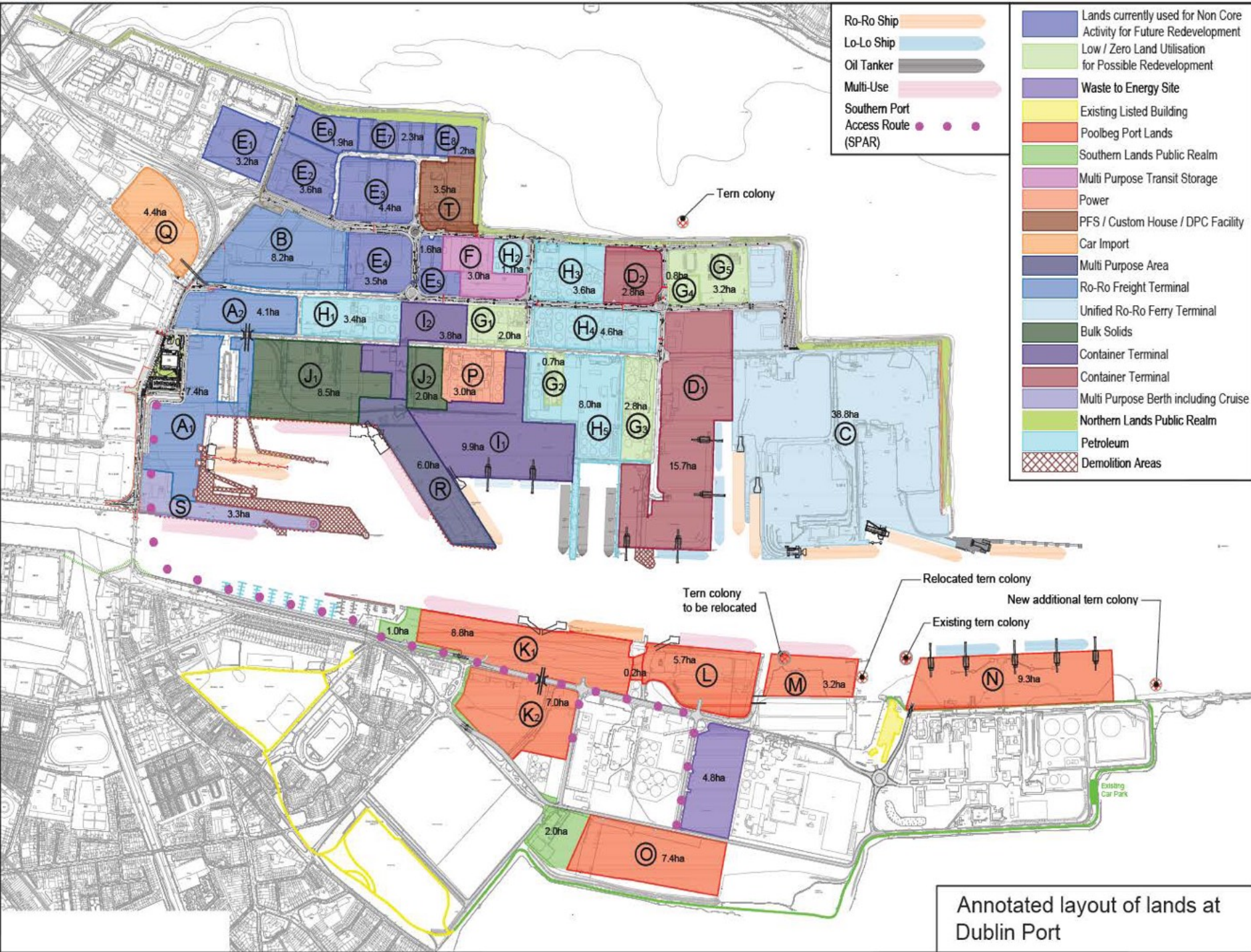
Key dates

1	Draft Masterplan published	16 th April 2018
2	Approved by DPC Board	29 th June 2018
3	Publication	24 th July 2018

Masterplan documents

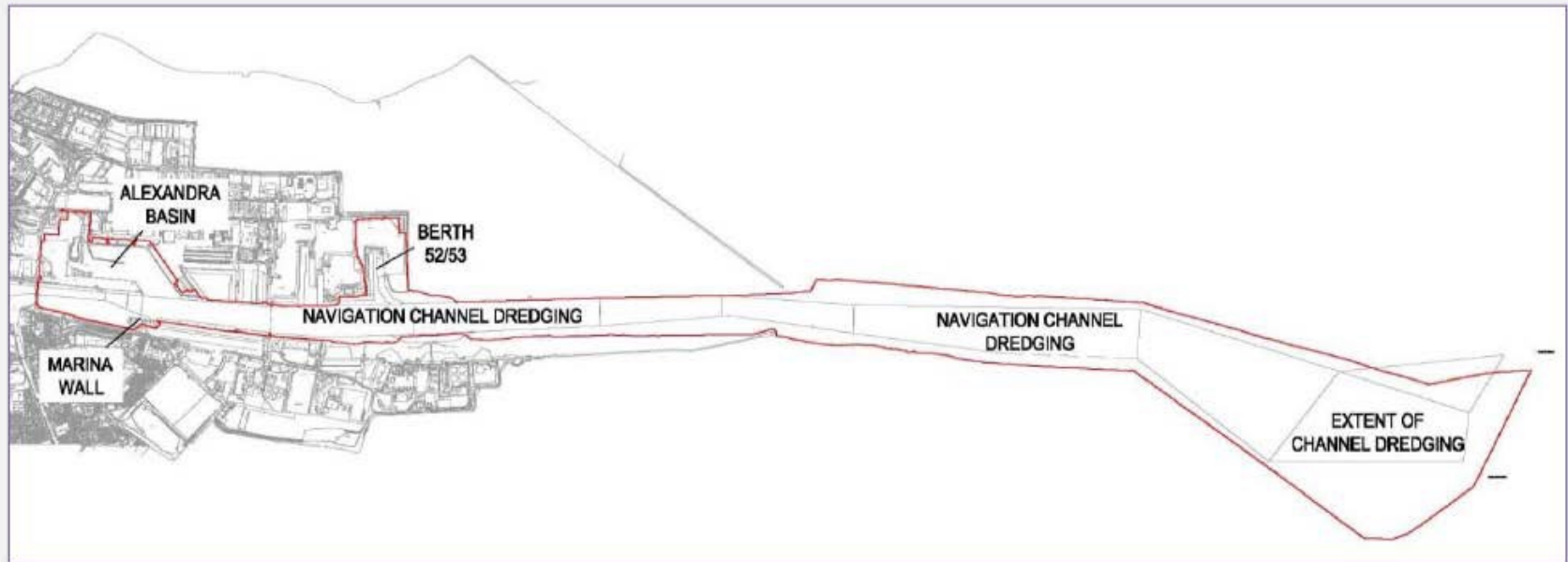
1	Masterplan 2040 - Reviewed 2018
2	SEA Environmental Report
3	Natura Impact Statement
4	Strategic Transport Study
5	Strategic Flood Risk Assessment
6	Report on the final consultation process
7	Masterplan 2040 - Reviewed 2018

1. Now termed *Masterplan 2040 – Reviewed 2018*
2. Higher planning growth rate (3.3% v 2.5%)
3. No deepening of Dublin Port beyond the -10.0m CD already consented as part of the ABR Project
4. No port expansion by eastern infill into Dublin Bay
5. Development by DPC of the SPAR as part of a future third SID (after ABR Project and MP2 Project) including new berths on the Poolbeg Peninsula
6. Developments on the Poolbeg Peninsula now proposed in a manner which would avoid IROPI
7. Masterplan brings Dublin Port to its maximum capacity by about 2040

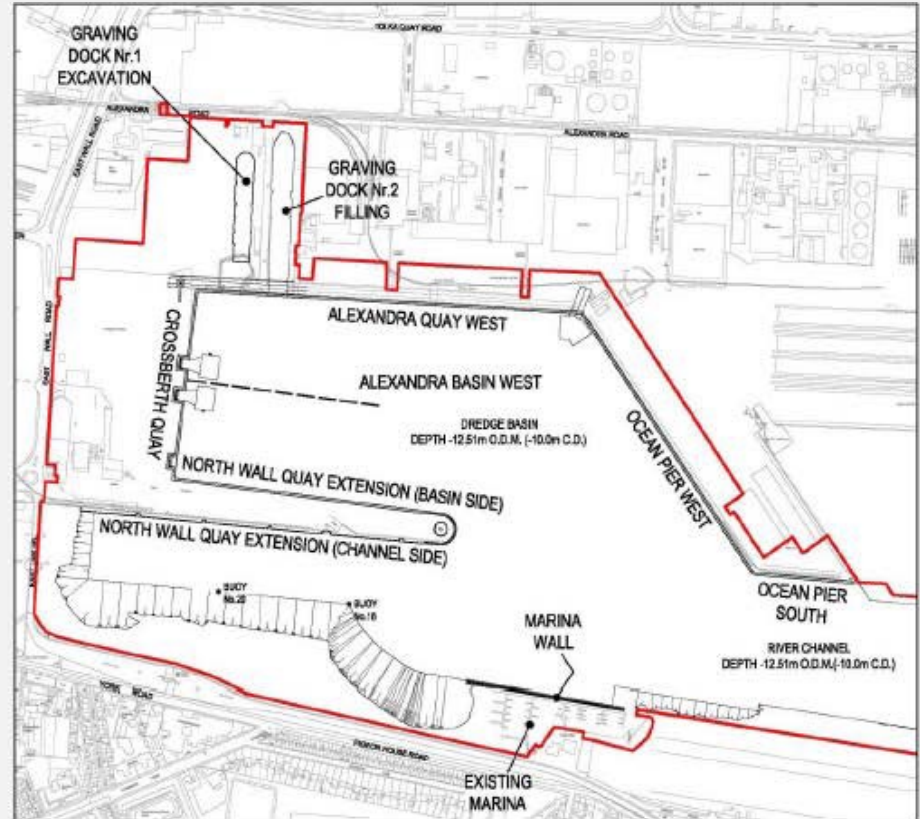


Annotated layout of lands at Dublin Port

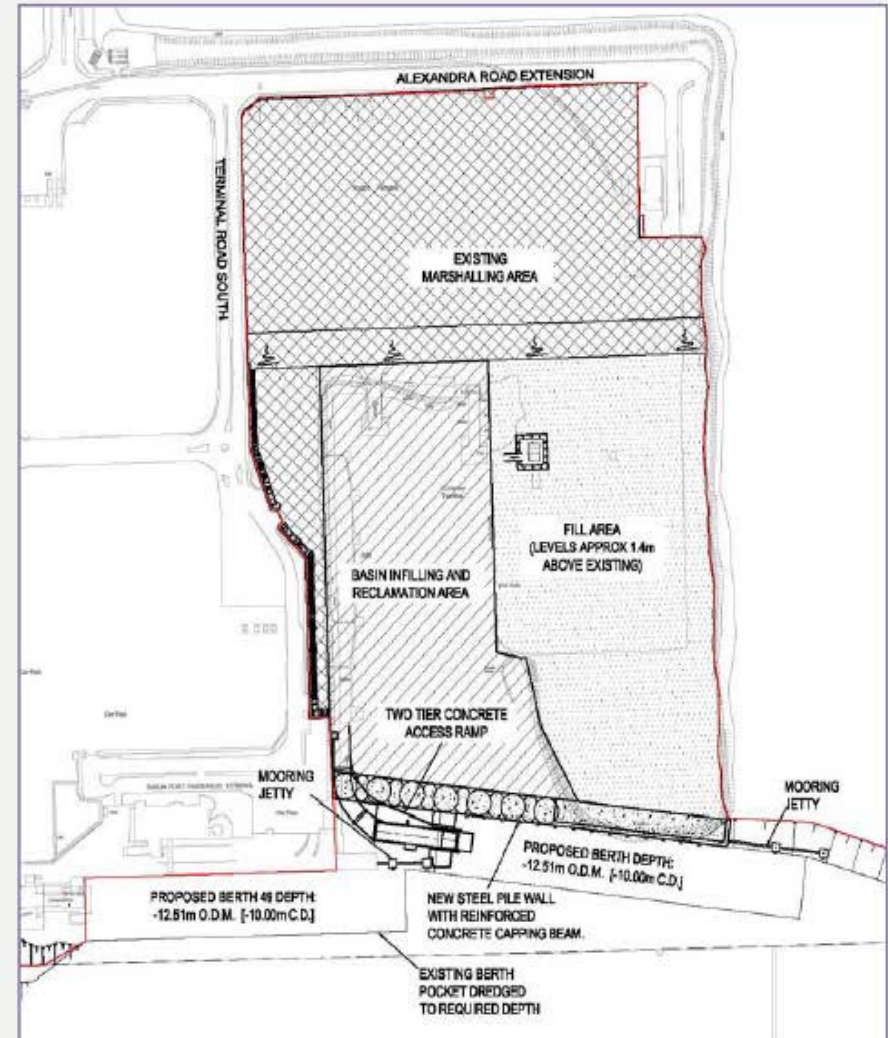
- Dredging of Liffey Channel to -10m CD, from East Link Bridge to Dublin Bay Buoy over a six year period
- Construction of surge protection / retaining wall at Poolbeg Marina



- Dismantling of infrastructure and removal of infill material
- Quay wall refurbishment/construction
- Installation of Ro-Ro ramps
- Ro-Ro jetty construction
- Dredging of basin and berths to -10.0m Chart Datum
- Treatment of contaminated dredged material and re-use as infill on site
- Excavation and restoration of Graving Dock No. 1
- Infilling of Graving Dock No. 2 with treated dredged material
- Relocation of ore concentrates loading operations to Alexandra Quay West Extension
- Development of cultural heritage interpretative space



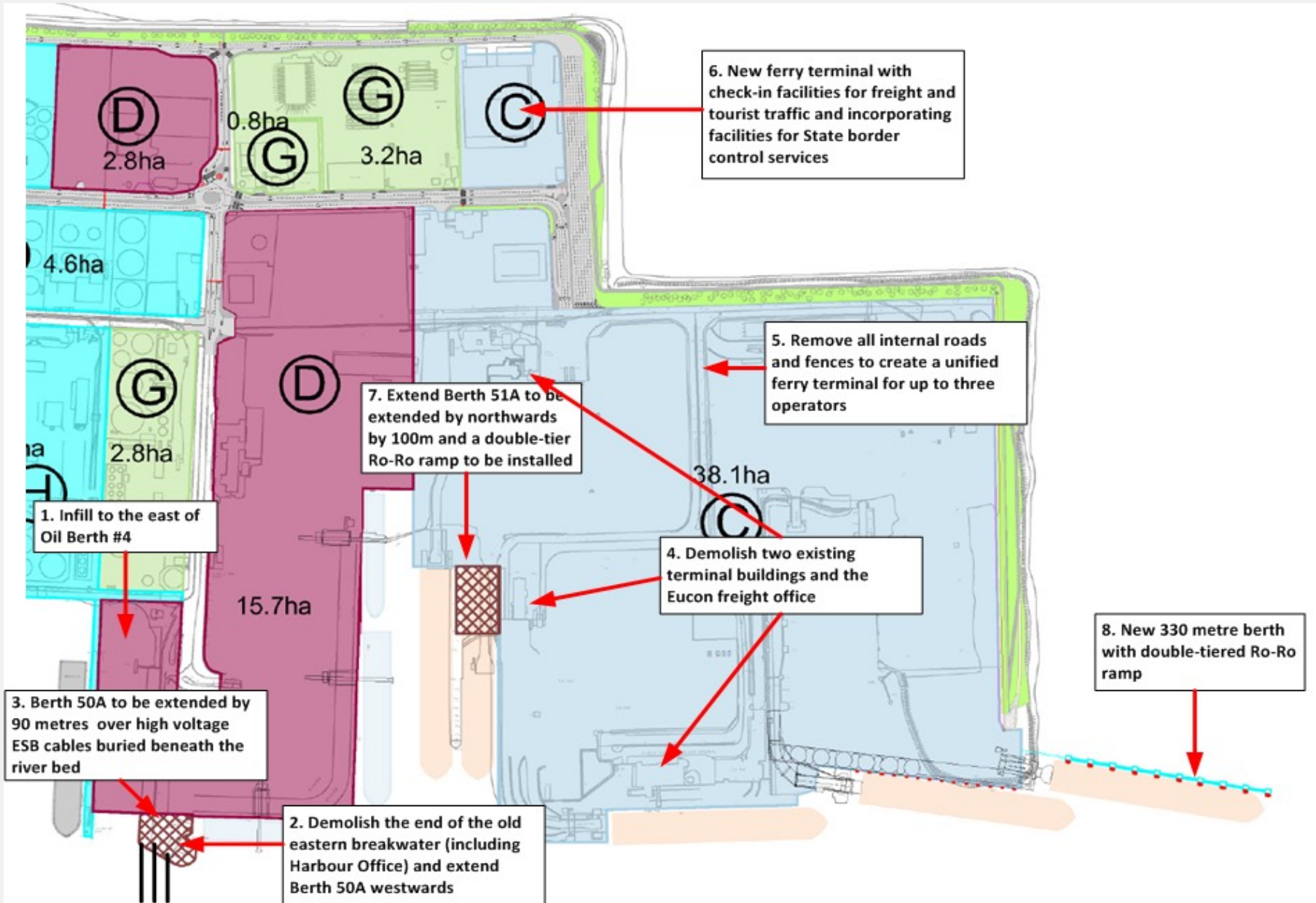
- Dismantling and removal of existing infrastructure
- Infilling of existing Berth 52 / 53 with treated dredged material
- Raising of existing surface levels by approx. 1.4m
- Quay wall construction
- Mooring jetty construction
- Installation of Ro-Ro ramp



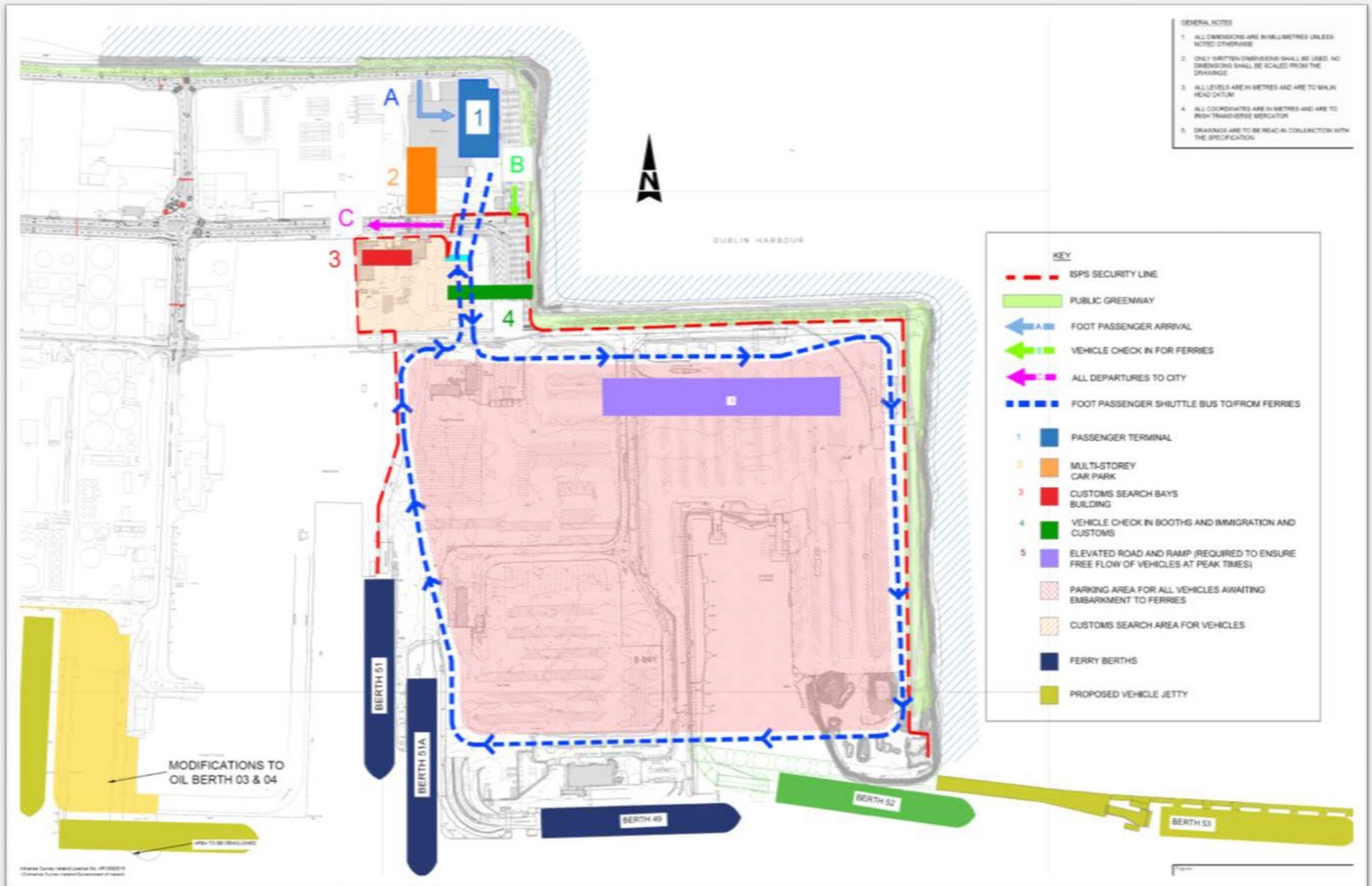
MP2 Project - location of works



MP2 Project – main elements originally suggested



MP2 Project – main elements originally suggested

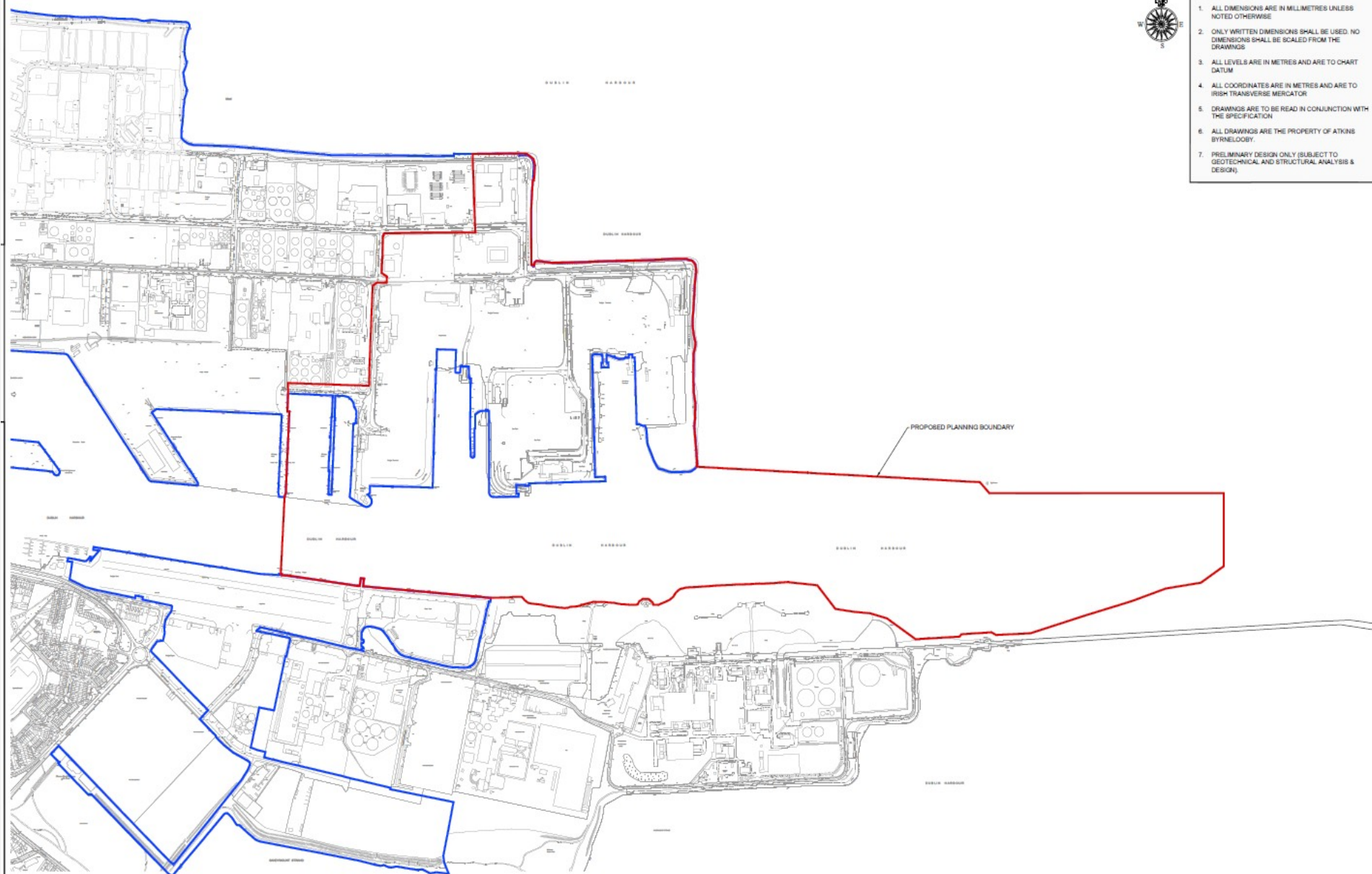


1. **Project as now presented has evolved from the original proposal through consultations, engagement, feedback and relevant assessments and studies**
2. **Main changes are:**
 - a) **No use of OB4 as a repository to dispose of contaminated arisings from elsewhere within the port under an IED licence from EPA**
 - b) **Reconstruction of OB3 to future-proof it for future use as a container berth as petroleum volumes decrease**
 - c) **No extension to Berth 51A**
 - d) **Reorientation of Berth 52 by about 9° from the orientation permitted within the ABR Project**
 - e) **Following detailed modelling and assessments, the nature, extent and impact on SPA of Berth 53 is now understood and it has been reconfigured to prevent negative effects on the SPA**
 - f) **No new ferry terminal building – existing waterside Terminal 1 will be used instead**



GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
3. ALL LEVELS ARE IN METRES AND ARE TO CHART DATUM
4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION
6. ALL DRAWINGS ARE THE PROPERTY OF ATKINS BYRNELOOBY.
7. PRELIMINARY DESIGN ONLY (SUBJECT TO GEOTECHNICAL AND STRUCTURAL ANALYSIS & DESIGN)



PROPOSED PLANNING BOUNDARY

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— PRELIMINARY PLANNING BOUNDARY
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DRAFT

00	INITIAL ISSUE	TJOC	06/18	SMC	AC
Rev	Description	By	Date	CHK'd	App'd

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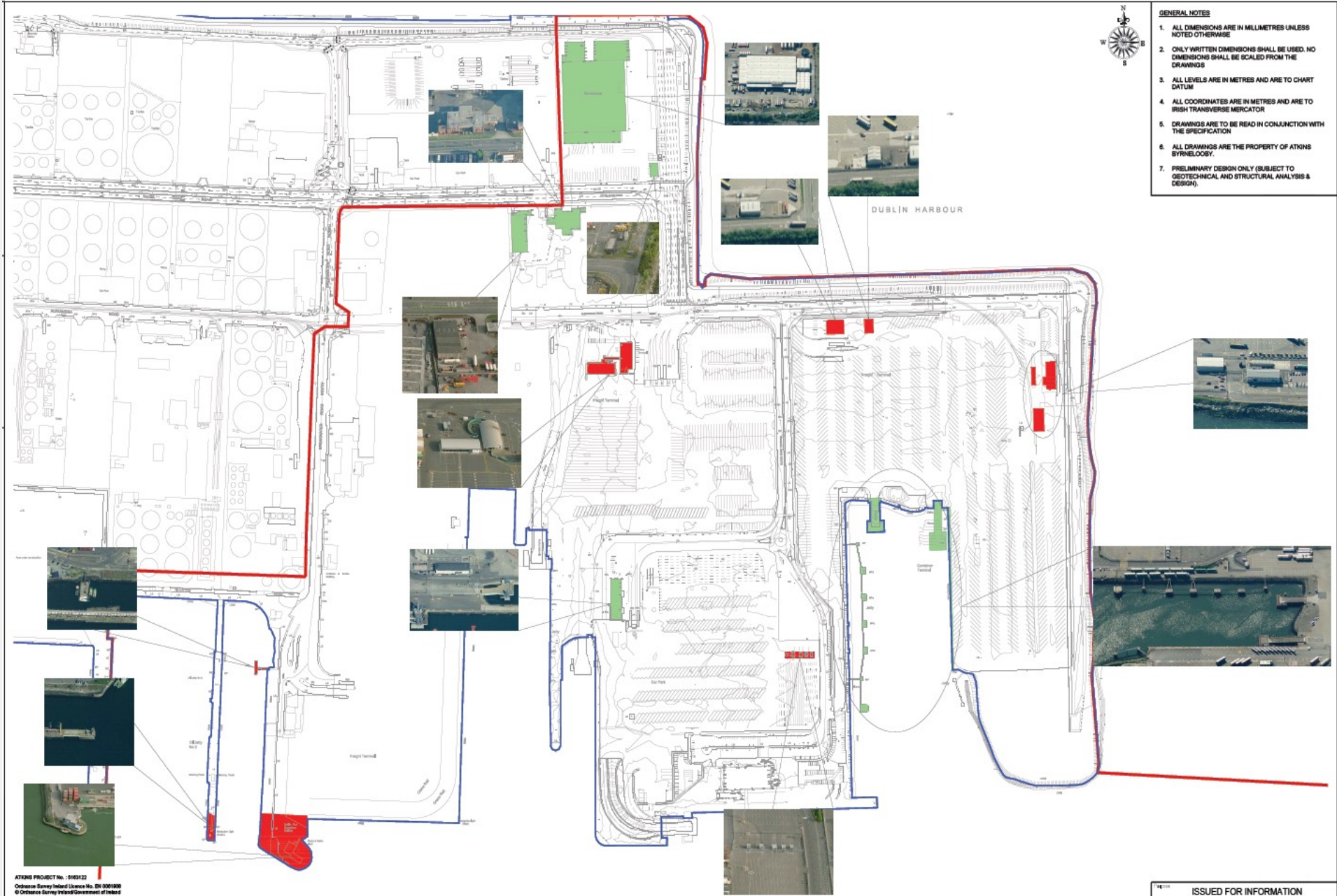
COMHLACHT CHALAPOR ÁTHA CLIATH
DUBLIN PORT COMPANY

Project: MP2

Purpose		ISSUED FOR INFORMATION					
Title		SITE LOCATION MAP					
Original Scale	1:5000 @A1	Design/Draw	TJOC	Checked	SMC	Authorised	AC
Date	20.06.18	SM	20.06.18	SM	20.06.18	Date	20.06.18
Status	I	Drawing Number	CP1770-BLP-ZZ-ZZ-M2-MA-0001	Rev	00		



- GENERAL NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
 2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
 3. ALL LEVELS ARE IN METRES AND ARE TO CHART DATUM
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- PRELIMINARY PLANNING BOUNDARY
- DUBLIN PORT ESTATE BOUNDARY
- DEMOLISHED AS PART OF MP2
- DEMOLISHED OUTSIDE OF MP2

0	INITIAL ISSUE	JC	08.18	MOD	KH
1		10	10	11.18	18

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ÁTHA CLIATH
DUBLIN PORT COMPANY

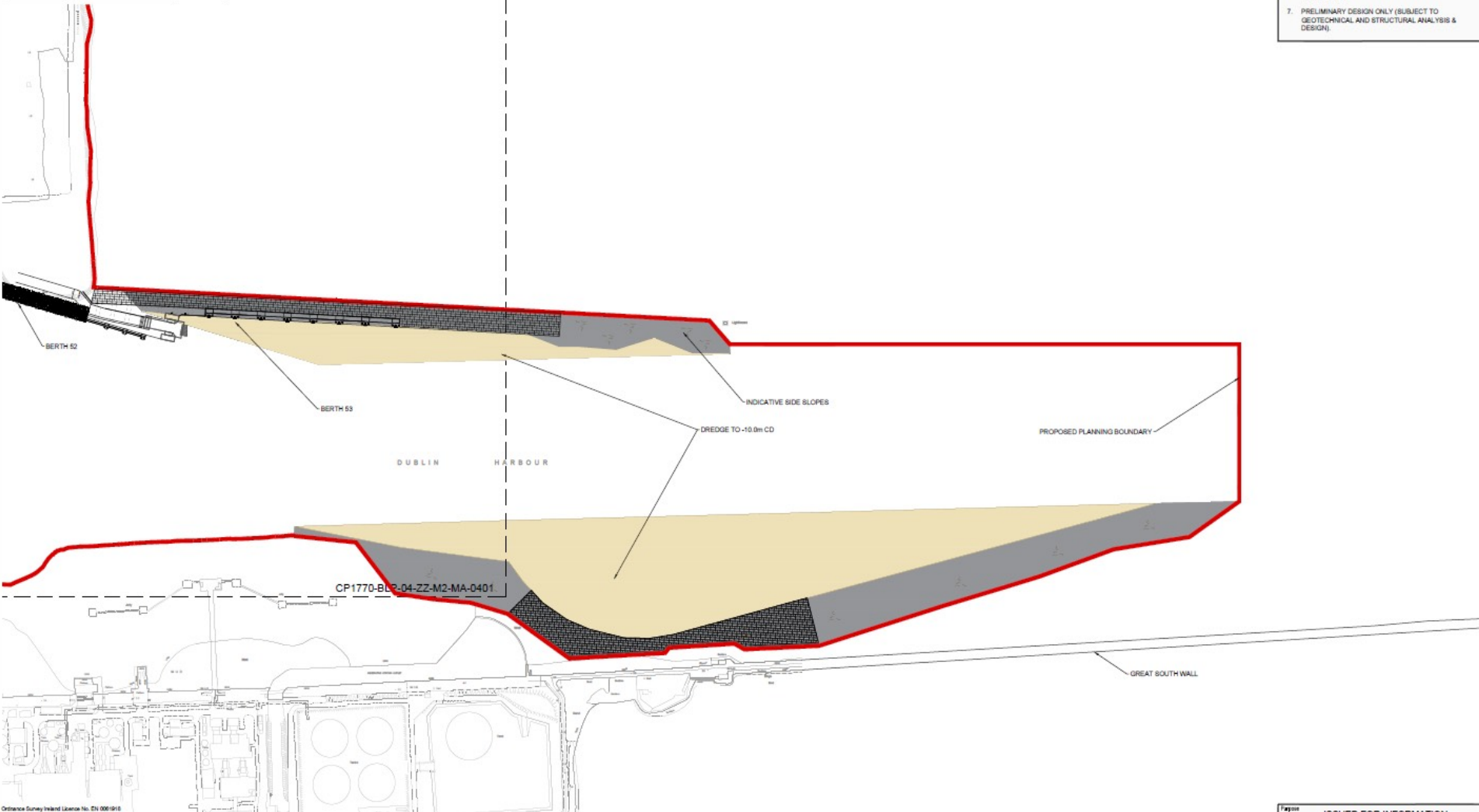
Project: **MP2**

ISSUED FOR INFORMATION			
DEMOLITION PLAN			
Scale:	1:2000	MOD	KH
Date:	20.08.18	20.08.18	20.08.18
Drawn:			
Check:			
Project:	CP1770-ATK-01-ZZ-M2-CE-0021		



- GENERAL NOTES**
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KEY PLAN SHOWING LOCATION (Scale 1:20,000)



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- PRELIMINARY PLANNING BOUNDARY
- PROPOSED MATRESS OR OTHER
- DREDGED SIDE SLOPES
- DREDGED AREA

DRAFT

NO	INITIAL ISSUE	TJOC	06.18	SMC	AC
Rev	Description	By	Date	CM	App

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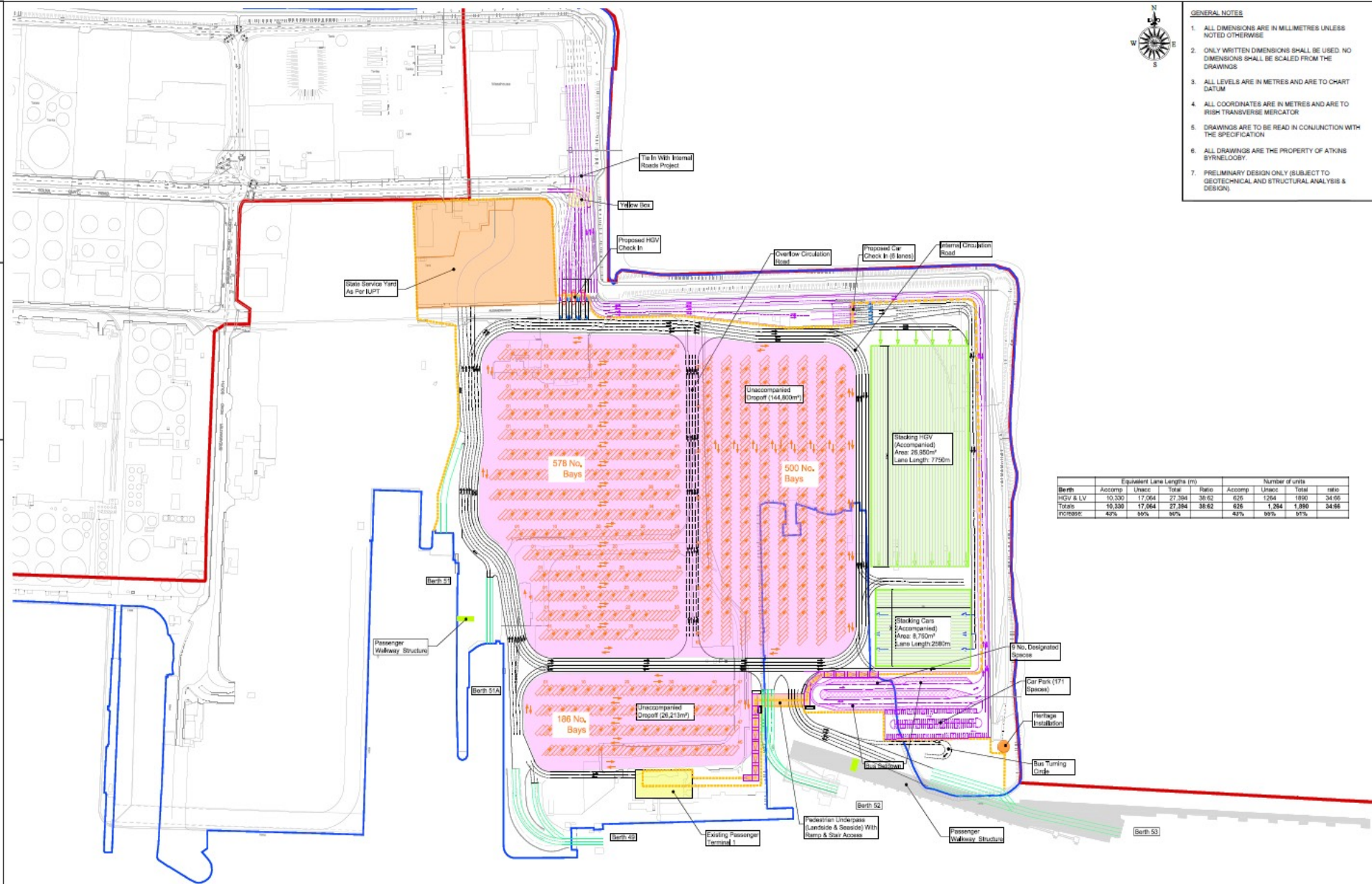
**COMHLACHT CHALAFORT
ÁTHA CLIATH
DUBLIN PORT COMPANY**

Project: **MP2**

Issued For Information					
Title: DREDGING GENERAL ARRANGEMENT					
SHEET 3 OF 3					
Original Scale:	1:2500 @A1	Design/Drawn:	TJOC	Checked:	SMC
Date:	20.06.18	Date:	20.06.18	Date:	20.06.18
Drawn:		Checked:		Date:	20.06.18
Issue:	1	Drawn Number:	CP1770-BLP-04-ZZ-M2-MA-0402	Rev:	00



- GENERAL NOTES**
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Berth	Equivalent Lane Lengths (m)				Number of units			
	Accomp	Unacc	Total	Ratio	Accomp	Unacc	Total	ratio
HGV & LV	10,330	17,064	27,394	38.62	626	1264	1890	34.05
Total	16,558	17,954	34,512	38.62	626	1,264	1,890	34.95
Increase:	42%	36%	30%		42%	36%	31%	

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- SECURITY LINE
- PRELIMINARY PLANNING BOUNDARY
- UNACCOMPANIED STACKING * (DRIVE IN - DRIVE OUT)
- DUBLIN PORT ESTATE BOUNDARY
- ACCOMPANIED STACKING *
- PROPOSED ROAD LAYOUT
- PROPOSED RAMPS TO BERTHS
- FINAL ARRANGEMENT OF STACKING AREA TO BE REVIEWED & CONFIRMED

0	INITIAL ISSUE	JC	08/18	MOD	KH
1	REVISED	JK	11/18	MOD	KH

ATKINS
Member of the SNC-Lavalin Group

BYRNELOOBY

COMHLACHT CHALAFOR
ÁTHA CIUATH
DUBLIN PORT COMPANY

Project: **MP2**

ISSUED FOR INFORMATION	
GENERAL ARRANGEMENT LANDSIDE	
Scale: 1:2000	Drawn: MOD
Issue: 20.06.18	Check: KH
Issue: 20.06.18	Approved: KH
Project Number: CP1770-ATK-01-ZZ-M2-CE-0001	

1. 15 year horizon to give certainty to DPC
2. Use of the unified Ro-Ro terminal area (Accompanied Ro-Ro v unaccompanied Ro-Ro v Passenger vehicles) is indicative and actual use will be a function of customer requirements and will change over time
3. Possible impact of capital dredging on the Great South Wall
4. Analysis of impacts on SPA
5. Masterplan ruling out further infill has shaped Berth 53 and, by extension, changed the orientation of Berth 52 (as originally consented in the ABR Project)
6. Key project parameter – construction of c. 1,000 metres of quay walls / berths

Berth	Metres
OB3	242
50A	70
52	288
53	406
Total	1,006

VIA - view points





Dublin Port Company Meeting Notes

Project Name:
CP1770_MP2 Project

Document Title:
DCC Consultation Meeting
Landscape and Biodiversity

Document Date:
06/09/2018



Meeting Notes Dublin Port Company	
Meeting Meetings for:	DCC Consultation Meeting Landscape and Biodiversity
Project Title:	MP2 Project
Identifier:	CP1770
Meeting Objective:	Consultation meeting with DCC to discuss Landscape and Biodiversity with respect to the EIAR

Location:	Civic Offices, Wood Quay, Dublin		
Date:	06/09/2018	Time:	14.30pm – 15.30pm

Attendees:	Name	Acronym	Role
	Leslie Moore	LM	DCC City Parks Superintendent
	Maryann Harris	MH	DCC Sen. Exec. Parks
	Sarah Horgan	SH	Superintendent
	Alan Barr	AB	DPC PMO Project Manager
	Richard Nairn	RN	RPS
	Tony McNally	TMN	Natura Environmental Consultants RPS
Facilitator:	Alan Barr		
Minute Taker:	Tony McNally		

Item	Action	Allocated To:	Due Date:
1			
1.1	AB briefly outlined the ABR Project which has now been operational for over 2 years and the extent of works completed to date including quay wall construction and capital dredging. Upcoming works were also described.	None	
1.2	AB outlined the monitoring undertaken for ABR including noise, dust, vibration and water quality. Real time high frequency monitoring is in place at four locations in the inner harbour for a range of WQ parameters. Real time high frequency monitoring is also in place at four locations in Dublin Bay for turbidity, wave and current monitoring and marine mammal monitoring. The role of MMOs and SAM and PAM systems in marine mammal monitoring was described. RN outlined the extent of the bird monitoring in place.	Note	
1.3	AB pointed out that DPC had voluntarily undertaken to continue monitoring in Dublin Bay using the Coasteye Buoys on a year round basis.	Note	
1.4	MH asked about invasive alien species (IAS) records. TMN pointed out that site surveys in the ABR sites had detected none but that the presence of Knotweed on the Poolbeg	Note	

1.5	<p>peninsula was noted. RN also commented on the presence of sea buckthorn. MH noted the spread of knotweed along the Tolka and canal.</p>	TMN	
1.6	<p>LM commented on the extent of the monitoring and the value of the data being produced. The role of the Liaison Group was outlined and MH expressed an interest in attending. TMN to forward an invitation to the next LG Meeting in October.</p>	Note	
1.7	<p>AB proceeded to introduce the next phase of DPC's Masterplan, the MP2 Project. He informed that An Bord Pleanála had confirmed that MP2 was Strategic Infrastructure Development.</p> <p>AB briefly set out the main elements of MP2 as follows:-</p> <p>In-filling of Oil Berth 4 with engineering fill and creation of riverside berth.</p> <p>Modifications to the previously consented Berth 52</p> <p>Construction of a new riverside berth at the eastern end of the Port outside the SPA using an open pile structure and dolphins to mitigate any impact on hydrology and sediment dynamics. Other mitigations including screening, coaching of passengers, restricted access to the jetty, and restriction of construction works during low spring tides when bird feeding opportunity presents for 1 to 2 hours per month.</p>	MH	
1.8	<p>MH mentioned bioremediation works being undertaken in other ports. University of Maryland are trialling floating treatment beds in Boston for nutrient removal. MH to forward information for consideration of piloting something similar in Dublin.</p>	Note	
1.9	<p>AB described the landside developments, the proposed Unified Ferry Terminal and associated vehicle routes and stacking areas. MH queried about drainage in relation to Development Standard 23. SH clarified that MP2 is largely marine based and that no major land based works were planned. The project will maximise the efficient use of largely existing facilities. TMN informed that DPC have an extensive system of interceptors on drainage systems and monitoring and maintenance programmes are in place. AB pointed out that when landside development was proposed it would be subject to all planning considerations and that would allow capture of drainage issues including SuDs.</p>	Note	

1.10	<p>AB described the requirement to create a manoeuvring area for vessels in the adjacent channel. The potential impact on the Great South Wall and engineering mitigation was discussed. MH raised the potential for biodiversity enhancement particularly in relation to the use of concrete matting on channel slopes. DPC is already involved in supporting the Ecostructure Project and will take advantage of relevant outputs. AB confirmed that all relevant mitigations in place for the ABR project will also apply to MP2.</p>	RPS	
1.11	<p>MH asked about size of vessels using the proposed new Berth 53. These were confirmed to be in line with existing vessels using the port and approximate dimensions of 230m length overall and 14m above waterline were indicated. MH pointed out that photomontages should include a vantage from Bull Wall to allow assessment of visual impact on the National Special Amenity Area at North Bull Island. AB agreed and informed that consultations with DCC had determined approximately 12 vantage points. SH pointed out that the Greenway and associated planting would provide some screening.</p>	MH	
1.12	<p>LM and MH commented on the value of the data being produced by DPC and the possibility of sharing through the Biosphere structures. RN referred to the Dublin Bay Biosphere Biodiversity Conservation and Research Strategy 2016-2020. MH to forward details in relation to UCD Earth Institute and collation of data.</p>	Note	
1.13	<p>DCC confirmed they were satisfied with the approach being taken in preparation of the EIAR. They had no other issues to raise at this stage.</p> <p>AB informed that planning application is anticipated by 31st October this year.</p>	Note	

APPENDIX 5 PROJECT SCOPING & CONSULTATION

Appendix 5-3

Dublin Port Company Meeting Notes

**Project Name:
CP1770_MP2 Project**

**Document Title:
DCHG Consultation Meeting
Archaeology and Built Heritage**

**Document Date:
30/05/2018**



Meeting Notes Dublin Port Company	
Meeting Meetings for:	DCHG Consultation Meeting Archaeology and Built Heritage
Project Title:	MP2 Project
Identifier:	CP1770
Meeting Objective:	Consultation meeting with DCHG to discuss Archaeology and Built Heritage with respect to the EIAR

Location:	Dublin Port Centre, Training Room 2, Dublin Port		
Date:	30/05/2018	Time:	10.00am – 11.30pm

Attendees:	Name	Acronym	Role
	Nicola Matthews	NM	DCHG - Built Heritage, Architectural Policy & Strategic Infrastructure
	Karl Brady	KB	DCHG - National Monuments Service
	Sarah Horgan	SH	DPC
	Eamon McElroy	EMcE	DPC
	Niall Brady	NB	ADCO
	Alan Barr	AB	RPS
	Ruth Barr	RB	RPS
	Tony McNally	TMcN	RPS
Facilitator:	Alan Barr		
Minute Taker:	Tony McNally		

Item	Action	Allocated To:	Due Date:
1	Introductions		
	AB provided an agenda for the meeting and roundtable introductions were made.		
2	Update on the ABR Project Archaeological Monitoring Programme		
	<p>AB briefly outlined the ABR Project which has now been operational for 2 years and the extent of works completed to date including quay wall construction and capital dredging.</p> <p>NB outlined the archaeological monitoring undertaken for ABR and some results to date. Monitoring was in place for SI, construction and capital dredging operations. Finds included a Patent Slip in ABW dating to approx mid 19th century, and some 200 ships timbers or fragments during the capital dredge. The abundance of timbers reflects the dredging location at the old Dublin Bar. An intact vessel likely to be a coastal trader dating from the 18th century was also discovered a short distance outside the breakwater walls. The operation of an exclusion zone around the wreck was described. The impact of two severe storms was outlined including the deposition of about 1m sediment on the wreck.</p>		

	<p>Artefacts are being stored in Dublin Port and National Museum have visited the storage facilities and approved the arrangements in place.</p> <p>KB enquired about timelines for resolving the wreck. NB confirmed that an archaeological report would issue before commencement of the next dredging season in October. This will include findings and mitigations proposed. Detailed analysis of timbers will take longer. He confirmed that season two dredging would not be in the area of the wreck so there was no immediate pressure to resolve the matter.</p> <p>KB asked that the stability of the wreck environment be considered in terms of sediment movements, currents and vessel traffic. NB outlined a monitoring regime including annual multi-beam and diver inspection.</p> <p>AB outlined sediment and current dynamics in the vicinity of the wreck site and that navigation channel slopes will be stable.</p> <p>AB outlined DPC's serious commitment to compliance with planning conditions to date including extensive environmental monitoring, permanent environmental staff on site, regular meetings of and reporting to a regulator's Liaison Group. The role of DPC's Communications Manager in public liaison was described.</p>		
3	Update on Dublin Port Master Plan 2040	Allocated To:	Due Date:
	<p>AB Introduced the MP2 Project, the next major element of the DPC Master Plan 2012 - 2040. The Master Plan has been reviewed to ensure its continued relevance and the SEA of the Review has been subject to public consultation. No significant comments have been received to date with regard to Built Heritage or Underwater Archaeology. DCHG submission was invited.</p> <p>MP2 is within the remit of ABP as Strategic Infrastructure. Further projects required to deliver the Master Plan were outlined (SPAR and Poolbeg Peninsula).</p> <p>NM enquired about implications for NRA proposals re the Eastern By-Pass. AB confirmed that development would not conflict with NRA Policy.</p>	DHCG	
4	Description and Discussion of the proposed MP2 Project	Allocated To:	Due Date:
	AB set out the main elements of MP2 as follows:		

	<p>In-filling of Oil Berth 4 and creation of riverside berth. This entails removal of a quay structure which is mostly granite and dates to the 19th century. It marks the original entrance to Dublin Port. NB confirmed that the structure will be scanned (laser and multi-beam) and dive surveyed.</p> <p>AB informed that the lantern house from the lighthouse that stood on this site is in storage and it is proposed to re-use it appropriately, perhaps as a focal point on the greenway being developed.</p> <p>KB enquired about the protected status of structures and the availability of original contemporaneous drawings.</p> <p>EMcE informed that DPC held a very large document archive. DPC has appointed an Archivist (Lar Joy) who is investigating available drawings. NB said that a trawl of drawings would be party of the EIA process.</p> <p>NM enquired about a map of the evolutionary phases of the Port. EMcE confirmed that a map showing the historical development of the port since the 17th century was available.</p> <p>Construction of a new riverside berth at the eastern end of the Port using an open pile structure and dolphins. Precise details of construction are to be finalised.</p> <p>Creation of a manoeuvring area for vessels in the adjacent channel. AB informed that there would be a requirement for a manoeuvring area that would entail capital dredging. The side slopes of the channel and interaction with the Great South Wall was an issue to resolve.</p> <p>Discussion on Great South Wall and the stability of the structure followed. EMcE confirmed that laser scanning over the past 4 years has confirmed the long term stability of the wall even after storm Emma. NM and KB commented that in stabilising the wall through engineering means any structures should be led by science and should not restrict flexure or impinge on the wall. EMcE clarified that the wall would still have to function as an effective breakwater. SH confirmed that structures would not have any visual impact as they would all be below water level.</p> <p>NB informed that a licence application is currently with DCHG and it is hoped to commence archaeological investigations in June 2018.</p> <p>Planning application is anticipated in the last quarter of this year.</p>	<p>DPC</p> <p>DPC</p> <p>RPS</p> <p>DPC</p> <p>RPS</p>	
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	<p>Further general discussion took place in relation to structure of the new berth and timeframes, and assets connections with the city.</p> <p>NM highlighted the high level of craftsmanship of original structures and that in the transition from functional to heritage assets a degree of generosity was required.</p> <p>AB cited the heritage trail and the renaming of DPC's Communications Department to Heritage and Communications as examples of the proactive DPC approach and integration of heritage considerations. KB remarked on the benefits of the appointment of the archivist.</p> <p>KB recommended the development of a Cultural Heritage Plan for the Port that would take a holistic long term view and identify key sites for preservation. He suggested that this would be a valuable asset to the Port in pursuing future developments. NM confirmed that she felt such an approach would be essential in the MP2 planning application. Consequently the Cultural Heritage Plan should be in place prior to submission of the MP2 Project.</p>	DPC	
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Dublin Port Company Meeting Notes

Project Name:
CP1770_MP2 Project

Document Title:
EPA, Office of Environmental Sustainability Meeting
Dumping at Sea Permitting

Document Date:
05/06/2018



Meeting Notes Dublin Port Company	
Meeting Meetings for:	EPA Consultation Meeting Pre-application meeting - Dumping at Sea Permitting
Project Title:	MP2 Project
Identifier:	CP1770
Meeting Objective:	Pre-application meeting with EPA to discuss DPC's future Dumping at Sea Permitting requirements

Location:	EPA Headquarters, Johnstown, Wexford		
Date:	05/06/2018	Time:	10.45am – 1.0pm

Attendees:	Name	Acronym	Role
	Karen Creed	KC	EPA Head of Section
	Ciara Maxwell	CM	EPA Inspector
	Eamon McElroy	EMcE	DPC
	Alan Barr	AB	RPS
Facilitator:	Eamon McElroy		
Minute Taker:	Alan Barr		

Item	Action	Allocated To:	Due Date:
1	<p>ABR Project Capital Dredging under D@S Permit S0024-01</p> <p><u>Review of First Winter Season Dredging (October 2017 – March 2018)</u></p> <p>The AER 2017 was reviewed at the meeting. The EPA made the following points:</p> <ol style="list-style-type: none"> 1. The EPA had specified extensive monitoring because too much reliance was made on modelling within the D@S application. The main purpose of the monitoring was to provide validation of the models. 2. The results presented within the AER 2017 were yet to be analysed in detail by the EPA but they were pleased to hear that the results were consistent with the models which demonstrated that Season 1 dredging activity had no discernible impact on turbidity levels within Dublin Bay. 3. The EPA welcomed the fact that DPC had decided to deploy the four monitoring Buoys within Dublin Bay continuously until April 2021 (including the summer months). 4. The EPA noted that DPC recommended the removal of sediment plume monitoring in Seasons 2 and 3 because there was no measurable plume arising from the 		

	<p>dredging of fine sand within Dublin Bay and that DPC believed that sufficient water quality samples had been collected to establish a scientifically robust relationship between turbidity and suspended solids. The EPA stated that the OEE was responsible for making this decision.</p> <p>5. The EPA noted that the extensive monitoring conditioned under S0024-01 would not be specified in future D@S applications because sufficient baseline monitoring data would by that stage be available from the ongoing monitoring effort.</p> <p><u>Review of Second Winter Season Dredging (October 2018 – March 2019)</u></p> <p>EMcE informed the EPA of ongoing preparations for the Second Winter Season Dredging Season.</p>		
2	Maintenance Dredging under D@S Permit S0004-01	Allocated To:	Due Date:
	<p>EMcE informed the EPA of the March 2018 maintenance dredging campaign, the final campaign under D@S Permit S0004-01. The final AER was on target to be completed by March 2019.</p> <p>The EPA informed DPC that future commitments within the Permit related to maintaining a cap over Class 2 sediments, sediment quality sampling and hydrographic surveys at the dump site would be reviewed by the OEE.</p> <p>The discussion on D@S Permit S0004-01 served to highlight the issue that DPC no longer held a valid Maintenance D@S Permit and that it was now urgent to progress a new D@S application. EMcE also noted that a new Foreshore Licence would be required in 2019.</p>		
3	Requirements for a new Maintenance Dredging D@S Permit	Allocated To:	Due Date:
	<p>The EPA made the following points with regard to a new Maintenance Dredging D@S Permit.</p> <p>1. The EPA's key concern was to ensure distinct separation of multiple Permits to ensure clarity for the</p>		

	<p>enforcement of each Permits conditions. This could be achieved in 2 ways</p> <ol style="list-style-type: none"> a. Separation by the spatial area covered by the Permit b. Separation by time (for example capital dredging during the winter period and maintenance dredging during the summer period, except in the case of emergencies). <ol style="list-style-type: none"> 2. The EPA was receptive to the concept of dealing with Class 2 sediments by effectively burying them at the dump site. The EPA stated that this had been undertaken successfully at Arklow. AB informed the EPA that the SI undertaken by Fugro showed that there was insufficient gravel material above the -10.0m CD level to create an alternative disposal method using containment bunds at the dump site. The EPA preferred burial below the existing bed level to mitigate against long term erosion. 3. The EPA was prepared to issue an eight year Permit to DPC. This is the maximum possible timeframe allowable to be consistent with OSPAR sediment chemistry sampling requirements. 4. A number of scientific reports are required to support the D@S application. New guidelines are currently under preparation <ol style="list-style-type: none"> a. NIS b. Marine Mammal Risk Assessment c. Archaeological Impact Assessment d. Sediment chemistry sampling must include for radionuclides 5. Cumulative impacts should include other DPC Permits in addition to proposals at Howth. There are no current proposals to take forward the cruise terminal at Dun Laoghaire. 6. The EPA noted the importance of the Public Notice required after submission of the D@S application. The notice must specify the start date of the dredging activity. DPC therefore needs to consider the time it takes to process the application and procure a dredging company. Currently, the time between submission of the application to granting permission, where appropriate, is 9 months. 		
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	EMcE confirmed that DPC were targeting a submission date of December 2018. This suited the EPA's current workload.		
4	MP2 Project Capital Dredging Requirements	Allocated To:	Due Date:
	<p>AB set out the main elements of MP2 as follows:</p> <p>In-filling of Oil Berth 4 and creation of riverside berth. Construction of a new riverside berth at the eastern end of the Port using an open pile structure and dolphins. Creation of a manoeuvring area for vessels in the adjacent channel.</p> <p>The EPA made the following comments</p> <ol style="list-style-type: none"> 1. The EPA confirmed that the Capital Dredging associated with the MP2 Project should be a standalone application. 2. The Alternatives Section of the EIAR should include an assessment of alternative uses of the dredged material, not only dumping at sea. 3. All material produced for planning purposes should also accompany the D@S application 4. The EPA preferred a sequential approach of waiting until Planning is granted prior to lodging a D@S Permit application. Of note, the start date of dredging activities must be specified in the Public Notice which could only be estimated after planning was granted. 5. The same requirements, outlined under Section 3 above, apply to the MP2 D@S application. 6. Overall, the EPA did not see any significant issues given the relatively small scale of the proposed capital dredging works. 		
5	Longer Term Capital Dredging Requirements	Allocated To:	Due Date:
	<p>AB referenced the DPC Masterplan 2040 and the long term goal of DPC including further capital dredging within the Port's basins to -10.0m CD and the widening and deepening of berthing pockets.</p>		

	<p>The EPA made the following comments</p> <ol style="list-style-type: none">1. The EPA was amenable to DPC taking forward future D@S applications in line with the requirements of the Port.2. The same principles were emphasized - to ensure distinct separation of multiple Permits to ensure clarity for the enforcement of each Permits conditions (see Section 3).		
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Dublin Port Company Meeting Notes

Project Name:
CP1770_MP2 Project

Document Title:
Health and Safety Authority Meeting
Meeting on the COMAH implications for MP2

Document Date:
11/06/2018



Meeting Notes Dublin Port Company	
Meeting Meetings for:	HSA Consultation Meeting Pre-application meeting - COMAH implications for MP2
Project Title:	MP2 Project
Identifier:	CP1770
Meeting Objective:	Pre-application meeting with HSA to discuss the COMAH implications for the MP2 Project and further port development

Location:	HSA Offices, South Mall, Cork City		
Date:	06/06/2018	Time:	11.00-13:00 hours

Attendees:	Name	Acronym	Role
	Pat Conneely	PC	HSA Senior Inspector
	Angela Moriarty	AM	HSA Inspector
	Sarah Horgan	SH	DPC
	Douglas Adamson	DA	BOC
	Alan Barr	AB	RPS
	Paul Chadwick	PCh	RPS
Facilitator:	Alan Barr		
Minute Taker:	Paul Chadwick		

Item	Action	Allocated To:	Due Date:
1	Overview of the DPC Masterplan to 2040		
	<p>AB provided an overview of the Masterplan 2040 including the following elements:</p> <ul style="list-style-type: none"> • Land ownership. • Land use. • Projected Growth of the Port. • The need for significant development to accommodate growth. • Constraints on the development of the port in the marine area and the need to increase the efficiency of the existing footprint. • Overall plan to relocate non-core activities to Dublin Inland port – this excludes the bulk storage COMAH sites which will remain in their current location. • Planning and implementation of the ABR project. <p>The HSA provided no commentary on this element.</p>		
2	Description of the MP2 Project as per the information issued to the HSA in March 2018 (including the terminal building and car park)		
	<p>SH provided an overview of the main elements of the planned MP2 project as per the DPC proposals on 31st March 2018 which have been issued to the HSA in advance of the meeting including the following elements:</p> <ul style="list-style-type: none"> • Reconfiguration of the existing 4 berths to include for a 		

	<p>further berth (berth 53). All plans are based on the capacity of 3 ships at any given time to ensure capacity is maintained within the port.</p> <ul style="list-style-type: none"> • Relocation of the current passenger ferry terminals to a unified area. • Inclusion of a 4 floor terminal building (250 employees) and car park adjacent to the Calor Site (Upper Tier COMAH). • Reconfiguration of the existing 4 oil berths to be reduced to 3 with Oil Berth 3 future proofed to allow for use as a container berth also – requiring dredging of berth 3 to allow for deeper container ships. • The installation of a grade separated road network around the unified area to facilitate traffic flow. <p>The HSA raised the following queries which were addressed in the meeting:</p> <ol style="list-style-type: none"> 1. PC asked what were the oil berth design standards employed? SH confirmed that the designers (Atkins/Byrne Looby) were familiar with all standard requirements which were employed. 2. PC asked if the jetties were licenced and DA confirmed that this was the case for all four existing jetties. 3. AM asked about refuelling infrastructure for vessel in port. AB confirmed no plans for refuelling infrastructure but plans to use electrical auxiliary power supply to ships as well as LNG pipelines. 		
3	Specific issues relating to the proximity of the Terminal Building and car park to the COMAH sites (Calor in particular)	Allocated To:	Due Date:
	<p>The following outlines the key issues discussed on this topic:</p> <ul style="list-style-type: none"> • PC advised that population exposure and any changes to this exposure is the key consideration for the HSA. • PC also advised that the Land Use Planning Guidelines from the HSA are currently undergoing review. • AM presented the current contours plots from the Calor Safety Report noting the location of the Outer Zone and Inner Zone. Expressed concern that there would be an additional 250 staff working within the Inner Zone of the Calor contours. • PC advised that the development of the terminal building within this Inner Zone would be “inappropriate” and even the multi-story car park in this area would be “problematic”. • Only in the event that the Calor site significantly 		

	reduced the risk (and hence the contours) could such an operation be developed but this would prove costly to Calor.		
4	Masterplan Traffic Implications	Allocated To:	Due Date:
	<ul style="list-style-type: none"> • DA presented the findings of the analysis undertaken for the planning application for the road development which were derived from the Calor QRA. • AM queried the implications for this road development on the fire water ring main but it was concluded that this was not impacted. • PC advised that the HSA were not consulted on that project by DCC. • SH outlined traffic routes for ingress and exit to the port development. • PC noted that these routes pass a number of COMAH sites and the increased societal risk needs to be addressed in the COMAH report on MP2. 		
5	Revised MP2 proposal	Allocated To:	Due Date:
	<p>SH provided an overview of the revised MP2 proposal with a focus on the marine elements of the project (i.e. the development of the berths).</p> <p>SH advised that the terminal and multi-story car park are now removed from the scope of the revised MP2 application (SID) but may be included at a further date as non-SID applications to Dublin City Council.</p> <p>The HSA made the following comments</p> <ol style="list-style-type: none"> 1. Welcomed the revised proposal which “gets rid of a lot of headaches” around the terminal building. 2. Transport remains the main issue that needs to be addressed as outlined above. 3. Design and installation of LNG infrastructure needs to be cognisant of COMAH requirements. 4. Expressed concern about future applications to DCC given previous lack of consultation by DCC (e.g. the road project). Not on DPC’s behalf. 5. Would welcome more regular interaction between DPC and HSA on land use planning to allow for greater collaboration. 6. HSA would welcome an early copy of the COMAH report for MP2 but would not engage in any consultation prior to the ABP request under SID. 		

Dublin Port Company Meeting Notes

Project Name:
CP1770_MP2 Project

Document Title:
Foreshore Unit and Marine Institute Meeting
Foreshore Permitting

Document Date:
05/07/2018



Meeting Notes Dublin Port Company	
Meeting Meetings for:	Foreshore Unit and Marine Institute Consultation Meeting Pre-application meeting - Foreshore Permitting
Project Title:	MP2 Project
Identifier:	CP1770
Meeting Objective:	Pre-application meeting with Foreshore Unit and Marine Institute to discuss DPC's future Foreshore Permitting requirements

Location:	Marine Institute, Wilton Park House, Wilton Place, Dublin 2		
Date:	05/07/2018	Time:	11.00am – 1.00pm

Attendees:	Name	Acronym	Role
	Terry McMahon	TMcM	MI
	Edwin Mooney	EM	Foreshore Unit, DHPLG
	Matthew McLoughlin	MMcL	Foreshore Unit, DHPLG
	David Carolan	DC	Foreshore Unit, DHPLG
	Eamon McElroy	EMcE	DPC
	Alan Barr	AB	RPS
Facilitator:	Eamon McElroy		
Minute Taker:	Alan Barr		

Item	Action	Allocated To:	Due Date:
1	<p>ABR Project Capital Dredging under D@S Permit S0024-01/ Foreshore Licence MB/2016/01725</p> <p><u>Review of First Winter Season Dredging (October 2017 – March 2018)</u></p> <p>The AER 2017 was reviewed at the meeting. The Foreshore Unit and MI made the following points:</p> <ol style="list-style-type: none"> 1. The Foreshore Unit and MI were pleased to hear that the results of the monitoring were consistent with the models which demonstrated that Season 1 dredging activity had no discernible impact on turbidity levels within Dublin Bay. 2. The Foreshore Unit and MI welcomed the fact that DPC had decided to deploy the four monitoring Buoys within Dublin Bay continuously until April 2021 (including the summer months). 3. The Foreshore Unit queried if the Foreshore Licence for the 4 monitoring buoys covered the summer periods. RPS undertook to check with Techworks Marine. 	RPS/Techworks	

	<p>4. The Foreshore Unit reminded DPC of their legal requirement to notify the Admiralty of changes to the declared depth, when appropriate.</p> <p><u>Review of Second Winter Season Dredging (October 2018 – March 2019)</u></p> <p>DPC informed the Foreshore Unit and MI of ongoing preparations for the Second Winter Season Dredging Season.</p> <p>DPC advised that a CEMP Rev F – update to the Dredging Management Plan was under preparation and would be forwarded to the Foreshore Unit for their approval.</p>	DPC	
2	Maintenance Dredging under D@S Permit S0004-01/ Foreshore Licence AKC/2016/00262	Allocated To:	Due Date:
	<p>DPC informed the Foreshore Unit and MI of the March 2018 maintenance dredging campaign, the final campaign under D@S Permit S0004-01.</p> <p>Foreshore Licence AKC/2016/00262 was valid to 2019 but DPC confirmed that they would apply for both a new D@S Permit and Foreshore Licence for DPC’s future maintenance requirements.</p>		
3	Requirements for a new Maintenance Dredging Foreshore Licence	Allocated To:	Due Date:
	<p>Allowance for dredging tolerances was discussed. The Foreshore Unit and MI were agreeable to a form of words in the forthcoming Foreshore Licence to include for tolerance. It was agreed that DPC would forward draft wording to the Foreshore Unit for consideration. Draft wording for maintenance dredging required as the ABR Project advances would also be forwarded to the Foreshore Unit. The advice was to keep the wording as simple as possible.</p> <p>The approach to dealing with Class 2 sediments was discussed. MI was of the view that if the EPA Licencing section were satisfied, the MLVC were not likely to object.</p>	DPC/RPS	

	<p>The Foreshore Unit and MI confirmed that an EIAR was not required to support the Maintenance Dredging application. The existing regulations exempt maintenance dredging. It was noted however that revisions to the EIA Directive had not yet been translated into Irish Law so it was not certain whether maintenance dredging would remain exempt.</p> <p>It was confirmed that MMOs would be a condition of the Foreshore Licence.</p> <p>DPC requested that the Foreshore Licence be granted for eight years in line with the D@S Permit. The Foreshore Unit stated that a five year Licence was the norm but there was no legal requirement in place. An eight year permission would be considered.</p> <p>EMcE confirmed that DPC were targeting a submission date of December 2018. The Foreshore Unit asked that a pre-application be made but noted that a further meeting was unlikely to be required.</p>	DPC/RPS	
4	MP2 Project Capital Dredging Requirements	Allocated To:	Due Date:
	<p>DPC set out the main elements of the MP2 Project as follows, referring to consultation drawings:</p> <p>In-filling of Oil Berth 4 and creation of riverside berth.</p> <p>Construction of a new riverside berth at the eastern end of the Port using an open pile structure and dolphins.</p> <p>Creation of a manoeuvring area for vessels in the adjacent channel.</p> <p>The realignment of river Berth 52 by circa 9 degrees to accommodate new Beth 53 was discussed with a view to amending the existing ABR Project Foreshore Lease. The Foreshore Unit made the following comments</p> <ol style="list-style-type: none"> 1. Evidence would need to be provided to confirm that the existing ABR Project planning permission remained valid and that ABP did not require a new or revised planning application 		

	<p>2. Drawings would be required detailing the changes between the permitted layout and the proposed changes including any difference to the quay structure protruding into the inner Liffey channel</p> <p>3. The drawings would also need to show areas in DPC ownership and in State ownership.</p> <p>The Foreshore Unit suggested that DPC formally write to the Foreshore Unit requesting an addendum to the existing Foreshore Lease with the above information appended for consideration.</p> <p>The EIAR and NIS supporting the planning application should also support the MP2 Project Foreshore Licence/Lease/Ministerial Consent application.</p> <p>DPC confirmed that DPC was undertaking a sequential approach whereby the Foreshore application would be made shortly after receiving planning permission.</p>	DPC	
5	Longer Term Capital Dredging Requirements	Allocated To:	Due Date:
	<p>DPC referenced the DPC Masterplan 2040 and the long term goal of DPC including further capital dredging within the Port's basins to -10.0m CD and the widening and deepening of berthing pockets.</p> <p>The Foreshore Unit and MI were amenable to DPC taking forward future Foreshore applications in line with the requirements of the Port. This was preferable to one overarching application for all elements within the Masterplan because of the time constraints which would be conditioned within the consent.</p>		

Dublin Port Company Meeting Notes

**Project Name:
CP1770_MP2 Project**

**Document Title:
Consultation Meeting
Inland Fisheries Ireland**

**Document Date:
06/07/2018**



Meeting Notes Dublin Port Company	
Meeting Meetings for:	Consultation Meeting Inland Fisheries Ireland (IFI)
Project Title:	MP2 Project
Identifier:	CP1770
Meeting Objective:	Consultation meeting with IFI to discuss Fishery Issues with respect to the EIAR

Location:	IFI Headquarters, City West Campus, Dublin		
Date:	07/07/2018	Time:	11. 00am – Noon

Attendees:	Name	Acronym	Role
	Brian Beckett	BB	IFI
Roisin O'Callaghan	RO'C	IFI	
Rowan O'Brien	RO'B	IFI	
Eamon McElroy	EMcE	DPC	
Sarah Horgan	SH	DPC	
Tony McNally	TMcN	RPS	
Alan Barr	AB	RPS	
Facilitator:	Alan Barr		
Minute Taker:	Alan Barr		

Item	Action	Allocated To:	Due Date:
1			
1.1	AB outlined the ABR Project which has now been operational for 2 years and described the extent of works completed to date including quay wall construction and capital dredging. The results of the monitoring programme undertaken to date was also described.	None	
1.2	An update was also provided of the DPC Masterplan 2040, Reviewed 2018 which had been approved by the DPC Board in June 2018 and due to be published in July 2018. The MP2 Project, the next major element of the Masterplan was then introduced. The MP2 Project is consistent with the Masterplan as set out. It is likely to be within the remit of ABP as Strategic Infrastructure Development (SID).	Note	
1.3	The MP2 Project Consultation Drawings were used to describe the main elements of the MP2 Project.	Note	
1.4	A discussion then took place with respect to fishery issues within the inner Liffey channel.		

	<p>IFI noted the following</p> <ul style="list-style-type: none"> • The inner Liffey channel hosts 28 species of fish (both resident and migratory species) • There has been a marked decline in the number of salmon migrating through the inner Liffey channel. Numbers were now as low as 2,500. The causes of the decline are unknown. • The above facts highlighted the sensitivity of the inner Liffey channel and the importance of protecting its fishery interests. • The creation of hard structures such as piles, new quays and protection mattresses were considered a positive measure for creating fishery habitat. • Rough surfaces were best at encouraging marine growth. • There was an expectation that the fishery mitigation measures applied to the ABR Project would also be applied to the MP2 Project. 	<p>Note</p> <p>DPC/RPS</p>	
<p>1.5</p>	<p>EMcE outlined the fisheries research being undertaken within the Port</p> <ul style="list-style-type: none"> • DPC is working with University College Dublin to test treated tiles which encourages marine growth (part of the World Harbour Project) • DPC is a member of the Steering Group overseeing the Ecostructure Project with a view to improving fishery habitat on the North Bull Wall and Great South Wall (Ireland-Wales Co-operation Programme 2014-2020) 	<p>Note</p>	
<p>1.6</p>	<p>IFI welcomed the initiatives being undertaken. DPC confirmed that they were considering fishery enhancement measures for the MP2 Project as an additional means of offsetting the loss of benthic habitat within the Oil Berth 4 Basin.</p>	<p>DPC/RPS</p>	
<p>1.7</p>	<p>EMcE offered to send information on the research to IFI. It was agreed that further discussion would also take place with regard to IFI educational initiatives.</p>	<p>EMcE</p>	

Dublin Port Company Meeting Notes

Project Name:
CP1770_MP2 Project

Document Title:
MP2 Project Consultation Meeting
NPWS

Document Date:
02/08/2018



Meeting Notes Dublin Port Company	
Meeting Meetings for:	MP2 Project Consultation Meeting NPWS
Project Title:	MP2 Project
Identifier:	CP1770
Meeting Objective:	Pre-planning consultation meeting between Dublin Port Company and NPWS to discuss the approach to the EIAR and NIS

Location:	Dublin Port Centre		
Date:	02/08/2018	Time:	11.00am – 12.20pm

Attendees:	Name	Acronym	Role
	Linda Patton	LP	Divisional Ecologist, NPWS (with responsibility for assessing SID submissions)
	Sarah Horgan	SH	DPC (MP2 Project Manager)
	James McCrory	JMcC	RPS (NIS, terrestrial Ecology)
	Richard Nairn	RN	Natura - Sub-Consultant to RPS (Birds)
	Alan Barr	AB	RPS (EIAR Co-Ordinator)
Facilitator:	Alan Barr		
Minute Taker:	Alan Barr		

Item	Action	Allocated To:	Due Date:
1	Review of monitoring undertaken for the Alexandra Basin Redevelopment (ABR) Project		
1.1	RPS outlined the ABR Project which has now been operational for 2 years and the extent of works completed to date including quay wall construction and capital dredging.	Note	
1.2	An overview was also provided of the environmental monitoring being undertaken for the ABR Project and the key findings to date. The environmental programme is overseen by a full time on-site Facilities Manager (Dr Tony McNally, RPS) and Marine Ecologist (Clowie Russell, IWDG) The surveys comprise 1 Continuous Water Quality monitoring within the inner Liffey channel at 4 locations (turbidity, dissolved oxygen, temperature, salinity) 2 Continuous Water Quality monitoring within Dublin Bay at 4 locations (turbidity at 3 depths). This is complemented by	Note	

<p>1.3</p> <p>1.4</p>	<p>continuous wave climate and tidal current measurements.</p> <p>3 Passive Acoustic Monitoring (PAM) for Harbour Porpoise detection at 2 locations within Dublin Bay</p> <p>4 Static Acoustic Monitoring (SAM) for Harbour Porpoise detection at 4 locations within Dublin Bay</p> <p>5 Records of marine mammal sightings by MMOs during dredging and piling operations</p> <p>6 Benthic surveys of the licenced dumping at sea site at the entrance to Dublin Bay</p> <p>7 Monthly seal surveys at Bull Island</p> <p>8 Lamprey surveys within the Liffey</p> <p>9 Wintering waterbird surveys within the South Dublin Bay & River Tolka Estuary SPA</p> <p>10 Tern colony surveys</p> <p>11 Black Guillemot surveys</p> <p>12 Continuous Noise & Dust Surveys</p> <p>13 Underwater surveys during piling and dredging activities to validate models used to assess the impact on migratory fish and marine mammals.</p> <p>The site specific scientific data collected to date would be used to support the preparation of the EIAR and NIS for the MP2 Project.</p> <p>The data collected is reported annually to the Office of Environmental Enforcement, EPA and Dublin City Council. RPS undertook to provide NPWS with links to the data currently in the public domain.</p>	<p>Note</p> <p>RPS</p>	
<p>2</p>	<p>Background to the MP2 Project – DPC Masterplan 2040, Reviewed 2018</p>	<p>Allocated To:</p>	<p>Due Date:</p>
<p>2.1</p>	<p>RPS briefly outlined the DPC Masterplan 2040, Reviewed 2018 which was published in July 2018. The Masterplan Review was</p>	<p>Note</p>	

2.2	supported by a Strategic Environmental Assessment, including two phases of public consultation. RPS acknowledged NPWS's valued input to the SEA process.	Note	
2.3	The MP2 Project was the second major strategic infrastructure project to be brought forward to planning from the DPC Masterplan 2040.	Note	
3	MP2 Project (ABP Ref 29N.PC0252)	Allocated To:	Due Date:
3.1	Three Pre-planning meetings have been held with ABP. Formal confirmation is currently awaited from ABP that the MP2 Project is Strategic Infrastructure Development (SID).	Note	
3.2	The main elements of the MP2 Project were described by reference to a series of Consultation Drawings which had been made available to NPWS in advance of the meeting. 1 In-filling of Oil Berth 4 and creation of new berths for Lift On – Lift Off container freight 2 Construction of a new riverside berth at the eastern end of the North Port using an open pile structure and dolphins (Berth 53) 3 Creation of a manoeuvring area for vessels in the adjacent channel	Note	
3.3	The design evolution of the project was described including the mitigation measures proposed to ensure compliance with the requirements of the Habitats Directive within the nearby SACs and SPAs, notably the Rockabill to Dalkey Island SAC and the South Dublin Bay and Tolka Estuary SPA (including the Tern Colony on the ESB Dolphin).	Note	
3.4	The proposed date for submission of the planning application was end October 2018.	Note	
4	Discussion on the approach to the EIAR and NIS	Allocated To:	Due Date:
4.1	A discussion took place on the approach to the EIAR and NIS required to support the MP2 Project Planning Application based on the information presented at the meeting. The	RPS	

4.2	<p>following points were made</p> <p>1 It was clear that the MP2 Project could not be screening out and that a NIS would be required.</p> <p>2 The NIS should reference both Irish and EU Case Law</p> <p>3 The Biodiversity Chapter of the EIAR should include an assessment of Annex 1 species including Bats and Otters in addition to Flora Protection Order Species.</p> <p>Following the discussion It was concluded that the approach to the EIAR and NIS appeared to be robust and that there were no major concerns at this stage in the process, subject to NPWS detailed review post-planning submission.</p>	Note	
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MP2 CP1770 / CM1095

Meeting Title:	DPC MP2	Meeting No:	1
Date:	12 June 2018 ESB Offices Leopardstown		08:30
Present:	Sarah Horgan, DPC (SH) Adam Cronin, ABL (AC) Frank Farrell, ESBN (FF) Fiona O'Donnell, ESBN (FOD) John Emerson, ESBN (JE) Robert Doyle, ESBI (RD)		

Meeting Notes	Action By	Due By
<p>Project Background</p> <p>SH gave a brief overview of the MP2 project and stated the reason for this meeting was to inform ESBN of the proposed MP2 project and commence discussions in relation to current ESBN cables that cross under the River Liffey and emerge at Berth 50A/Eastern Breakwater.</p> <p>AC outlined additional draft detail relating to the proposed demolition of the Eastern Breakwater and extension of Berth 50A with respect to the existing underwater ESBN cable ducts.</p> <p>AC tabled the ESBN drawings showing the cable duct routes and cross sections, previously provided by ESBN to DPC for discussion.</p> <p>RD and FF stated that the ESBN drawings tabled were the only drawings available.</p> <p>A general discussion took place regarding proposed ESBN works in DPC lands and the surrounding areas.</p> <p>FF and FOD indicated that ESBN were open to receiving more detailed proposals regarding the proposed works at Berth 50A.</p> <p>AC stated that draft sketches would be prepared and issued to ESBN (FF) for comment for the next week or so.</p>	ABL	TBA
<p>Next Meeting TBC.</p>		

Meeting Title:	Finglas - Shellybanks 220 kV Cable Diversion	Meeting No:	2
Date:	31 st July 2018		12.00
Present:	Adam Cronin, ABL (AC) Paul Murphy, ABL (PM) Sarah Horgan, DPC (SH) Frank Farrell, ESBN (FF) Fiona O'Donnell, ESBN (FOD) Robert Doyle, ESBI (RD)		

Meeting Notes	Action By	Due By
<p>Project Background</p> <p>SH gave a brief description of the MP2 project, including what is being proposed for the Eastern Breakwater & Berth 50-A.</p> <p>SH stated that Dublin Port are proposing to remove the Eastern Breakwater structure, increase the length of Berth 50-A and increase the dredge depth along Berth 50-A.</p> <p>AC asked FF how confident are ESBN with the accuracy of the layout drawings of the cables running under Dublin Harbour / Eastern Breakwater. (Finglas – Shellybanks 220kV Feeder Cable Project, Drawing Title “Position of Ducts 1-3”, “Position of Ducts 1-5” and Hydrographic Surveys Ltd. Report “Dublin Port Finglas-Shellybanks 220kV Cable Investigation Report October 2016”. ESBN representatives did not confirm accuracy of ducts.</p> <p>SH stated that what has been issued to ESBN to date, are planning design only. Dublin Post / ABL are proposing to build a bridging structure to protect the existing ESBN services currently under the Eastern Breakwater. SH stated that detailed design of any bridging structure will be undertaken following planning permission being granted.</p> <p>AC informed FF that ABL/Dublin Port are looking for approval in principal from ESBN on the proposed bridging structure. Outlined that ESBN will be consulted further on full detailed design following planning permission being granted.</p> <p>AC stated that during the detailed design stage, an accurate site investigation will have to take place to accurately locate all 5No. ESB ducts.</p> <p>AC stated that ABL propose that any bridging structure will extend approximately 3m either side of the outer most duct to ensure all ducts have suitable protection.</p> <p>AC asked FF which ducts are currently in use, or if all 5No ducts are in use by ESBN.</p> <p>FF stated that there was one, if not two spare ducts, however, ESBN would need to ensure all ducts are maintained and not damaged for future use.</p>		

Meeting Notes	Action By	Due By
<p>FF asked ABL to forward on cross-section & elevations of the proposed works to Berth 50-A which may have an effect on the 5No. ducts. FF stated that he would circulate within ESNB for comment.</p> <p>AC stated that any anchors for the proposed sheet pile wall will be designed to avoid all contact with the rising catenary of the cables/ducts.</p> <p>FF stated that their initial thoughts he believes that ESNB would not have an objection to the distance between the dredge depth and the top of the ducts.</p> <p>FF asked for an idea of timeframes for planning permission/detailed design/construction.</p> <p>SH stated that Dublin Port are aiming to lodge planning permission in late 2018. The initial construction programme shows construction in the late 2020's.</p> <p>ABL to forward on a draft structure/bridging detail to ESNB within two days for comment/approval in principal subject to detailed design.</p>	<p>ABL</p>	<p>02/08/18</p>
<p>Next Meeting TBC.</p>		

Meeting Title:	ESB	Meeting No:	N/A
Date:	08 January 2019	Time:	
Present:	<p>S. Horgan, DPC (SH) A. Cronin, ABL (AC) A. Barr, ROS (AB) M. Byrne, ESB (MB)</p>		

Meeting Notes	Action By	Due By
<p>The purpose of this meeting was for DPC to outline the changes to the proposed dredging works as part of the MP2 project. The ESB were previously consulted regarding proposed dredging works in the vicinity of the Poolbeg power station cooling water outfall weir and channel.</p> <p>A large portion of the meeting was spent discussing ESB and other infrastructure generally on the South banks of the river. Notes of these discussions that are not relevant to MP2 are recorded in a separate minute.</p> <p>MB confirmed that more detailed drawings of the existing weir structure will be provided by ESB to DPC.</p> <p>Concrete was previously dumped behind the weir structure. This is not recorded on the drawings.</p> <p>Modelling of the ESB thermal outputs from the power station are being modelled. These will include all relevant source inputs, i.e. ESB, Irish Water, Covanta etc. ESB will make the findings of the modelling available to DPC. The model will allow for the proposed DPC South Quay developments. The model will be complete in 4/6 weeks' time.</p> <p>ESB will forward the name of the modelling company to DPC for RPS.</p> <p>ESB have a report on the accelerated corrosion of the sheet piles of the ESB cooling water channel. MB will forward a copy of this report to DPC for information.</p> <p>ESB to replace these sheet piles in 2019/2020. Programme to be confirmed. ESB need to request foreshore consent for these works from DoEHLG via DPC.</p>	<p>MB</p> <p>MB</p> <p>MB</p> <p>MB</p> <p>MB</p> <p>MB</p>	

Meeting Notes	Action By	Due By
<p>S. Horgan outlined the revisions to the proposed dredging works under MP2.</p> <p>MB stated that the ESB have no issue with the revised dredging works proposed under MP2.</p> <p>MB stated that he understood there was a tunnel structure under the Liffey where the current cables cross to Berth 50. MB to check and forward details to DPC.</p> <p>New cables will be installed by the ESB in redundant ducts running to Berth 50 in 2019.</p> <p>MB will forward maps showing location of old outfalls.</p> <p>AC to email list of documents that MB has agreed to provide to DPC.</p> <p>End</p>	<p>MB</p> <p>MB</p> <p>AC</p>	

APPENDIX 5 PROJECT SCOPING & CONSULTATION

Appendix 5-4

Land Use, Planning and Transportation

Ms Ruth Barr,
RPS Consulting Engineer,
Elmwood House,
74 Boucher Road,
Belfast,
BT 12 6RZ,
Northern Ireland.

19th July 2018

Re: Proposed Strategic Infrastructure Development Project at Dublin Port

Dear Ms Barr,

South Dublin County Council wish to acknowledge receipt of your letter and accompanying material received on the 7th June 2018 regarding the proposed Strategic Infrastructure Development Project at Dublin Port by the Dublin Port Company.

The proposed development is the second major project from the Dublin Port Masterplan 2040 and is identified as the MP2 Project which will be submitted to An Bord Pleanála towards the end of 2018.

South Dublin County Council have been requested to submit our views on the MP2 Project, particularly with regard to the scope of environmental impact assessments required and any reference information South Dublin County Council may hold which may be of assistance to the preparation of the supporting Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS).

The material provided to South Dublin County Council and the information available at mp2@dublinport.ie has clearly identified the scope of the MP2 Project and has outlined what will be provided by this project.

South Dublin County Council wishes to state from the outset that we are supportive and welcome investment from the Dublin Port Company to deliver necessary infrastructure within Dublin Port.

Strategic Spatial Context

The overall strategy for the proper planning and sustainable development of the subject area e.g. *Drawing No. 5163122-ATK-ZZ-ZZ-SK-201 – G.A. (Freeze)* falls within

Land Use, Planning and Transportation

the functional area of Dublin City Council. Future land use, proper planning and sustainable development for the subject area should only be considered in the context of National, Regional and Local Planning policies and objectives, in particular, the Dublin City Development Plan and other Local or Framework Plans that are current at the time of any proposed development.

Sustainable Transport

Dublin Port facilities are key infrastructural assets within Ireland. The Port handles nearly 50% of Ireland's trade. The predicted throughput at Dublin Port in 2040 is 77 million tonnes equating to an annual average growth rate of 3.3%. South Dublin County Council note that as part of the Masterplan 2040, a Strategic Transportation Study was undertaken to ascertain the impacts on the local and regional road network of this anticipated growth. South Dublin County Council would respectfully suggest that it may be appropriate to share further details of the findings of this study with the four planning authorities in Dublin.

Climate Change Adaption and Mitigation

The predicted impacts of climate change are likely to include increases in rainfall, increases in peak flows in rivers, a rise in sea levels and increased storminess. These effects of climate change are likely to increase coastal flooding and will require future development to be adaptable or resilient to future climatic changes and its associated impacts. The impact of Dublin Port's plans should be developed with climate change in mind to ensure future drainage and flood risk requirements, including for the impacts upstream of the rivers such as the Liffey, Dodder and Tolka etc. are taken into account.

MP2 Project

It is stated that, the MP2 Project is required to facilitate Dublin Port to maximise the efficient use of land adjacent to river berths and to facilitate the efficient operation of key aspects of port operations for Ro-Ro, Lo-Lo and passenger traffic which comprises:

- A new Berth 53
- Amendments to the previously consented Berth 52
- Berth 50 A extension
- A redevelopment of Oil Berth 3
- Infilling Oil Berth 4

Land Use, Planning and Transportation

- Capital dredging works at the new berths to create berth pockets and areas for ships to manoeuvre on and off the berth
- Associated ancillary landside works required to serve the marine side works
- A community gain proposal concerning the development of an urban farm

National Planning Framework

At a national level, South Dublin County Council considers the delivery of the Dublin Port Masterplan 2040 and the MP2 Project consistent with the objectives and vision set out in Project Ireland 2040 National Planning Framework and associated National Development Plan 2018-2027.

The National Planning Framework sets out objectives to ensure Ireland's long term economic, environmental and social progress for all parts of the country. The ultimate objectives of the National Planning Framework are to:

- *Guide the future development of Ireland taking into account a projected 1 million increase in our population by 2040.*
- *25% of population growth is planned for Dublin which is recognised as our key international global city of scale and principal economic driver.*
- *Co-ordinate delivery of infrastructure and services in tandem with growth, through joined-up NPF/ National Investment Plan and consistent sectoral plans, which will help to manage this growth and tackle congestion and quality of life issues.*
- *Facilitate the growth of Dublin Port through greater efficiency, limited expansion into Dublin Harbour and improved road access, particularly to/ from the southern port area.*

South Dublin County Council wish to support investment and redevelopment of port facilities within Dublin Port for the following reasons:

- Investment and development of Dublin Port is crucial to create an efficient port which will integrate successfully with Dublin city as a resource to help Dublin and the region to compete in a global market.
- The redevelopment of Dublin Port is required to meet certain EU regulations, specifically, climate change policies.
- The proposal takes account of the significance of Dublin Bay as an economic, recreational and ecological strategic asset and recognises the constraints presented.
- The recognition of the importance of investment to support community regeneration including the community gain proposals.
- The recognition that the population is increasing and therefore, Dublin Port's capacity must be able to meet the demand.

Land Use, Planning and Transportation

In terms of the scope required to be assessed within an EIA, South Dublin County Council would request that the Dublin Port Company ensures that the MP2 Project will be subject to the full rigour of relevant environmental assessments and appraisals required by EU and National law.

If we can be of any further assistance, or if you wish to clarify any of the points raised, please do not hesitate to contact the undersigned.

Yours Sincerely,



Jason Frehill

EA/Senior Planner

Ms. Ruth Barr
RPS Consulting Engineers
Elmwood House
74 Boucher Road
Belfast BT12 6RZ
Northern Ireland

Dáta | Date: 28 – 06 – 2018

Ár dTag | Our Ref.: TII18-102027

RE: EIAR and NIS Scoping for Proposed Strategic Infrastructure Development Project 'MP2' for Dublin Port by Dublin Port Company.

Dear Ms. Barr,

Transport Infrastructure Ireland (TII) acknowledges receipt of your communication for EIAR and NIS Scoping in respect of the above proposed project.

TII safeguards the strategic function of Luas and National Roads to promote the safe and efficient operation of both the national roads and light rail networks.

The Authority endeavours to consider and respond to planning applications and other requests referred to it given its status and duties as a statutory consultee under the Planning Acts. The issuing of this correspondence is therefore provided as best practice guidance only and does not prejudice TII's statutory right to make any observations, requests for further information, objections or appeals following the examination of any application for consent referred.

With respect to the proposed development, the recommendations indicated below provide only general guidance in relation to matters which may affect the National Road Network and may form part of your scoping and scheme preparation:

1. Dublin Port & National Road Infrastructure

Project Ireland 2040 was published by Government in February 2018 and includes the National Planning Framework to 2040 and the National Development Plan 2018-2027.

National Strategic Outcome 2 of the National Planning Framework (NPF): Ireland 2040 *Our Plan* includes the objective to maintain the strategic capacity and safety of the national roads network. It is also an investment priority of the National Development Plan (NDP) 2018 – 2027, to ensure that the extensive transport networks which have been greatly enhanced over the last two decades, are maintained to a high level to ensure quality levels of service, accessibility and connectivity to transport users.

In addition, the National Planning Framework recognises under National Strategic Outcome No. 6: *High-Quality International Connectivity* the need to improve land transport connections to the major ports and airports and includes the following infrastructure objective:

*“Improve land transport connections to the major ports including:
Facilitating the growth of Dublin Port through greater efficiency, limited expansion into Dublin harbour and improved road access, particularly to/from the southern port area;”*

Próiseáilann BIE sonraí pearsanta a sholáthraítear dó i gcomhréir lena Fhógra ar Chosaint Sonraí atá ar fáil ag www.tii.ie.
TII processes personal data in accordance with its Data Protection Notice available at www.tii.ie.

This infrastructure objective is supported by the provisions in National Development Plan (Page 41) under NSO2 "*Enhanced Regional Connectivity*" that identifies the M50 Dublin Port South Access Road as a project to be brought forward through the pre-appraisal and early planning phases.

TII therefore prioritises the need for assessment of development projects with the protection of the safety, capacity and efficiency of the Dublin Tunnel (M50) and the delivery of the future Eastern Bypass and its associated M50 Dublin Port South Access.

a) M50 Dublin Tunnel

The M50 Dublin Tunnel is one of the largest and most complex infrastructural projects to have been undertaken in the history of the State and is a critical element of the City's infrastructure. Similar to the demand for Port activities, the current economic recovery is putting increasing demand on the national road network and on the Dublin Tunnel which needs to be protected and maintained.

TII is charged with managing the operation and maintenance of the M50 Dublin Tunnel, an important aspect of which is managing its safety capacity to cater for current and future transportation citywide demands. It is in the public interest that, in so far as is reasonably practicable, that the Tunnel continues to serve its intended strategic purpose.

The lands to be developed in the 'MP2' project will rely on the Tolka Quay Road that terminates at M50 Dublin Tunnel for access and thus the protection of the safety, efficiency and capacity of the M50 must also be considered at the construction and operational phases of any upgrade of the Port.

b) Eastern Bypass and M50 South Port Access

The indicated planning application boundary at submitted drawing no. 5163122-ATK-ZZ-ZZ-SK-204 titled *MP2 Planning Boundary* extends west from the Tom Clarke Bridge (East Link Toll (R131)) and is located with the area covered by TII's Corridor Protection Study for Sector A of the Eastern Bypass (2014).

As the Port is aware, the key strategic objective in the development of the Eastern Bypass is the delivery of a north south linkage on the eastern side of Dublin City to alleviate increasing congestion on north-south routes through the city, to provide congestion relief to roads in the southern eastern quadrant of the city, address the long term access requirements of Dublin Port and to provide an alternative to the heavily trafficked M50 motorway on the west side of the city.

The provision of the Eastern Bypass is supported at all policies levels, nationally both by the NFP and NDP, regionally by the NTA's Strategy for the Greater Dublin Area 2016-2035 and also by the Dublin City Development Plan 2016-2022.

Corridor Protection Studies for Sector A (Dublin City Council Area) and also for Section B,C,D (Dun Laoghaire Rathdown County Council Area) were published by TII and issued to the relevant planning and road authorities in 2009 with revisions in 2014. The purpose of these TII Corridor Protection Studies are to define a set of appropriate guidelines for developments near or adjacent to the proposed route corridors with a view to permitting certain development of the adjacent lands without undermining the future deliverability of the motorway scheme. These publications are available at www.TII.ie

The TII Corridor Protection Study for Sector A of the Eastern Bypass 2014, relates to the section of the proposed Eastern Bypass that would lie within the Dublin Port area from the existing Dublin Tunnel to the southern shoreline of the Poolbeg Peninsula.

The M50 Dublin Port South Access road (previously referred to as the South Port Access Route) will be progressed through pre-appraisal and early planning during 2018. (Page 41 of the National Development Plan refers). Due to the required tie in with the Dublin Tunnel (M50) and long term Eastern Bypass project, TII advises that careful coordination will be required between TII, NTA, DCC

and the Dublin Port Company in the planning of the future M50 Dublin Port South Access road project.

This project will form part of the Eastern Bypass solution within Corridor Protection Study Sector A. The current TII *Dublin Eastern Bypass Corridor Protection Study Sector A: Dublin Tunnel to Sandymount Strand* will therefore continue to afford protection for the M50 Dublin Port South Access within the Eastern Bypass corridor until a decision is made on the preferred solution for the future M50 Dublin Port South Access road project.

2. Assessment Scoping

With respect to EIAR Scoping issues, the recommendations indicated below provide only general guidance for the preparation of EIAR, which may affect the National Roads Network, including future roads schemes, the Dublin Tunnel (M50) or Luas. The developer should have regard, *inter alia*, to the following;

1. As established in the DOECLG Spatial Planning and National Roads Guidelines for Planning Authorities 2012, the EIAR should identify the methods/techniques proposed for any works traversing/in proximity to the existing and future national road network in order to demonstrate that the proposed development can proceed complementary to safeguarding the capacity, safety and operational efficiency of that network.
2. The Dublin Eastern Bypass Corridor Protection Study Sector A: Dublin Tunnel to Sandymount Strand (September, 2014) should be consulted during the preparation of EIAR. An evaluation of the impact of proposals on the Dublin Eastern Bypass Corridor should be undertaken. Given the planning application boundary highlighted this process will involve cross organisational interaction between DCC, NTA, Dublin Port Company and TII.
3. Clearly identify proposed haul and operation route(s) and fully assess the national road and Luas network to be traversed. Separate structure approvals/permits and other licences may be required in connection with the proposed routes and all structures on the routes should be checked by the applicant/developer to confirm their capacity to accommodate any abnormal load proposed.
4. TII Traffic and Transport Assessment Guidelines (2014) including the requirement for Road Safety Audit (RSA) and Road Safety Impact Assessment (RSIA).
5. Assessments and design and construction and maintenance standards and guidance are available at TII Publications that replaced the NRA Design Manual for Roads and Bridges (DMRB) and the NRA Manual of Contract Documents for Road Works (MCDRW).
6. The scheme designers should have regard to TII Environment Guidelines that deal with assessment and mitigation measures for varied environmental factors and occurrences.

Having regard to the foregoing, should you require clarification of any elements of the foregoing TII would welcome pre-planning consultation directly with An Bord Pleanála and the Port Company.

Yours sincerely



Tara Spain
Head of Land Use Planning

From: [Mary Stack](#)
To: [Ruth Barr](#)
Cc: [Yvonne Jackson](#)
Subject: [EXT] Fáilte Ireland Scoping Response to Proposed Strategic Infrastructure Development Project at Dublin Port
Date: 10 July 2018 11:50:17
Attachments: [mad - lnc](#)
[mad - lnc](#)
[mad - lnc](#)
[mad - lnc](#)
[EIS & Ter](#) [lines.pdf](#)

Ruth

I wish to acknowledge receipt of your recent letter to Fáilte Ireland in relation to the Proposed Strategic Infrastructure Development Project at Dublin Port. Fáilte Ireland is fully supportive of the proposals to consolidate and reconfigure the ferry terminals at the Port. As a key access point to Ireland, this is often a visitors first impression of the country and it is important that the visitor experience is of a high quality and standard.

I attach a copy of the Fáilte Ireland Guidelines for the treatment of tourism in an EIS, which we recommend should be taken into consideration in preparing the EIS for this project and we are available for consultation at any stage of this project, see contact details below.

I would appreciate it if you could also inform us of when the planning application for this project has been lodged.

Regards,

Mary Stack

Manager- Activities Division | Fáilte Ireland

Áras Fáilte, 88-95 Amiens Street Dublin 1 DO1 WR86

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Guidelines on the treatment of tourism in an Environmental Impact Statement

1. Introduction

Tourism is a significant component of the Irish Economy – estimated to employ approximately 205,000 people – and contributing €6.6 billion in spending to the economy in 2014. The environment is one of the main resources upon which this activity depends – so it is important that the EIS evaluates whether and how the interacting impacts of a project are likely to affect tourism resources.

The purpose of this short note is to provide guidance on how these impacts can be assessed through the existing EIA process. Undertaking an EIA is governed by the EIA Advice Notes published by the EPA. These Advice Notes contain detailed guidance on how to describe and evaluate the effects arising from a range of projects, including tourism projects.

These guidelines were written with the assistance of Conor Skehan, Head of Department of Environment and Planning, Dublin Institute of Technology.

2. Tourism and the Environment

There are two interactions between tourism and the environment.

1. Impacts caused by Tourism Projects
2. Impacts affecting Tourism (e.g. the quality of a destination or a tourism activity)

Impacts caused by Tourism Projects

Tourism projects can give rise to effects on the environment. These are specifically dealt with under a number of Project Types in the Advice Notes, specifically:

12 TOURISM AND LEISURE

- a. Ski-runs, ski-lifts and cable-cars where the length would exceed 500 metres and associated developments. Project Type 20
- b. Sea water marinas where the number of berths would exceed 300 and fresh water marinas where the number of berths would exceed 100. Project Type 10

c. Holiday villages which would consist of more than 100 holiday homes outside built-up areas; hotel complexes outside built-up areas which would have an area of 20 hectares or more or an accommodation capacity exceeding 300 bedrooms. Project Type 28

d. Permanent camp sites and caravan sites where the number of pitches would be greater than 100. Project Type 28

e. Theme parks occupying an area greater than 5 hectares. Project Type 29

Figure 1 The Advice Notes contain detailed descriptions on how to describe and evaluate the effects arising from a range of tourism projects.

Impacts affecting Tourism

Environmental effects of other projects on tourism are not specifically addressed in the Advice Notes. Taking account of the significance of tourism to the Irish economy a specialist topic of 'Tourism' has been prepared to facilitate a systematic evaluation of effects on this sector within the format laid down for other parts of the Environmental Impact Statement.

It is not intended that the assessment of effects on tourism should become a separate section of the Impact Statement, instead it is intended to become a specialist sub-section of the topic 'Human Beings' which is currently described in Section 2 of the Advice Notes

3. Tourism in the Existing Environment

Introduction

Visitor attitude surveys reveal that the following factors – in order of priority – are the reasons that tourists visit and enjoy Ireland:

- Beautiful scenery
- Friendly & hospitable people
- Safe & Secure
- Easy, relaxed pace of life
- Unspoilt environment
- Nature, wildlife, flora
- Interesting history & culture
- Plenty of things to see and do
- Good range of natural attractions

It is noteworthy that over half of the factors listed are environmental and that all others are related to the way of life of the people. The following describes how these factors are considered within an EIS, set out under EIA topic headings, and how they interact with tourism.

Beautiful scenery

This is covered in the '*Landscape*' Section. Particular attention needs to be paid to effects on views from existing purpose-built tourism facilities, especially hotels, as well as views from touring routes and walking trails. It is important to note that there appears to be evidence that the visitor's expectations of 'beautiful' scenery does not exclude an admiration of new modern developments – such as windfarms – which appear to be seen as indicative of an modern, informed and responsible attitude to the environment.

Friendly & hospitable people

This is not an environmental factor though it is indirectly covered under the '*Human Beings*' section of the EIS. The principal factor is the ratio of visitors to residents. This is of less significance in areas with long-established patterns of tourism.

Safe & Secure

This is not an environmental issue – though some of the factors that are sometimes covered under the heading of '*Human Beings*' – such as social inclusion or poverty – can point to likely effects and interactions.

Easy, relaxed pace of life

This is not an environmental issue though it is partially covered under '*Human Beings*' – see comments above.

Unspoilt environment

This is covered under the sections dealing with '*Landscape*', '*Flora*' and '*Fauna*' and to a lesser extent under emissions to '*Water*' and '*Air*'. In some instances traffic congestion, especially in rural areas, can be an issue, this is usually covered within '*Material Assets*'.

Nature, wildlife, flora

This is principally covered under the headings of '*Flora*' and '*Fauna*' and to a lesser extent by '*Landscape*', '*Water*' and '*Air*'. The principal issues being to avoid any effects that might reduce the health or extent of the habitats. This can occur either directly, by impinging on the site, or indirectly, through emission, that can affect the natural resources, like clean water, which the habitat depends on. It also considers effect on physical access to and visibility of these sites. Occasionally there are concerns about the disturbance or wear and tear of visitor numbers to such sites.

Interesting history & culture

This is principally covered under '*Cultural Heritage*' and, to a lesser extent, under '*Human Beings*'. The principal issues being to avoid damage to sites and structures of cultural, historical, archaeological or architectural significance – and to their contexts or settings. It also considers effect on physical access to and visibility of these sites. Occasionally there are concerns about the wear and tear of visitor numbers to such sites.

Plenty of things to see and do.

This is not an environmental issue though it is partially covered by the 'Human Beings' section, where the tourism resources of an area are described and assessed.

Good range of natural attractions

This is covered by the 'Landscape', 'Flora', 'Fauna', and 'Cultural Heritage' sections of the EIS.

4. Project factors affecting Tourism

Introduction

Tourism can be affected both by the structures or emissions of new developments as well as by interactions between new activities and tourism activities – for example the effects of high volumes of heavy goods vehicles passing through hitherto quiet, scenic, rural areas. Tourism can be affected by a number of the characteristics of the new project such as:

- New Developments
 - Social Considerations
 - Land-uses and Activities
-
- *New Developments* - will the development stimulate or suppress demand for additional tourism development in the area? If so, what type, how much and where? Marinas, golf courses, other major sporting facilities as well as theme parks and larger conference facilities can all stimulate the emergence of new accommodation, catering and leisure facilities often within an extensive area around a new primary visitor facility. Extensive urbanisation and large scale infrastructure as well as certain processing and extractive industries all have the potential to suppress demand for additional tourism – but usually only in the immediate locality of the new development. It should be noted however, that some types of new or improved large scale infrastructure – such as roads – can improve the visitor experience – by increasing safety and comfort or can convey a sense of environmental responsibility – such as wind turbines.
 - *Social Consideration* - will the development change patterns and types of activity and land use? Will it affect the demographics, economy or social dynamics of the locality?
 - *Land-use* - will there be severance, loss of rights of way or amenities, conflicts, or other changes likely to ultimately alter the character and use of the tourism resources in the surrounding area?

Existing Tourism

In the area likely to be affected by the proposed development, the following attributes of tourism, or the resources that sustain tourism, should be described under the following headings.

Note that the detailed description and analysis will usually be covered in the section dealing with the relevant environmental topic – such as '*Landscape*'. Only the relevant finding as to the likely significance to, or effect on, tourism needs to be summarised in this section.

Context

Indicate the location of sensitive neighbouring tourism resources that are likely to be directly affected, and other premises which although located elsewhere, may be the subject of secondary impacts such as alteration of traffic flows or increased urban development. The following should be noted in particular:

- Hotels, conference centres, holiday accommodation – including holiday villages, holiday homes, and caravan parks.
- Visitor centres, Interpretive centres and theme parks
- Golf courses, adventure sport centres and other visitor sporting facilities
- Marinas and boating facilities
- Angling facilities
- Equestrian facilities
- Tourism-related specialist retailers and visitor facilities
- Historic and Cultural Sites
- Pedestrian, cycling, equestrian, vehicular and coach touring routes

Indicate the numbers of premises and visitors likely to be directly affected directly and indirectly.

Identify and quantify, where possible, their potential receptors of impacts, noting in particular transient populations, such as drivers, walkers, seasonal and other non-resident groups.

Describe any significant trends evident in the overall growth or decline of these numbers, or of any changes in the proportion of one type of activity relative to any other.

Indicate any commercial tourism activity which likely to be directly affected, with resultant environmental impacts.

Character

Indicate the occupations, activities or interests of principal types of tourism in the area. – Where relevant, describe the specific environmental resources or attributes in the existing environment which each group uses or values; where relevant, indicate the time, duration or seasonality of any of those activities. For example describe the number of guides, boats and anglers who use a salmon fishery and the duration of the salmon season as well as the quantity and type of local accommodation that is believed to be used by the anglers.

Significance

Indicate the significance of the principal tourism assets or activities likely to be affected. Refer to any existing formal or published designation or recognition of such significance. Where possible provide an estimate of the contribution of such

tourism activities to the local economy. For instance refer to the number of annual visitors to a tourism attraction or to the grading of a hotel.

Sensitivity

Describe any significant concerns, fears or opposition to the development known to exist among tourism interests. Identify, where possible, the particular aspect of the development which is of concern, together with the part of the existing tourism resource which may be threatened. For instance describe the extent of a potential visual intrusion onto a site of historic significance which is the main local tourist attraction.

5. Impacts on Tourism

"Do Nothing" Impact;

Describe how trends evident in the existing environment will continue and how these trends will affect tourism.

Predicted impact;

- Describe the location, type, significance, magnitude/extent of the tourism activities or assets that are likely to be affected.

- Describe how the new development will affect the balance between long-established and new dwellers in an area and its affect on the cultural or linguistic distinctiveness of an area. For example describe the effect of a new multi-national population required for an international call-centre located in a Gaeltacht area.

- Describe how changes in patterns of employment, land use and economic activity arising from the proposed development will affect tourism, for example, illustrating how a new industrial development will diversify local employment opportunities thereby reducing the area's unsustainable over-reliance on seasonal tourism.

- Describe the consequences of change, referring to indirect, secondary and cumulative impacts on tourism; Examples can include describing how the new development may lead to a reduced assimilative capacity for traffic or water during the peak of the tourism season or how new urbanism combined with existing patterns of tourism may lead to unsustainable levels of pedestrian traffic through a sensitive habitat.

- Describe the potential for interaction between changes induced in tourism and other uses that may affect the environment – for instance increasing new tourism-related housing affecting water resources or structures

- Describe the worst case for tourism if all mitigation measures fail.

6. Mitigating adverse impact on Tourism

Describe the mitigation measures proposed to:

- *avoid* sensitive tourism resources – such as views, access, and amenity areas including habitats as well as historical or cultural sites and structures.
- *reduce* the exposure of sensitive resources to excessive environmental burdens arising from the development's emissions or volumes of traffic [pedestrian and vehicular], and/or losses of amenity arising from visually conspicuous elements of the development – for example by prioritizing visual screening of views from a hotel towards a quarry.
- *reduce* the adverse effects to tourism land uses and patterns of activities – especially through interactions arising from significant changes in the intensity of use or contrasts of character or appearance – for example by separating traffic routes for industrial and tourism traffic.
- *remedy* any unavoidable significant residual adverse effects on tourism resources or activities, for example by providing alternative access to tourism amenities – such as waterways or monuments.

From: [Brendan Price](#)
To: [Ruth Barr](#)
Cc: eoreilly@dublinport.ie; [Brendan Price](#)
Subject: [EXT] Window on Dublin Bay... Wildlife Rescue Centre
Date: 11 June 2018 14:28:40

Hi Ruth , Eamonn,

Thank you for your notification of DPC/MP2. I'd make the same observations and introduce same caveats ,as for Alexandra Basin again.....with reference to wildlife monitoring and dredge disposal.... all in due course.

It is in hope we are not just going through the motions as I have had to over years (challenge dismissal of seals/need to push into brief of MMO for ABP etc...) and with reference to proposed urban farm I'm contacting you and appealing to your nurturing nature. Over the years (also, without response) I've encouraged DDA/DPC et al to provide rescue centre (in partnership if desired with ISS.... in Jimmy's time DPC were active in assisting rescues and hosting us to develop oil spill responses for wildlife) for wildlife and community with training and outreach functions and as part of reception for visitors to area)..... this would be much more in character with area and development and as part of UNESCO biosphere , than yet another urban farm.....instead of or in addition too!!

If you'd like to discuss further call me at 087 3245423. This would serve purpose for and promotion of wildlife of Dublin Bay/Biosphere.... seals are currently , shamefully being exported to Wexford . They present from Bay population every year and there are always casualties among birds and other wildlife of Bay for treatment, rest etc. Facility could be run under supervision by local and visiting volunteers and accessible for visits..... ISS happy to play role as required. After 30++ years of seal and wildlife rehab I can assure you of the superior benefits and CSR opportunity and publicity from such a modest facility for DPC....

" Keep it Lit ", Brendan Price M.Biol.Inst.Irl., CEO/ISS



Ruth Barr
RPS Group
Elmwood House
Boucher Road
Belfast
BT12 6RZ

20/7/2018

Uisce Éireann
Bosca OP 6000
Baile Átha Cliath 1
Éire

Irish Water
PO Box 6000
Dublin 1
Ireland

T: +353 1 89 25000
F: +353 1 89 25001
www.water.ie

RE: SID – Dublin Port

Dear Ms Barr,

Irish Water acknowledges receipt of your letter and would like to make the following comments in relation to the Proposed Strategic Infrastructure Development at Dublin Port.

If it is proposed to connect to the public water supply network, then further information (i.e. proposed water demand) is required before an assessment can be made as to whether there is sufficient water supply capacity to service the proposed development. Any connection to a public water supply or wastewater network is subject to a connection agreement with Irish Water and connected water services infrastructure must be designed and provided in accordance with Irish Water Standards and Codes of Practice. Information on the connection process is available on <https://www.water.ie/connections/>.

We also request that the project be cognisant of the existing outfall in the vicinity of the development and that Dublin Port engage with Irish Water as development plans progress. Please also see our attached scope for carrying out an EIS.

Yours Sincerely,

Suzanne Dempsey
Spatial Planning Strategy Specialist

Response to EIAR Scoping Report Requests

IW currently does not have the capacity to advise on scoping of individual projects. However, in general we would like the following aspects of Water Services to be considered in the scope of an EIAR where relevant;

- a) Impacts of the development on the capacity of water services (do existing water services have the capacity to cater for the new development if required).
- b) Any up-grading of water services infrastructure that would be required to accommodate the development.
- c) In relation to a development that would discharge trade effluent – any upstream treatment or attenuation of discharges required prior to discharging to an IW collection network
- d) In relation to the management of surface water; the potential impact of surface water discharges to combined sewer networks & potential measures to minimise/stop surface waters from combined sewers
- e) Any physical impact on IW assets – reservoir, treatment works, pipes, pumping stations, discharges outfalls etc. including any relocation of assets
- f) Any potential impacts on the assimilative capacity of receiving waters in relation to IW discharge outfalls including changes in dispersion /circulation characterises
- g) Any potential impact on the contributing catchment of water sources either in terms of water abstraction for the development (and resultant potential impact on the capacity of the source) or the potential of the development to influence/ present a risk to the quality of the water abstracted by IW for public supply.
- h) Where a development proposes to connect to an IW network and that network either abstracts water from or discharges waste water to a “protected”/sensitive area, consideration as to whether the integrity of the site/conservation objectives of the site would be compromised.
- i) Mitigation measures in relation to any of the above

This is not an exhaustive list.

Please note

- If a development will require a connection to either a public water supply or sewage collection system the developer is advised to contact Irish Water's Connections and Developer Services Team prior to applying for planning permission. The contact in the Dublin Region is Chris Smith chsmith@water.ie
- For Information on Irish Water assets please send a query to DataRequests@water.ie

Irish Water will not normally accept new surface water discharges to combined sewer networks.

Dublin Port Company, C/O Kevin Holland
Atkins Ireland Ltd
Unit 2 B
Cork Airport Business Park
Co Cork



Uisce Éireann
Bosca OP 6000
Baile Átha Cliath 1
Éire

Irish Water
PO Box 6000
Dublin 1
Ireland

T: +353 1 89 25000
F: +353 1 89 25001
www.water.ie

21 November 2018

Dear Sir/Madam,

Re: Customer Reference No 5585902018 pre-connection enquiry - Subject to contract | Contract denied
Water connection for 2 no. passenger ferry berths at Dublin Port, Alexandra Road, Dublin 1

Irish Water has reviewed your pre-connection enquiry in relation to a water connection at Dublin Port, Alexandra Road, Dublin 1, Co Dublin. Based upon the details you have provided with your pre-connection enquiry and on the capacity currently available as assessed by Irish Water, we wish to advise you that, subject to a valid connection agreement being put in place, your proposed connection to the Irish Water network can be facilitated.

You are advised that this correspondence does not constitute an offer in whole or in part to provide a connection to any Irish Water infrastructure and is provided subject to a connection agreement being signed at a later date.

A connection agreement can be applied for by completing the connection application form available at **www.water.ie/connections**. Irish Water's current charges for water and wastewater connections are set out in the Water Charges Plan as approved by the Commission for Regulation of Utilities.

If you have any further questions, please contact us on **1850 278 278** or **+353 1 707 2828, 8.00am-4.30pm, Mon-Fri** or email **newconnections@water.ie**. For further information, visit **www.water.ie/connections**

Yours sincerely,

Maria O'Dwyer
Connections and Developer Services

Stiúrthóirí / Directors: Mike Quinn (Chairman), Jerry Grant, Cathal Marley, Brendan Murphy, Michael G. O'Sullivan
Oifig Chláraithe / Registered Office: Teach Colvill, 24-26 Sráid Thalbóid, Baile Átha Cliath 1, D01 NP86 / Colvill House, 24-26 Talbot Street, Dublin 1, D01 NP86
Is cuideachta ghníomhaíochta ainmnithe atá faoi theorainn scaireanna é Uisce Éireann / Irish Water is a designated activity company, limited by shares.
Uimhir Chláraithe in Éirinn / Registered in Ireland No.: 530363

Pre-connection enquiry form

Industrial and commercial developments, mixed use

developments, housing developments, business developments



This form is to be filled out by applicants enquiring about the feasibility of a water and/or wastewater connection to Irish Water infrastructure. If completing this form by hand, please use BLOCK CAPITALS and black ink.

Please refer to the **Guide to completing the pre-connection enquiry form** on page 12 of this document when completing the form.

Section A | Applicant details

1 **WPRN number (where available):**

2 **Applicant details:**

Registered company name (if applicable):

Trading name (if applicable):

Company registration number (if applicable):

If you are not a registered company/business, please provide the applicant's name:

Contact name:

Postal address:

Eircode:

Telephone:

Mobile:

Email:

3 **Agent details (if applicable):**

Contact name:

Company name (if applicable):

Postal address:

Eircode:

Telephone:

Email:

Section C | Water connection and demand details

- 14 Is there an existing connection to public water mains at the site? Yes No
- 15 Is this enquiry for an additional connection to the one already installed? Yes No
- 16 Is this enquiry to increase the size of an existing water connection? Yes No
- 17 Is this enquiry for a new water connection? Yes No

18 Approximate date water connection is required: / /

19 Please indicate pre-development water demand (if applicable):

Pre-development peak hour water demand	N/A	I/s
Pre-development average hour water demand	N/A	I/s

Pre-development refers to brownfield sites only. Please include calculations on the attached sheet provided.

20 Please indicate the domestic water demand (housing developments only):

Post-development peak hour water demand	N/A	I/s
Post-development average hour water demand	N/A	I/s

Please include calculations on the attached sheet provided.

21 Please indicate the business water demand (shops, offices, schools, hotels, restaurants, etc.):

Post-development peak hour water demand	N/A	I/s
Post-development average hour water demand	N/A	I/s

Please include calculations on the attached sheet provided. Where there will be a daily/weekly/seasonal variation in the water demand profile, please provide all such details.

22 Please indicate the industrial water demand (industry-specific water requirements):

Post-development peak hour water demand	11.11	I/s
Post-development average hour water demand	3.47	I/s

Please include calculations on the attached sheet provided. Where there will be a daily/weekly/seasonal variation in the water demand profile, please provide all such details.

23 What is the existing ground level at the property boundary at connection point (if known) above Malin Head Ordnance Datum?

m

24 What is the highest finished floor level of the proposed development above Malin Head Ordnance Datum?

/ m

Section E | Development details

42 Please outline the domestic and/or industry/business use proposed:

Property type	Total number of units for this application
Domestic	
Office	
Residential care home	
Hotel	
Factory	
School	
Institution	
Retail unit	
Industrial unit	
Other (please specify)	Potable water bunkering for 2 no. passenger ferry berths

43 Approximate start date of proposed development:

0 1 / 0 1 / 2 0 2 2

44 Is the development multi-phased?

Yes

No

If 'Yes', application must include a master-plan identifying the development phases and the current phase number.

If 'Yes', please provide details of variations in water demand volumes and wastewater discharge loads due to phasing requirements.

Calculations

Water demand

300m³ per day allowance, up to a 40m³ per hour peak flow

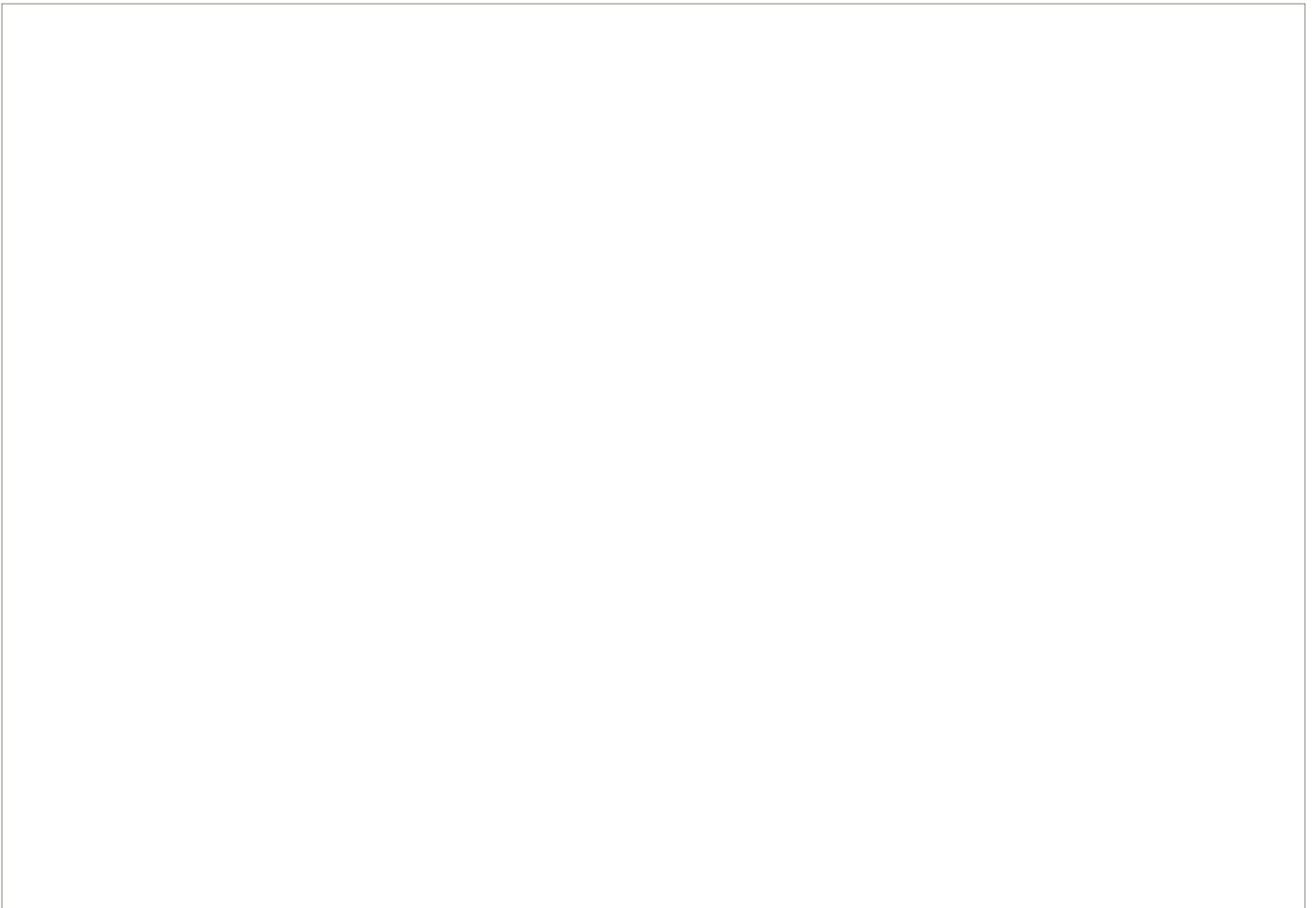
This equates to:

3.47 l/s per day and up to 11.11 l/s hourly peak flow.

On-site storage

A large, empty rectangular box with a thin black border, intended for providing details about on-site storage.

Fire flow requirements

A large, empty rectangular box with a thin black border, intended for providing details about fire flow requirements.





Guide to completing the pre-connection enquiry form

This form should be completed by applicants enquiring about the feasibility of a water and/or wastewater connection to Irish Water infrastructure.

The Irish Water Codes of Practice are available at www.water.ie for reference.

Section A | Applicant Details

- Question 1:** 'Water Point Reference Number (WPRN)' is a unique number assigned to every single water services connection in the country. The WPRN is prominently displayed on correspondence received from Irish Water, and can be found on water bills, previous connection offers, or previous enquiries in relation to the site. Existing customers and brownfield sites should have a WPRN. New customers are not required to answer this question.
- Question 2:** This question requires the applicant or company enquiring about the feasibility of a connection to identify themselves, their postal address, and to provide their contact details.
- Question 3:** If the applicant has employed a consulting engineer or an agent to manage the enquiry on their behalf, the agent's address and contact details should be recorded here.
- Question 4:** Please indicate whether it is the applicant or the agent who should receive future correspondence in relation to the enquiry.

Section B | Site details

- Question 5:** This is the address of the site requiring the water/wastewater service connection and for which this enquiry is being made.
- Question 6:** Please provide the Irish Grid co-ordinates of the proposed site. Irish grid positions on maps are expressed in two dimensions as Eastings (E or X) and Northings (N or Y) relative to an origin. You will find these coordinates on your Ordnance Survey map which is required to be submitted with an application.
- Question 7:** Please identify the Local Authority that is or will be dealing with your planning application, for example Cork City Council.
- Question 8:** Please indicate if planning permission has been granted for this application, and if so, please provide the planning permission reference number.
- Question 9:** Please specify the previous use of the site that is proposed to be developed, for example if greenfield, please state 'Agricultural'.
- Question 10:** Please specify the date that the development site was last occupied. Your answer will help us to determine the previous water usage/wastewater load of the development. If the site was previously greenfield, then this question does not need to be completed.
- Question 11:** Please provide details in relation to the ground conditions on the site if they are known to be poor, for example soil with a low bearing capacity, high water table, presence of peat, silt, etc. If a site investigation report is available, please include it with your enquiry.
- Question 12:** Please provide details in relation to contaminated land on your site (if any); this will determine what pipe material will be appropriate in the vicinity of the contaminated ground.
- Question 13:** Please indicate if the development is compliant with the local area development plan. You should contact your Local Authority in this regard and confirm same by ticking the appropriate box.

Section C | Water connection and demand details

- Question 14:** Please indicate if a water connection already exists for this site.
- Question 15:** Please indicate if this enquiry concerns an additional connection to one already installed on the site.
- Question 16:** Please indicate if you are proposing to upgrade the water connection to facilitate an increase in water demand. Irish Water will determine what impact this will have on our infrastructure.
- Question 17:** Please indicate if this enquiry concerns a new water connection for this site.
- Question 18:** Please indicate the approximate date that the proposed connection to the water infrastructure will be required.

- Question 19:** If the site was previously in use, please provide details of the pre-development peak hour and average hour water demand.
- Question 20:** Please provide calculations for domestic water demand and include your calculations on the calculation sheet provided. Demand rates (peak and average) are site specific. Average demand is the total daily volume divided by a 24-hour time period and expressed in litres per second (l/s). For design purposes, please refer to the Irish Water Codes of Practice for Water Infrastructure.
- Question 21:** If this connection enquiry concerns a business premises, please provide calculations for the water demand and include your calculations on the calculation sheet provided. Business premises include shops, offices, hotels, schools, etc. Demand rates (peak and average) are site specific. Average demand is the total daily volume divided by a 24-hour time period and expressed in litres per second (l/s). For design purposes, please refer to the Irish Water Codes of Practice for Water Infrastructure.
- Question 22:** If this connection enquiry is for an industrial premises, please calculate the water demand and include your calculations on the calculation sheet provided. Demand rates (peak and average) are site specific. Average demand is the total daily volume divided by a 24-hour time period and expressed in litres per second (l/s). The peak demand for sizing of the pipe network will be as per the specific business production requirements. For design purposes, please refer to the Irish Water Codes of Practice for Water Infrastructure.
- Question 23:** Please specify the ground level at the location where connection to the public water mains will be made. This is required in order to determine if there is sufficient pressure in the existing water infrastructure to serve your proposed development. Levels should be quoted in metres relative to Malin Head Ordnance Datum.
- Question 24:** Please specify the highest finished floor level on-site. This is required in order to determine if there is sufficient pressure in the existing water infrastructure to serve your proposed development. Levels should be quoted in metres relative to Malin Head Ordnance Datum.
- Question 25:** If storage is required, water storage capacity of 24-hour water demand must usually be provided at the proposed site. In some cases, 24-hour storage capacity may not be required, for example 24-hour storage for a domestic house would be provided in an attic storage tank. Please calculate the 24-hour water storage requirements and include your calculations on the attached sheet provided. Please also confirm that on-site storage is being provided by ticking the appropriate box.
- Question 26:** The water supply system shall be designed and constructed to reliably convey the water flows that are required of the development including fire flow requirements by the Fire Authority. The Fire Authority will provide the requirement for fire flow rates that the water supply system will have to carry. Please note that while flows in excess of your required demand may be achieved in the Irish Water network and could be utilised in the event of a fire, Irish Water cannot guarantee a flow rate to meet your fire flow requirement. To guarantee a flow to meet the Fire Authority requirements, you should provide adequate fire storage capacity within your development. Please include your calculations on the attached sheet provided, and further provide confirmation of the Fire Authority requirements.
- Question 27:** Please identify proposed additional water supply sources, that is, do you intend to connect to the public water mains or the public mains and supplement from other sources? If supplementing public water supply with a supply from another source, please provide details as to how the potable water supply is to be protected from cross contamination at the premises.

Section D | Wastewater connection and discharge details

- Question 28:** Please indicate if a wastewater connection to a public sewer already exists for this site.
- Question 29:** Please indicate if this enquiry relates to an additional wastewater connection to one already installed.
- Question 30:** Please indicate if you are proposing to upgrade the wastewater connection to facilitate an increased discharge. Irish Water will determine what impact this will have on our infrastructure.
- Question 31:** Please indicate if this enquiry relates to a new wastewater connection for this site.
- Question 32:** Please specify the approximate date that the proposed connection to the wastewater infrastructure will be required.
- Question 33:** If the site was previously in use, please provide details of the pre-development peak and average wastewater discharge.

- Question 34:** Please provide calculations for domestic wastewater discharge and include your calculations on the attached sheet provided. Discharge rates (peak and average) are site specific. Average discharge is the total daily volume divided by a 24-hour time period and expressed in litres per second (l/s). For design purposes, please refer to the Irish Water Codes of Practice for Wastewater Infrastructure.
- Question 35:** If this enquiry relates to a business premises, please provide calculations for the wastewater discharge and include your calculations on the attached sheet provided. Business premises include shops, offices, hotels, schools, etc. Discharge rates (peak and average) are site specific. Average discharge is the total daily volume divided by a 24-hour time period and expressed in litres per second (l/s). For design purposes, please refer to the Irish Water Codes of Practice for Wastewater Infrastructure.
- Question 36:** If this enquiry relates to an industrial premises, please provide calculations for the wastewater discharge and include your calculations on the calculation sheet provided. Discharge rates (peak and average) are site specific. Average discharge is the total daily volume divided by a 24-hour time period and expressed in litres per second (l/s). The peak discharge for sizing of the pipe network will be as per the specific business production requirements. For design purposes, please refer to the Irish Water Codes of Practice for Wastewater Infrastructure.
- Question 37:** Please specify the maximum and average concentrations and the maximum daily load of each of the wastewater characteristics listed in the wastewater organic load table (if not domestic effluent), and also specify if any other significant concentrations are expected in the effluent. Please complete the table and provide additional supporting documentation if relevant. Note that the concentration shall be in mg/l and the load shall be in kg/day. Note that for business premises (shops, offices, schools, hotels, etc.) for which only domestic effluent will be discharged (excluding discharge from canteens/restaurants which would require a Trade Effluent Discharge licence), there is no need to complete this question.
- Question 38:** In exceptional circumstances, such as brownfield sites, where the only practical outlet for storm/surface water is to a combined sewer, Irish Water will consider permitting a restricted attenuated flow to the combined sewer. Storm/surface water will only be accepted from brownfield sites that already have a storm/surface water connection to a combined sewer and the applicant must demonstrate how the storm/surface water flow from the proposed site is minimised using sustainable urban drainage system (SUDS). This type of connection will only be considered on a case by case basis. Please advise if the proposed development intends discharging surface water to the combined wastewater collection system. If so, please submit detailed calculations in relation to attenuation volumes, peak discharges and total discharge volumes.
- Question 39:** Please specify if the development needs to pump its wastewater discharge to gain access to Irish Water infrastructure.
- Question 40:** Please specify the ground level at the location where connection to the public sewer will be made. This is required to determine if the development can be connected to the public sewer via gravity discharge. Levels should be quoted in metres relative to Malin Head Ordnance Datum.
- Question 41:** Please specify the lowest floor level of the proposed development. This is required in order to determine if the development can be connected to the public sewer via gravity discharge. Levels should be quoted in metres relative to Malin Head Ordnance Datum.

Section E | Development details

- Question 42:** Please specify the number of different property/premises types by filling in the table provided.
- Question 43:** Please indicate the approximate commencement date of works on the development.
- Question 44:** Please indicate if a phased building approach is to be adopted when developing the site. If so, please provide details of the phase master-plan and the proposed variation in water demand/wastewater discharge as a result of the phasing of the development.

Section F | Supporting documentation

Please provide additional information as listed.

Section G | Declaration

Please review the declaration, sign, and return the completed application form to Irish Water by email or by post using the contact details provided in Section G.

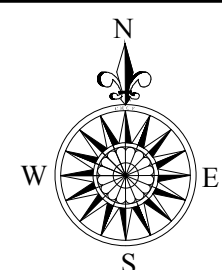
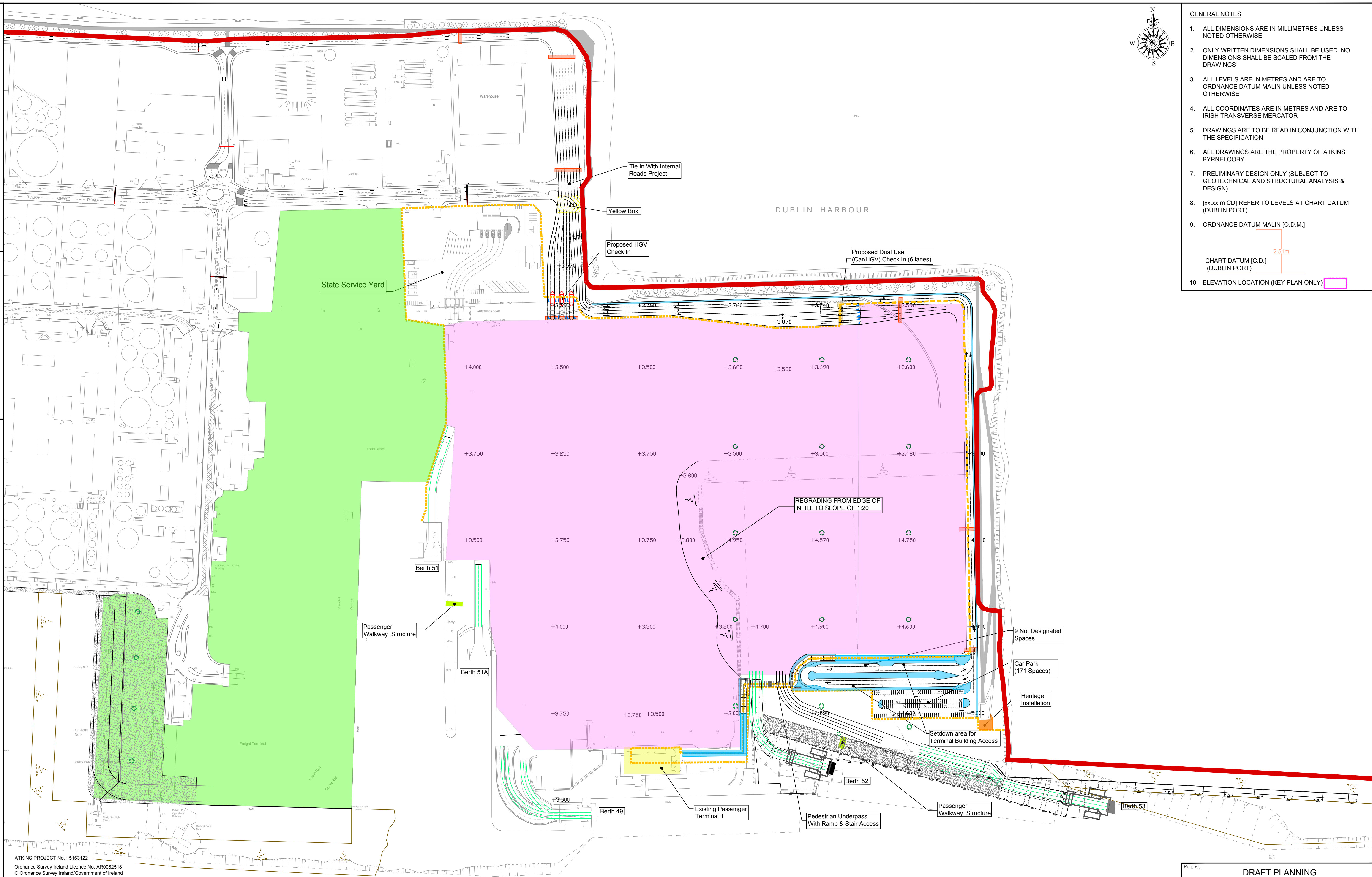
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DO NOT SCALE

A1

File: CP1770-ATK-01-ZZ-M2-CE-0001 Proposed General Arrangement - Landside.dwg
Date: Sep 28, 2018 - 6:17pm Plotted by: modonovan



- GENERAL NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
 2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
 3. ALL LEVELS ARE IN METRES AND ARE TO ORDNANCE DATUM MALIN UNLESS NOTED OTHERWISE
 4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
 5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION
 6. ALL DRAWINGS ARE THE PROPERTY OF ATKINS BYRNELOOBY.
 7. PRELIMINARY DESIGN ONLY (SUBJECT TO GEOTECHNICAL AND STRUCTURAL ANALYSIS & DESIGN).
 8. [xx.xx m CD] REFER TO LEVELS AT CHART DATUM (DUBLIN PORT)
 9. ORDNANCE DATUM MALIN [O.D.M.]
 10. ELEVATION LOCATION (KEY PLAN ONLY)
- CHART DATUM [C.D.] (DUBLIN PORT) 2.51m

ATKINS PROJECT No. : 5163122
Ordnance Survey Ireland Licence No. AR0082518
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<ul style="list-style-type: none"> PLANNING BOUNDARY SECURITY LINE * UNIFIED FERRY TERMINAL MARSHALLING/STAGING AREA CONTAINER TERMINAL MARSHALLING/STAGING AREA 	<ul style="list-style-type: none"> PROPOSED ROAD LAYOUT PROPOSED RAMPS TO BERTHS PROPOSED GANTRIES WITH VMS AND STATIC SIGNAGE * PROPOSED 30m HIGHMAST LIGHTING PROPOSED 15m HIGHMAST LIGHTING 	<ul style="list-style-type: none"> PROPOSED PEDESTRIAN FOOTPATHS EXISTING OVERHEAD GANTRIES
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DRAFT

* REFER TO CP1770-ATK-01-ZZ-M2-CE-0051 FOR TYPICAL DETAILS

Rev	Description	By	Date	Chk'd	Auth
0	INITIAL ISSUE	PK	09.18	MOD	KH

Member of the SNC-Lavalin Group

ÁTHA CLIAH DUBLIN PORT COMPANY

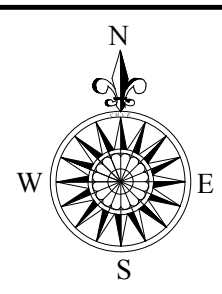
Project: MP2

Purpose: DRAFT PLANNING					
Title: PROPOSED GENERAL ARRANGEMENT LANDSIDE					
Original Scale: 1:2000	Design/Drawn: PK	Checked: MOD	Authorized: KH		
Status: DP	Drawing Number: CP1770-ATK-01-ZZ-M2-CE-0001	Date: 21.09.18	Date: 21.09.18	Date: 21.09.18	Rev: 0

A1

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 8. [xx.xx m CD] REFER TO LEVELS AT CHART DATUM (DUBLIN PORT)
 9. ORDNANCE DATUM MALIN [O.D.M.]
- CHART DATUM [C.D.] (DUBLIN PORT) 2.51m
10. ELEVATION LOCATION (KEY PLAN ONLY)

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- LEGEND:**
- Planning Boundary
 - Existing Watermain
 - Proposed 200mm Ø Watermain
 - Existing Watermain To Be Removed

DRAFT

0	INITIAL ISSUE	PK	09.18	MOD	KH
Rev	Description	By	Date	Chk'd	Auth

ATKINS
Member of the SNC-Lavalin Group

BYRNELOOBY

Client
**COMHLACHT CHALAFOR
ÁTHA CLIATH
DUBLIN PORT COMPANY**

Project
MP2

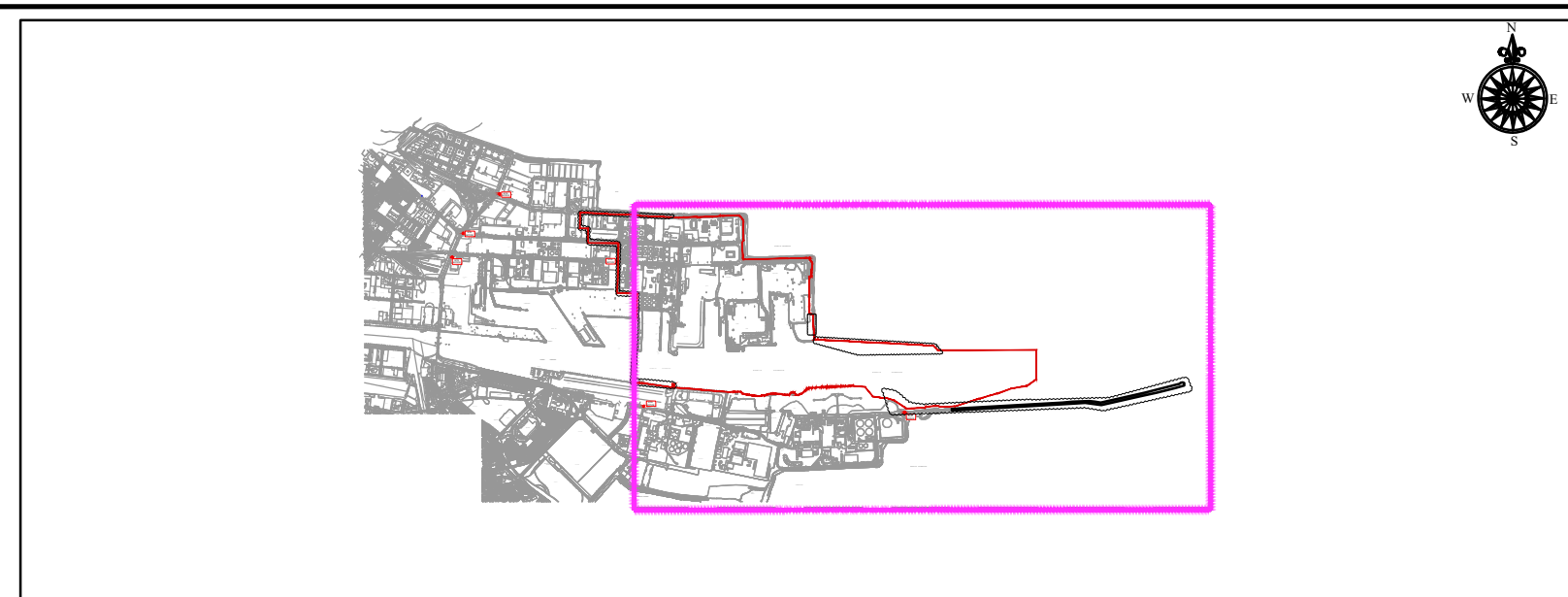
Purpose		DRAFT PLANNING			
Title		WATER NETWORK			
Original Scale	Design/Drawn	Checked	Authorised		
1:2000	PK Date 03.09.18	KH Date 03.09.18	KH Date 03.07.18		
Status	Drawing Number	Rev			
DP	CP1770-ATK-01-ZZ-M2-CE-2701	0			

A1

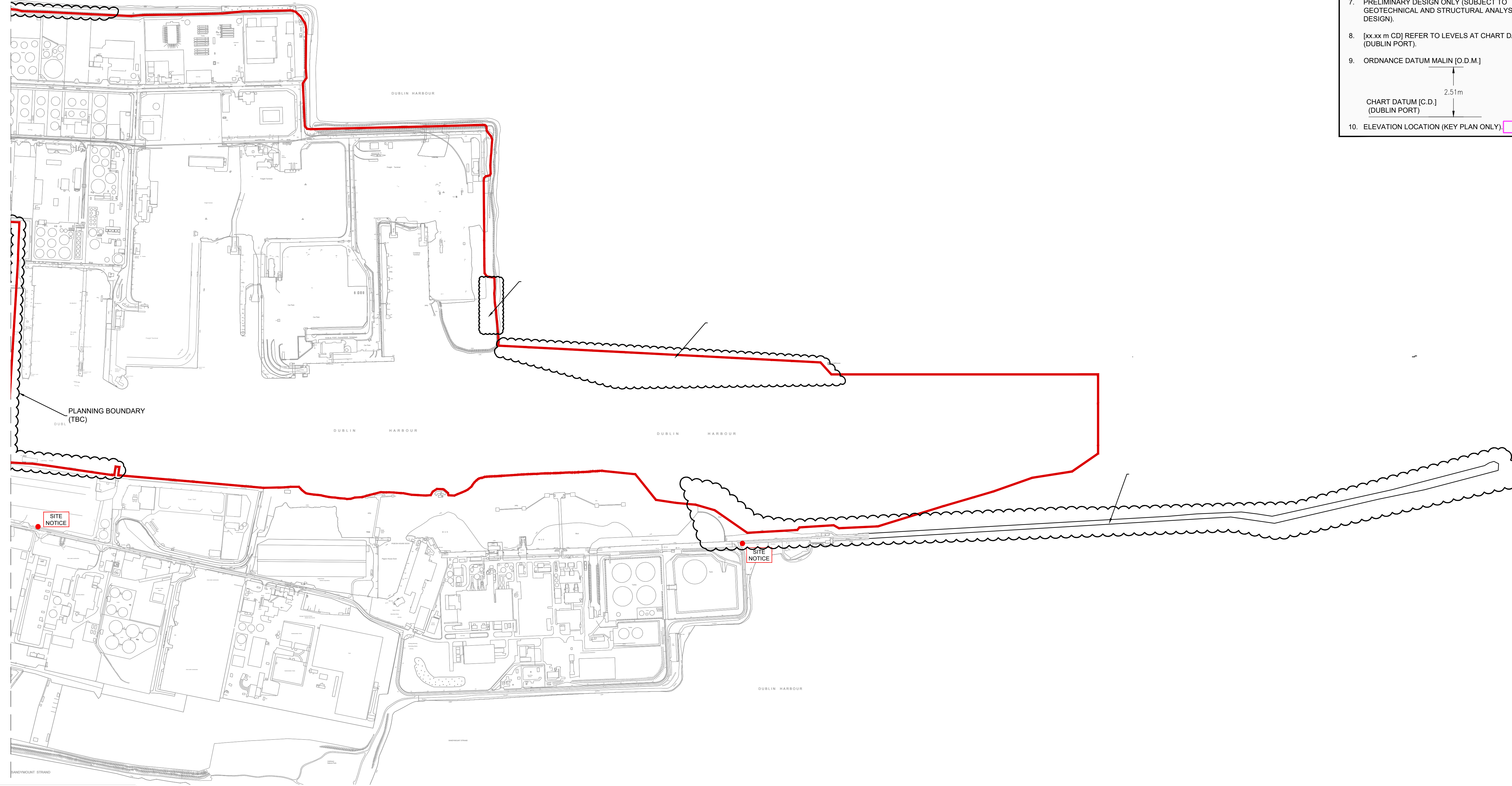
DO NOT SCALE

File: CP1770-BLP-ZZ-ZZ-M2-MA-0003-00 Existing Site Layout Plan Sheet 2 of 2.dwg

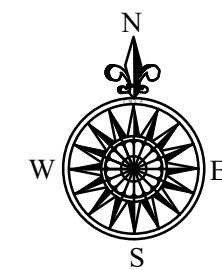
Date: Sep 28, 2018 - 4:18pm Plotted by: TUOConnell



KEY PLAN SHOWING LOCATION (Scale 1:50,000)

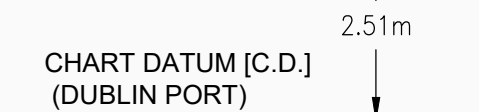


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9. ORDNANCE DATUM MALIN [O.D.M.]
10. ELEVATION LOCATION (KEY PLAN ONLY)



- PLANNING BOUNDARY UNDER THIS APPLICATION
- SITE NOTICES

DRAFT

Rev	Description	By	Date	Chk'd	Auth
00	INITIAL ISSUE	TJOC	09.18	SMC	AC

ATKINS
Member of the SNC-Lavalin Group

BYRNELOOBY

Client
**COMHLACHT CHALAFOR
ÁTHA CLIATH
DUBLIN PORT COMPANY**

Project
MP2

Purpose DRAFT PLANNING					
Title SITE LAYOUT					
Original Scale 1:5000 @A1	Design/Drawn PM Date 28.09.18	Checked SMC Date 28.09.18	Authorised AC Date 28.09.18		
Status DP	Drawing Number CP1770-BLP-ZZ-ZZ-M2-MA-0003	Rev 00			

From: [Donncha O'Sullivan](#)
To: [Ruth Barr](#)
Cc: [Chris Dillon \(C\)](#); [Jim Brohan \(James\)](#)
Subject: [EXT] Dublin Port MP2 Project
Date: 08 June 2018 11:00:31
Attachments: [GNI-D 17.pdf](#)
[Code of Practice 2015.pdf](#)
[A5 Safety advice for W2](#) [G1 Gas Pipelines A5.pdf](#)

Ruth,

You recently contacted Gas Networks Ireland in regard to the above referenced project and its infrastructure in the vicinity of same. The Gas Transmission Pipelines in the general area of interest to you are shown, in **RED**, on the drawing attached. Please treat all Gas Networks Ireland Drawings as 'indicative' only.

To verify the *in situ* position of the Gas Transmission Pipelines please contact Chris Dillon, 087-927 9284, chris.dillon@gasnetworks.ie. All work in the vicinity of a Gas Transmission Pipeline must be completed in compliance with the attached 'Code of Practice 2015'.

You will see from the attached drawing that the MP2 Project should not present any conflict with the GNI Gas Transmission Pipelines in the vicinity but it is as well you are aware of the presence of such infrastructure nearby as not.

The Gas Distribution Network in the vicinity is shown, in **GREEN** and/or in **BLUE** on the drawing attached. Please refer to the attached *Safety Advice Booklet* for guidance on working in the vicinity of this infrastructure.

Regards,

Donncha

Donncha Ó Sullivan BE CEng MIEI MIGEM
Development Liaison Engineer

Gas Networks Ireland
P.O. Box 51, Gasworks Road, Cork, Ireland

T +353 21 453 4613 | **M** +353 87 982 2437
E donncha.osullivan@gasnetworks.ie

gasnetworks.ie | Find us on [Twitter](#)

You are reminded that all work in the vicinity of Gas Networks Ireland Pipelines and Installations must be completed to comply fully with the relevant guidelines to be found in the current editions of the Health & Safety Authority publications, 'Code Of Practice For Avoiding Danger From Underground Services' and 'Guide To Safety In Excavations'. Both documents are available free of charge from The Health And Safety Authority. www.hsa.ie, 1890-28 93 89.

Tá an fhaisnéis á seachadadh dírithe ar an duine nó ar an eintiteas chuig a bhfuil sí seolta amháin agus féadfar ábhar faoi rún, faoi phribhléid nó ábhar atá íogair ó thaobh tráchtála de a bheith mar chuid de. Tá aon athsheachadadh nó scaipeadh den fhaisnéis, aon athbhreithniú ar nó aon úsáid eile a bhaint as, nó aon ghníomh a dhéantar ag brath ar an bhfaisnéis seo ag daoine nó ag eintitis nach dóibh siúd an fhaisnéis seo, toirimiscthe agus féadfar é a bheith neamhdhleathach. Níl Líonraí Gáis Éireann faoi dhliteanas maidir le seachadadh iomlán agus ceart na faisnéise sa chumarsáid seo nó maidir le haon mhoill a bhaineann léi. Ní ghlacann Líonraí Gáis Éireann le haon dliteanas faoi ghnímh nó faoi iarmhairtí bunaithe ar úsáid thoirmiscthe na faisnéise seo. Níl Líonraí Gáis Éireann faoi dhliteanas maidir le seachadadh ceart agus iomlán na faisnéise sa chumarsáid seo nó maidir le haon mhoill a bhaineann léi. Má fuair tú an teachtaireacht seo in earráid, más é do thoil é, déan teagmháil leis an seoltóir agus scríos an t-ábhar ó gach aon ríomhaire.

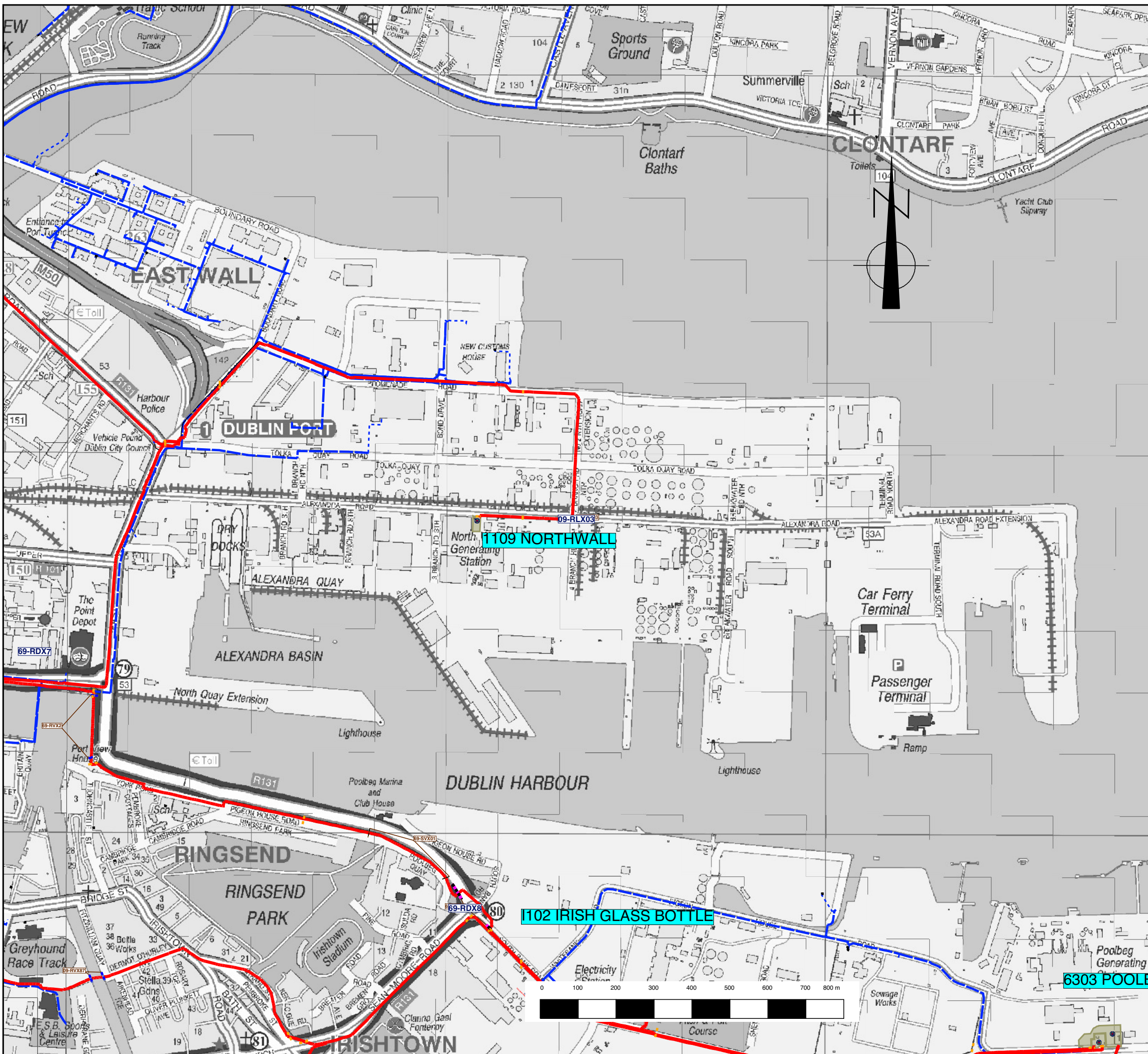
Féadfar ríomhphost a bheith soghabhálach i leith truaillithe, idircheaptha agus i leith leasaithe neamhúdraithe. Ní ghlacann Líonraí Gáis Éireann le haon fhreagracht as athruithe nó as idircheapadh a rinneadh ar an ríomhphost seo i ndiaidh é a sheoladh nó as aon dochar do chórais na bhfaighteoirí déanta ag an teachtaireacht seo nó ag a ceangaltáin. Más é do thoil é, tabhair faoi deara chomh maith go bhféadfar monatóireacht a dhéanamh ar theachtairachtaí chuig nó ó Líonraí Gáis Éireann chun comhlíonadh le polasaithe agus le caighdeáin Líonraí Gáis Éireann a chinntiú agus chun ár ngnó a chosaint. Líonraí Gáis Éireann cuideachta ghníomhaíochta ainmnithe, faoi theorainn scaireanna, atá corpraithe in Éirinn leis an uimhir chláráithe 555744 agus a tá hoifig chláráithe ag Bóthar na nOibreacha Gáis, Corcaigh, T12 RX96.

Go raibh maith agat as d'aird a thabhairt.

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Important Safety Notice:
 Damage to gas pipelines can result in serious injury or death. Gas network information is provided as a general guide. The exact location and depth of medium or low pressure distribution gas pipes must be verified on site by carrying out necessary investigations, including, for example, hand digging trial holes along the route of the pipe.
 Service pipes are not generally shown but their presence should always be anticipated.

High pressure transmission pipelines are shown in red. If a transmission pipeline is identified within 10m of any intended excavations then work must not proceed before GNI has been consulted. The true location and depth of a transmission pipeline must be verified on site by a representative of GNI. Contact can be made through 1850 427 747.

All work in the vicinity of the gas network must be completed in accordance with the current edition of the Health & Safety Authority publication, Code of Practice For Avoiding Danger From Underground Services which is available from the Health and Safety Authority (1890 289 389) or can be downloaded at www.hsa.ie.

Legal Notice:
 Gas Networks Ireland (GNI) and its affiliates, accept no responsibility for the accuracy of any information contained in this document including data concerning location and technical designation of the gas distribution and transmission network (the Information). The Information should not be relied on for accurate distance or depth of cover measurements.

Any representations and warranties, express or implied, are excluded to the fullest extent permitted by law. No liability shall be accepted for any loss or damage including, without limitation, direct, indirect or consequential loss, arising out of or in connection with the use or re-use of the Information.

Pipelines	Fittings	Cathodic Protection	Miscellaneous
Transmission Pipe (As-laid)	Bend	CP AC Discharge	Landowner Boundary
Transmission Heavy Wall Pipe	Cover	CP Anode	Townland Boundary
Transmission Pipe (Construction)	Dome End	CP Cable	Crossing Intersection (Road)
Transmission Pipe (Decommissioned)	Nitrogen Fill Point	CP High Voltage Earthing	Land Drain
	Pipe Support	CP Insulation Joint	Electrical Utility
	Pipeline Marker Post	CP Lug	Water Utility
	Port	CP Transformer Rectifier	Telecom Utility
	Protection	CP Marker	Foul Water
	Reducer		Duct
	Tee		Archaeological Site
	Transition		Ground Condition
	Valve		Installation (Location)
	Weld		Installation (Coverage)
			Associated Drawing File
			Associated Drawing File (Bar Chart)
			Customer
			Leak Survey (1 Month)
			Leak Survey (1 Year)
			Incident
			Data Capture Problem Point
			Trigonometric Control Point

Design Department - CORK			
GAS TRANSMISSION NETWORK INFORMATION			
Issue:	H O'B - GNI/DLE/4597		
Location:	Dublin Port North		
Plot Date:	08/06/18	Contact:	021-453 4562
Plotted by:	D O'S	Scale:	1:10000

Code of Practice for: Working in the Vicinity of the Transmission Network

Procedure No: AO/PR/127

Rev 1

Date: October 2015



1	SAFETY PROCEDURE IN THE CASE OF DAMAGE TO THE TRANSMISSION PIPELINE	6
2	DEFINITIONS	6
3	SCOPE	7
4	PURPOSE	7
5	FORMAL CONSENT	7
6	INDEMNITY	7
7	ROLE OF GNI INSPECTOR	8
8	DESIGN CONSIDERATIONS FOR PROPOSED WORKS	8
8.1	Services Crossing Transmission Pipelines	8
8.2	Services Parallel to Transmission Pipelines	8
8.3	Cathodic Protection	8
8.4	Installation of Electrical Equipment	9
8.5	Slabbing and other Protective Measures.....	9
8.6	Changes to Depth of Cover	9
9	GENERAL CONSIDERATIONS FOR PROPOSED WORKS	9
9.1	GNI Protective Measures	9
9.2	Gaseous Atmospheres	9
9.3	Inductions	9
9.4	Method Statements.....	9
9.5	Identification of Transmission Pipeline Route	9
9.6	Handheld Power Assisted Tools	9
9.7	Hot Work.....	10
9.8	Induced Voltage	10
9.9	Construction Traffic.....	10
9.10	Lifting.....	10
9.11	Storing Materials	10
9.12	Fires	10
10	PRELIMINARY WORKS	10
10.1	Demarcation.....	10
10.2	Surface Stripping.....	11
11	EXCAVATIONS.....	11
11.1	Plant/Equipment Limitations	11
11.2	Exposed Pipeline Protection	12
11.3	Pipeline support.....	12
12	BACKFILLING	12
13	ABOVE GROUND INSTALLATIONS.....	12
13.1	PPE Requirements	12
13.2	Above ground pipework with ancillary connections	12
13.3	Above ground pipework without ancillary connections	13
13.4	Plant and Machinery	13
14	SPECIFIC ACTIVITIES	13
14.1	Trenchless Techniques	13
14.2	Piling	13
14.3	Surface Mineral Extraction.....	13
14.4	Land filling	14
14.5	Demolition	14

Working in the Vicinity of the Transmission Network

Procedure No: **AO/PR/127**

Rev 1

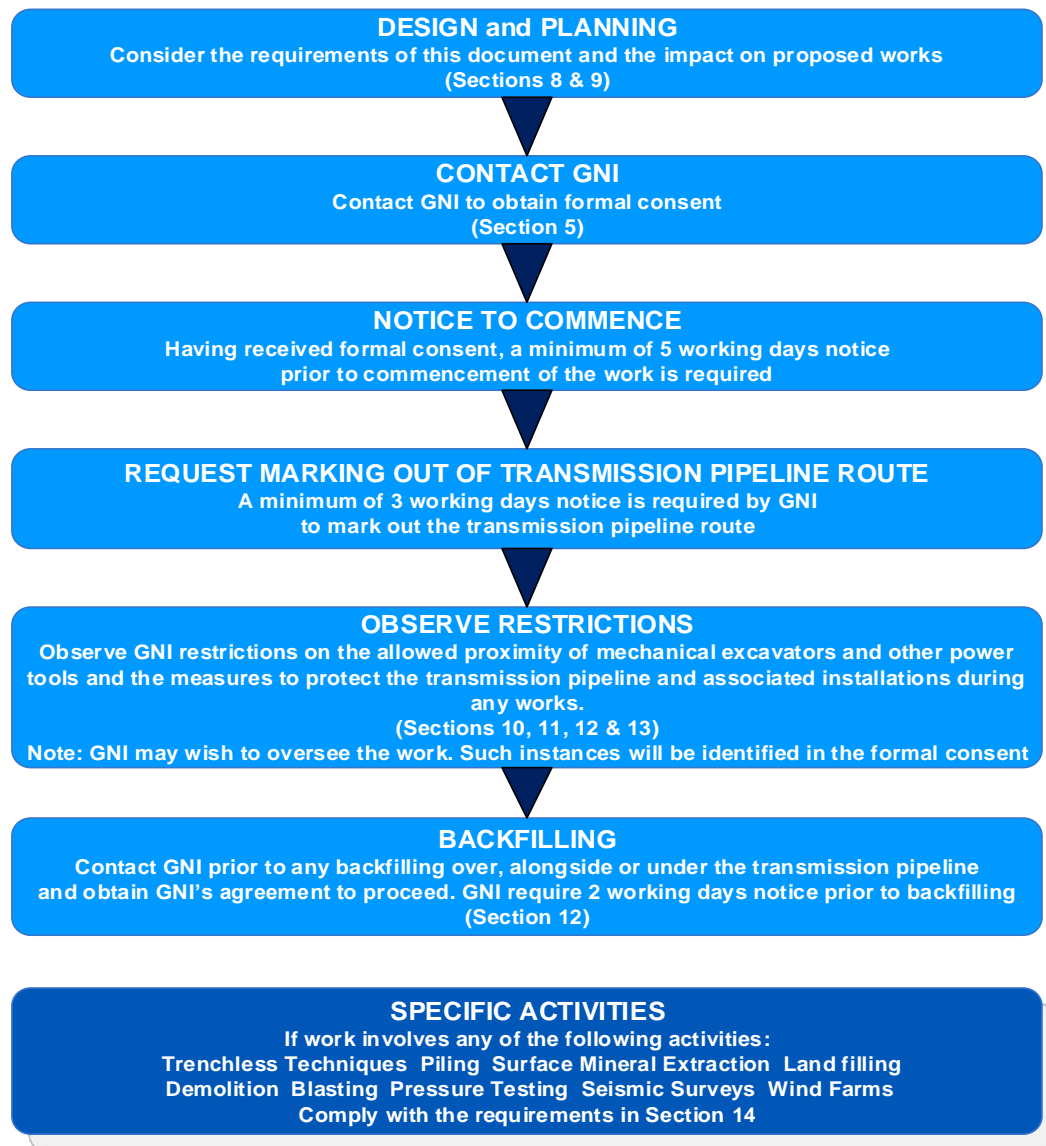
Date: October 2015



14.6	Blasting	14
14.7	Pressure Testing	14
14.8	Seismic Surveys.....	14
14.9	Wind Farm Development	14
15	REFERENCE DOCUMENTS	14

WHEN CARRYING OUT WORK IN THE VICINITY OF THE TRANSMISSION NETWORK FOLLOW THE FOLLOWING PROCESS

IMPORTANT: Flowchart should be used in conjunction with this Code of Practice and not in isolation. If at any time during the works the transmission network is damaged, even slightly, then observe the precautions in Section 1 of this document.



IF IN DOUBT CONTACT GNI

Foreword

Compliance with this Code of Practice does not confer immunity from prosecution for breach of statutory or other legal obligations.

This code of practice does not cover emergency work or normal agricultural work (as defined below), but it is recommended that in such cases the requirements of the code should be observed as far as possible.

Any damage to a transmission pipeline or its coating can affect its integrity and can result in failure of the transmission pipeline with potentially serious hazardous consequences for individuals located in the vicinity of the transmission pipeline. It is therefore essential that the procedures outlined in this document are complied with when working near the transmission network.

Failure to apply for consent and/or to comply fully with this Code of Practice to the satisfaction of GNI may result in the commencement of legal proceedings by Gas Networks Ireland to stop such works.

Activities associated with working in the vicinity of the transmission network may impact on the safety of the general public, site workers, GNI staff and contractors, and may affect the local environment. All Third Parties working close to the transmission network shall carry out suitable and adequate risk assessments prior to the commencement of work to ensure that all such issues are properly considered and risks mitigated.

Contractors and other users external to GNI should direct their requests for further copies of GNI engineering documents to Gas Networks Ireland.

1 SAFETY PROCEDURE IN THE CASE OF DAMAGE TO THE TRANSMISSION NETWORK

If the GNI transmission network is damaged or leaking, the following precautionary measures shall be taken immediately:

- In the event of gas leakage do not switch any machinery on or off in the vicinity of the leak.
- Prohibit smoking, the use of naked flames, the use of electrical switches, the use of mobile phones and the use of all other ignition sources in the vicinity of the leak/damage.
- Evacuate all personnel away from and upwind of the affected area.
- Ensure that no one approaches the affected area without the consent of Gas Networks Ireland.
- Once clear of the area, report all damage or leakage, however minor it may appear, to the GNI **24hr Emergency Service on 1850 205050**.
- Do not attempt to repair the damage or stop the leak.

Note: Any damage to the coating of a GNI transmission pipeline, no matter how apparently insignificant, shall be brought to the attention of GNI in order to carry out repairs. Minor damage to pipe coating and/or ancillary connections brought to the attention of GNI will be repaired free of charge.

2 DEFINITIONS

For the purpose of this Code of Practice the following definitions shall apply:

GNI:

Gas Networks Ireland.

GNI Inspector:

The person appointed from time to time by GNI, to act as the GNI Representative on site, to ensure compliance with this Code of Practice.

Third Party:

The promoter of New Works, the person or persons, firm, company or authority for whom new services or other works are being provided, including their servants, agents and contractors.

Wayleave:

A strip of land, upon and over which GNI has, under the terms of Gas Act (1976 as amended), acquired the rights to lay, construct, inspect, maintain, protect, use, replace, remove or render unusable a main or pipe for the transmission or storage of gas or other materials connected with the exercise and performance of the functions of GNI and all necessary apparatus ancillary thereto. The wayleave can extend up to 9 metres either side of the transmission pipeline.

A GNI wayleave is a legal burden on the title of the property within which it exists and is noted as such on the relevant Land Registry Folio.

Normal Agricultural Works

For the purpose of this Code of Practice, 'Normal Agriculture Works' are such works which do not involve the use of

- a) Excavators (tracked or wheeled) irrespective of the proposed excavation depth, or
- b) Other mechanical soil penetrating machines such as fence post augers.

Installation

GNI transmission installations are primarily above ground (AGI) with a number below ground (UGI) comprising some or all of the following: Main stream pipework, control pipework, telemetry, instrumentation, boiler houses, analyser kiosks, generators and services.

Hot Works

Hot works is any tool, equipment and/or activity, which produces sparks, fire or has the potential to cause fires or explosions including, but not limited to, electric/battery powered tools, welding, cutting, brazing, soldering, grinding, etc.

3 SCOPE

This Code of Practice sets out the requirements and considerations for the design, construction and maintenance of services and/or structures and other works in the vicinity of existing Gas Networks Ireland (GNI) Gas transmission pipelines and associated Installations located in both Wayleaves and public roadways.

4 PURPOSE

The purpose of this Code of Practice is to:

- Set out considerations for the design, planning and execution of works.
- Advise on the GNI procedures associated with works.
- Identify the measures to be taken to ensure the integrity of the gas network, and
- Assist in ensuring the safety of persons involved in the works.

5 FORMAL CONSENT

5.1 Work shall not be undertaken within a wayleave, installation, or within 3 meters either side of a transmission pipeline in a public roadway **without the prior Formal Consent of Gas Networks Ireland.**

5.2 GNI shall be consulted if work is to be undertaken within 10 meters either side of a transmission pipeline in a public roadway.

5.3 Formal Consent may be issued by GNI following receipt of the following items.

- (a) Written agreement to implement the terms & conditions of this Code of Practice and any site specific requirements as advised by GNI.
- (b) A method statement detailing the work which will be undertaken and the means of ensuring the integrity of the gas network.
- (c) An indemnity as outlined in Section 5.
- (d) Evidence of insurance cover to the level required by GNI.

5.4 Formal Consent may, in its simplest form, consist of a valid GNI Permit or a more comprehensive list of conditions.

5.5 Where Formal Consent has been issued, the Third Party shall notify GNI, 5 working days in advance of commencing the works.

6 INDEMNITY

It is an essential part of the granting of Formal Consent in the terms of this document that the Third Party shall indemnify GNI, its servants, agents and contractors against all loss, damage, expense, claims and actions incurred by or brought against GNI, its servants, agents and contractors in consequence of the provision of the new service and any works and activities associated therewith, or ancillary thereto.

7 ROLE OF GNI INSPECTOR

- 7.1** The primary role of the GNI inspector is to ensure the integrity of the gas network.
- 7.2** The GNI Inspector has the right to stop any work where in his/her opinion, the actions of the Third Party may adversely affect the integrity of the gas network.
- 7.3** The GNI Inspector shall inform the person in charge on site of his/her reason for stopping work and afford them the opportunity to address the issue to the satisfaction of the GNI Inspector.
- 7.4** A 'Corrective Action' shall be issued and recorded against the Third Party if the reason for stopping work is for non conformance to any, some or all of the following:
- (a) This Document,
 - (b) Conditions of the Formal Consent,
 - (c) Conditions of GNI Permits.
- 7.5** The GNI Inspector reserves the right to inspect any plant or equipment and/or any or all documentation/certification associated with plant, equipment and/or personnel associated with the work and not permit the use of any such plant, equipment and/or personnel in the works if found to be non compliant.

8 DESIGN CONSIDERATIONS FOR PROPOSED WORKS

8.1 Services Crossing Transmission Pipelines

- 8.1.1 Where a new service is to cross over the transmission pipeline a clearance distance of 0.6 metres between the crown of the pipeline and underside of the service shall be maintained. If this cannot be achieved the service shall cross under the transmission pipeline with a minimum clearance distance of 0.6 metres.

8.2 Services Parallel to Transmission Pipelines

- 8.2.1 Pipelines within a wayleave.

No new service shall be laid parallel to the transmission pipeline within a wayleave.

- 8.2.2 Pipelines within a roadway.

Any new service running parallel to a transmission pipeline in a roadway may, in consultation with GNI, be laid with a minimum horizontal clearance of 1m (5m for High Tension Cables) to the side of the pipeline and may not be above or below a transmission pipeline within that distance.

Under certain circumstances consideration may be given to the relaxation of the above conditions on a case by case basis following prior consultation with GNI Asset Integrity, where the methods and safeguards to be employed have been considered and specified under a Safe System of Work Plan and where the work is supervised by GNI on site.

8.3 Cathodic Protection

Cathodic Protection is applied to GNI's transmission network and is a method of protecting pipelines from corrosion by maintaining an electrical potential difference between the pipeline and anodes placed at strategic points along the pipeline.

Where a new service is to be laid and is to be similarly protected, GNI will need to carry out interaction tests to determine whether its own system is adversely affected. The cost of any mutually agreed remedial action shall be borne by the Third Party.

Should any cathodic protection posts or associated apparatus need moving to facilitate construction operations, reasonable notice shall be given to GNI.

8.4 Installation of Electrical Equipment

Where electrical equipment is being installed close to the transmission network, the effects of a rise of earth potential under fault conditions shall be considered by the third party and a risk assessment shall be submitted to GNI for its approval as part of the Formal Consent process.

8.5 Slabbing and other Protective Measures

- 8.5.1 Protective measures including the installation of concrete slab protection shall not be installed over or near to the transmission pipeline without the prior written consent of GNI.
- 8.5.2 Where consent has been given, a GNI Inspector must be present for the entire installation.
- 8.5.3 The material, composition, dimensions and method of installation of the proposed protective measure shall be agreed with GNI and shall form part of the submission for Formal Consent.

8.6 Changes to Depth of Cover

Any works, which will result in an increase or decrease in the cover of an existing Transmission Pipeline on completion of those works, shall be agreed with GNI in advance.

9 GENERAL CONSIDERATIONS FOR PROPOSED WORKS

9.1 GNI Protective Measures

Where protective measures are required by GNI, work shall not commence until such time as the GNI Inspector is satisfied that those measures meet the requirements of GNI.

9.2 Gaseous Atmospheres

Third Parties shall be mindful of potentially gaseous atmospheres and the generation of sparks, particularly indoors or when a change in wind conditions/direction occurs.

9.3 Inductions

Personnel involved in the works may be required to attend a GNI induction. Such a requirement shall, if required, be identified in the Formal Consent.

9.4 Method Statements

Method statements, where required, shall include risk assessments and be submitted to GNI for review no fewer than 10 working days in advance of commencing works associated with that method statement.

9.5 Identification of Transmission Pipeline Route

- 9.5.1 Before any work is carried out in the vicinity of existing transmission pipelines, GNI shall, with 3 working days notice, mark/peg out the transmission pipeline route.
- 9.5.2 The Third Party shall confirm the position of the pipeline before work commences.
- 9.5.3 A GNI Inspector shall be in attendance for the duration of the excavation of any trial holes necessary to confirm the position of the pipe.

9.6 Handheld Power Assisted Tools

Where the use of handheld power assisted tools is required in the vicinity of the live network, alternatives to electrically/battery powered tools should, in the first instance, be considered. These tools, as with others, by

virtue of their makeup generate a spark when activated/run and as such are in themselves subject to 'Hot Work' permits and associated procedures.

9.7 Hot Work

Hot works shall not take place within an installation, wayleave or within 3 metres either side of a transmission pipeline in a public roadway without the prior written consent of Gas Networks Ireland.

9.8 Induced Voltage

Where high voltage power lines run parallel to a transmission pipeline, there is potential to induce high voltages on the pipeline. To prevent injury, people working on exposed pipe in this area must have suitable protection against electric shock. GNI can provide advice in relation to suitable protection measures and a GNI Inspector must be present when any such work is being performed.

9.9 Construction Traffic

- 9.9.1 Construction traffic shall not be sited over or moved along or across a transmission pipeline without the prior written approval of GNI.
- 9.9.2 Construction traffic shall only cross a transmission pipeline at previously agreed and clearly marked crossing lanes.
- 9.9.3 All crossing lanes shall be fenced on both sides over a width to be specified by GNI. These fences shall be returned along the wayleave on both sides for a distance of 6m away from the crossing.
- 9.9.4 The crossing lane shall be protected by laying approved sleeper rafts or by protection made from other GNI approved materials, unless otherwise agreed in writing with GNI.
- 9.9.5 Construction traffic shall be operated at "dead slow" when using crossing lanes.
- 9.9.6 Suitable warning notices, drawing attention to the danger of not using the crossing, shall be erected and maintained in a clearly legible condition

9.10 Lifting

- 9.10.1 Any plant and/or equipment involved in lifting shall be certified fit for purpose.
- 9.10.2 Slewing across an exposed pipe shall not be permitted in any circumstances.

9.11 Storing Materials

- 9.11.1 Materials, including those excavated or stripped shall not be stored within a wayleave or Installation without the prior written approval of GNI.
- 9.11.2 Materials, including those excavated or stripped shall not be stored over a transmission pipeline.

9.12 Fires

Fires shall not be permitted within a wayleave or in the vicinity of an installation.

10 PRELIMINARY WORKS

10.1 Demarcation

Where work is being carried out parallel to a transmission pipeline within or immediately adjoining a wayleave, a demarcation line shall be erected, to the satisfaction of GNI, so as to clearly delineate the boundary between

the works site and the wayleave/pipeline

10.2 Surface Stripping

10.2.1 Cultivated/Unmade Ground

Where trial holes have established that sufficient depth of cover exists, light tracked vehicles may strip top soil to a depth of 0.25 metres using a toothless bucket.

10.2.2 Metalled Surfaces

Bituminous or concrete surface layers may be stripped to a depth of 0.3 metres by mechanical means.

Where the bituminous or concrete layer extends below 0.3m, only the use of handheld power assisted tools is permitted, and only in the presence of GNI.

11 EXCAVATIONS

11.1 Plant/Equipment Limitations

The following limitations shall be observed when working in the vicinity of a transmission pipeline.

- (a) Hand dig within 1.5 metres of the pipeline.
- (b) Handheld power assisted tools permitted beyond 1.5 metres of the pipeline.
- (c) Mechanical excavators permitted beyond 3 metres of the pipeline.
- (d) The use of 'chain trenchers' is not permitted within 3 metres of the pipeline.
- (e) A mechanical excavator may not reach across a pipeline while working, i.e. cab at one side of pipeline with bucket (rock breaker, etc.) on opposite side of pipeline.
- (f) A mechanical excavator shall not 'pull' towards the pipeline.

Under certain circumstances consideration may be given to the relaxation of the above conditions on a case by case basis provided that the excavation methods and safeguards to be employed have been considered and specified under a Safe System of Work Plan and the work is approved and supervised by GNI on site.

Factors that should be considered in this determination include, but are not limited to:

Pipeline size, pressure, wall thickness and location.
Excavator size (weight)
Operator competency and experience
Type and width of bucket/attachment (e.g. toothless)
Ground conditions (e.g. rock, soft ground etc.)
Weather conditions
Visibility, particularly of the machine operator
Machine orientation (e.g. working along the axis of the pipe)
Supervision arrangements

Note: Mechanical excavators must never be permitted to work closer than 0.5 meters from the pipeline.

11.2 Exposed Pipeline Protection

- 11.2.1 Once a pipeline has been exposed, it shall be immediately protected with timber or nylon batons at least 50mm wide and 25mm thick secured to each other with webbing at a distance of no greater than 10mm over the entire exposed area of the pipeline. The method of securing the webbing to batons should be such that any impact would not cause damage to the pipeline coating.
- 11.2.2 Where heavy gauge trench sheets are used in addition to batons to protect a pipeline, care should be taken while placing the trench sheets that buried stones, debris, etc. are not dislodged against the pipeline.
- 11.2.3 Depending on the type of work being carried out, ground conditions, etc., GNI may require additional measures.

11.3 Pipeline support

Where it is necessary to excavate below a transmission pipeline, the pipeline shall, during stages of the operation, and for the duration of the works, be supported to the satisfaction of GNI, by means of ratchet straps secured to a steel beam (or GNI approved equivalent) across the pit/trench. On completion, permanent supports shall, if necessary, be constructed to avoid future settlement.

12 BACKFILLING

- 12.1 The Third Party shall give GNI at least 2 working days notice of their intention to backfill below, above or adjacent to an existing transmission pipeline.
- 12.2 The Third Party shall afford GNI the opportunity and facility to inspect the coating on the pipeline and/or ancillary connections to the pipeline prior to backfilling.
- 12.3 A GNI Inspector shall be in attendance to monitor backfill around the pipeline during the whole of the backfilling operations.

Note: Any damage to the coating of a GNI transmission pipeline, no matter how apparently insignificant, shall be brought to the attention of GNI in order to carry out repairs. Minor damage to pipe coating and/or ancillary connections brought to the attention of GNI will be repaired free of charge.

13 ABOVE GROUND INSTALLATIONS

13.1 PPE Requirements

GNI's minimum PPE requirements for working in a live installation are hard hat, safety glasses, safety shoes/boots, gloves and Hi-Viz Jacket/vest. All clothing shall be anti static and flame retardant. Contact GNI Safety Department for information on compliance of PPE.

13.2 Above ground pipework with ancillary connections

Where construction plant and machinery are used in an AGI, all above ground pipework with ancillary control pipework, telemetry and/or instrumentation adjacent to the work, shall be protected on all sides by timber/metal hoarding, secured in place, a minimum of 2 metres from any extremity and extending vertically to the uppermost point of any pipe/equipment. A suitable point of access shall be provided in the hoarding. Where this 2 meter separation distance cannot be physically achieved due to the layout and size of an installation, the works may be allowed to proceed but only where suitable precautions have been agreed and implemented to protect all relevant pipework and personnel. The risks and associated mitigating measures shall be identified on the relevant risk assessment and method statement for the proposed works. The relevant details supporting any relaxation of this code of practice shall be recorded on the relevant general works permit or excavation

permit by the permit issuer.

Heras type fencing may be used where a distance of 6m from any extremity can be achieved.

13.3 Above ground pipework without ancillary connections

Where construction plant and machinery are used in an AGI, all above ground pipework which does not have ancillary connections adjacent to the work, shall be protected on all sides by heras type fencing a minimum of 2 metres from any extremity. A suitable point of access shall be provided in the fencing. Where this 2 meter separation distance cannot be physically achieved due to the layout and size an installation, the works may be allowed to proceed but only where suitable precautions have been agreed and implemented to protect all relevant pipework and personnel. The risks and associated mitigating measures shall be identified on the relevant risk assessment and method statement for the proposed works. The relevant details supporting any relaxation of this code of practice shall be recorded on the relevant general works permit or excavation permit by the permit issuer.

13.4 Plant and Machinery

Petrol powered plant, machinery or vehicles shall not be permitted within the confines of an AGI.

13.5 General

This code of practice shall apply to all work carried out within an AGI.

14 SPECIFIC ACTIVITIES

This section details the precautions that need to be taken when carrying out certain prescribed activities in the vicinity of the transmission network. Consult GNI if you are intending to undertake one of the listed prescribed activities and/or you require further advice on whether the work that you are intending to undertake has the potential to affect the transmission network.

The table below shows, for some specific activities, the prescribed distances within which GNI shall be consulted.

Activity	Distance within which GNI shall be consulted
Any Excavation Actions	10 m
Piling	15 m
Surface Mineral Extraction	100 m
Land filling	100 m
Demolition	150 m
Blasting	400 m
Wind Farm	2 times the turbine mast height from the nearest edge of a transmission pipeline

14.1 Trenchless Techniques

Trenchless techniques must not take place within 10m of the GNI Transmission Network without prior consultation with GNI.

14.2 Piling

Piling shall not be permitted within 15 metres of the transmission network without an assessment of the vibration levels at the pipeline. Contact GNI with regard to peak particle velocity criteria and other precautionary measures.

Where ground conditions are of submerged granular deposits of silt and sand, an assessment of the effect of vibration on settlement and liquefaction at the transmission pipeline shall be made.

14.3 Surface Mineral Extraction

An assessment shall be carried out on the effect of surface mineral extraction activity within 100 metres of the transmission network.

Where the mineral extraction extends up to the transmission pipeline wayleave, a stable slope angle and stand-off distance between the transmission pipeline and slope crest shall be determined by GNI. The wayleave strip should be clearly marked by a suitable permanent boundary such as a post and wire fence, and where appropriate, slope indicator markers shall be erected to facilitate the verification of the recommended slope angle as the slope is formed, by the Third Party. The wayleave and slope needs to be inspected periodically to identify any signs of developing instability. This may include any change of slope profile including bulging, the development of tension cracks on the slope or wayleave, or any changes in drainage around the slope. The results of each inspection should be recorded.

Where surface mineral extraction activities are planned within 100 metres of the transmission pipeline but do not extend up to the pipeline wayleave boundary, an assessment, by GNI may be made on whether the planned activity could promote instability in the vicinity of the pipeline. This may occur where the transmission pipeline is routed across a natural slope or the excavation is deep. A significant cause of this problem is where the groundwater profile is affected by changes in drainage or the development of lagoons.

Where the extraction technique involves explosives the provisions of section 14.6 apply.

14.4 Land filling

The creation of slopes outside of the wayleave may promote instability within the vicinity of the transmission pipeline. An assessment should therefore be carried out on the effect of any land filling activity within 100 metres of a transmission pipeline. The assessment is particularly important if land filling operations are taking place on a slope in which the pipeline is routed.

14.5 Demolition

Demolition shall not be permitted within 150 metres of a transmission network without an assessment of the vibration levels at the pipeline. Contact GNI with regard to peak particle velocity criteria and other precautionary measures.

Where ground conditions are submerged granular deposits of silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the transmission pipeline shall be made.

14.6 Blasting

Blasting shall not be permitted within 400 metres of a transmission network without consulting GNI and making an assessment of the vibration levels at the pipeline. Contact GNI with regard to peak particle velocity criteria and other precautionary measures.

Where ground conditions are of submerged granular deposits of silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the transmission pipeline shall be made.

14.7 Pressure Testing

Hydraulic or pneumatic testing shall not be permitted within 8m of the transmission network unless precautions have been taken against the effects of a possible burst. These precautions may include the use of pre installation tested pipe, sleeving, barriers, etc., as agreed with GNI.

14.8 Seismic Surveys

GNI shall be advised of any seismic surveying work in the vicinity of a transmission pipeline. Contact GNI with regard to peak particle velocity criteria and other precautionary measures.

14.9 Wind Farm Development

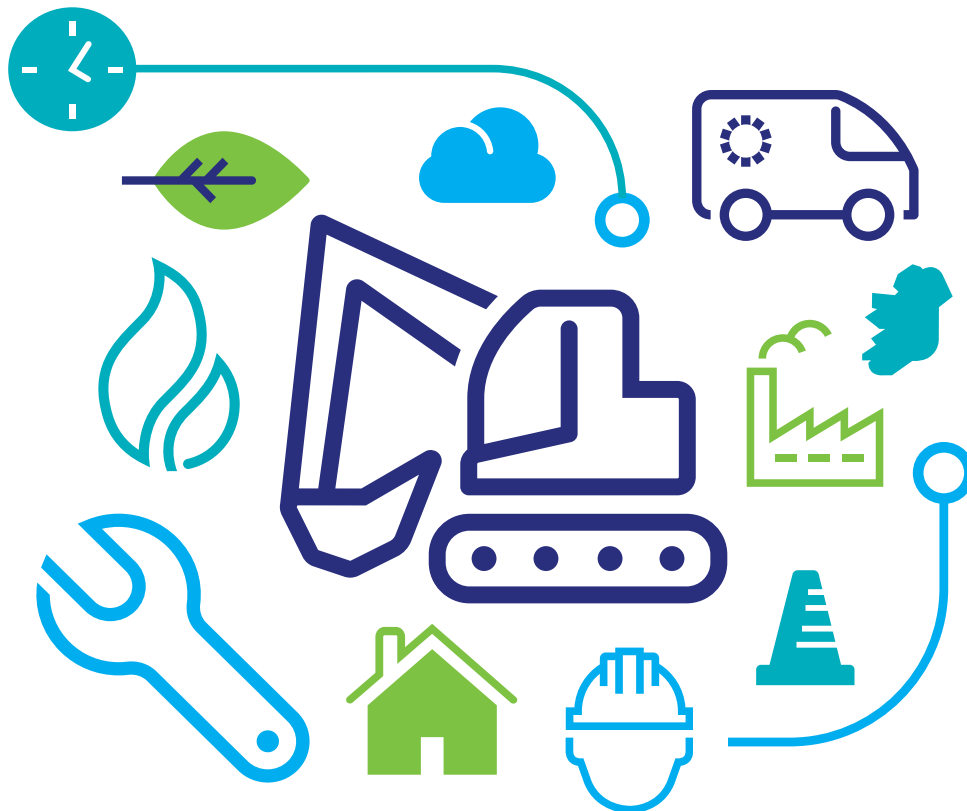
GNI should be consulted if wind turbines are to be sited any closer than 2 times the proposed height of the turbine mast away from the nearest edge of a transmission pipeline or associated installation.

15 REFERENCE DOCUMENTS

IS328: Code of Practice for Gas Transmission Pipelines & Pipeline Installations.

Safety advice

for working in the vicinity
of natural gas pipelines



Important safety information



**When planning any excavation works dial
1850 42 77 47**

to obtain up to date gas network maps.

Monday to Friday 9am – 5.30pm

**You can also contact us on
dig@gasnetworks.ie**

**If you have damaged a gas pipe call
1850 20 50 50
immediately, even if you do not suspect that
gas is leaking**

24 hours, 7 days a week

**If you smell gas call
1850 20 50 50
24hr emergency service**

Contents



**This booklet contains important safety advice.
Please read the following before you start work:**

Natural gas characteristics and behaviour	4
Risks of damaging a gas pipe	5
Risks from a damaged gas pipe	6
Gas Networks Ireland transmission network	7
Gas Networks Ireland construction methods	11
Gas Networks Ireland construction – depth of cover....	12
Requesting Gas Networks Ireland maps.....	13
Reading Gas Networks Ireland maps	14
Gas services	16
Safe systems of work.....	17
What to do if a gas pipe is damaged	20
Gas Networks Ireland contacts	21
Other useful publications	22

Natural gas **characteristics and behaviour**



Characteristics

Natural gas is:

- a highly flammable gas;
- lighter than air and will rise when released;
- nontoxic (but can suffocate in enclosed or confined spaces); and
- made up mostly of methane and has a smell added for safety purposes.

Behaviour

During an uncontrolled escape, natural gas will behave in the following ways:

- In open excavations, where there is a clear path to the atmosphere, natural gas will rise, dilute and disperse into the air.
- If the path to the atmosphere is blocked, the gas will travel through soil, ducts, drains, sewers and voids. It can also follow the line of other buried utility services. This can lead to gas entering a building or other confined spaces, and may lead to a fire or explosion.

Note: Never cover a damaged gas main or service; or attempt to carry out a repair. Call 1850 20 50 50 immediately.

Risks of **damaging a gas pipe**

The risks of damaging a gas pipe can be classified as:

Highest Risk



Mechanical excavators pose the highest risk and “should not be used within 500 mm of a gas distribution pipe.”

(HSA Code of Practice)

Mechanical excavators must not be used within 3 metres of a Transmission pipeline.

(Refer to Code of Practice for Working in the Vicinity of the Transmission Network - AO/PR/127)

High Risk



Hand held power tools should not be used directly over the line of a gas pipe, unless the gas pipe has been positively located by hand and a safe working distance has been established.

Use of handheld power tools is not permitted within 1.5 m of a Transmission pipeline.
(Refer to Code of Practice for Working in the Vicinity of the Transmission Network - AO/PR/127)

Damage to gas pipes from power tools presents a high risk to the operatives involved in the work.

Low Risk



Hand digging using shovels and spades presents the lowest risk of damaging a gas pipe.

This is the method that should be used where the presence of gas pipes is suspected or close to a known gas pipe.

Risks from a **damaged gas pipe**



- Remember when gas escapes, or is released in an uncontrolled way; it can fuel a fire, give rise to an explosive atmosphere or cause asphyxiation.
- If you suspect there is a gas leak, immediately call Gas Networks Ireland's 24hr Emergency Service on **1850 20 50 50**.
- Gas can quickly fill underground cavities and travel into buildings through soil, or following the line of other buried utilities.
- Gas can only burn if exposed to an ignition source:
 - Do not turn electrical switches on or off
 - Do not operate any plant or equipment
 - Do not use naked flames or smoke
 - Do not use mobile phones in the vicinity.
- Move people away from, and upwind of, the affected area.
- If gas has entered a confined space or building:
 - Open doors and windows
 - Turn off the gas supply at the meter
 - Do not expose to an ignition source.

Gas Networks Ireland **transmission network**



Gas Networks Ireland transports gas in Ireland through a network of steel and polyethylene (PE) pipes. The network operates at pressures between 20 mbar and 85 bar and is split between Transmission and Distribution pipelines.

The **Transmission** system is made up of steel pipes and operates from 7 bar to 85 bar.

The **Distribution** system is made up mostly of polyethylene pipes and operates from 20 mbar to 7 bar.

The **network**

The network is made up of three elements:

.....
[Transmission pipes](#)
.....

[Distribution pipes](#)
.....

[Pressure Regulating Installations](#)
.....



[Transmission pipes](#)

.....

These are high pressure pipelines that transfer gas across the country. They are constructed from steel, with a black, white, cream, yellow or concrete coating, and may have marker posts at intervals along their length, particularly at field boundaries and road crossings.

If a transmission pipeline is identified near intended excavations then work must not proceed until Gas Networks Ireland Transmission has been consulted on 1850 42 77 47.



The **network**

Distribution pipes

These are medium or low pressure pipelines within urban areas. They are mainly constructed from Polyethylene (PE) and are predominantly yellow in colour, but may have brown or black stripes. There are two types – Mains and Services.

Mains gas pipes usually run parallel to property in the footpath, grass verge or road and range in size from 63 mm to 400 mm diameter.

Service gas pipes are connected to mains and run to a meter position at the property, and range in size from 20 mm to 63 mm diameter.

Note: There is a limited use of steel pipes in areas like bridges or where only shallow depths can be achieved.

There are still a small number of ductile and cast iron gas mains in use, ranging in size from 3 inch (75 mm) to 24 inch (600 mm) in diameter (these mains are similar in appearance to metal water mains). Steel and PE gas services are run from these metal mains to the meter location at each building.

These ductile and cast iron mains and services have been largely replaced with PE pipes. In urban areas a large number of redundant ductile or cast iron pipes are utilised as carrier pipes for new PE pipelines.



The **network**



District Regulating Installation (DRI)

Pressure Regulating Installations

There are two types: Above Ground and Under Ground

Above Ground Installations (AGI) / District Regulating Installations (DRI)

An AGI/DRI is a fenced area containing a visible arrangement of pipework and ancillary equipment and will be clearly marked with Gas Networks Ireland signage. Some DRI's can be housed in a steel unit with no fencing surround.

Under Ground Installations (UGI /DRIug)

Gas Networks Ireland also have underground pressure regulating installations which have metal or concrete cover plates. There will be no visible arrangement of pipework etc, as this will be contained within the chamber.

If an AGI/DRI or UGI/DRIug is identified near intended works, then work must not proceed until Gas Networks Ireland has been consulted.



Gas Networks Ireland **construction methods**

Gas Networks Ireland use three main construction methods:

'Dig' Technique



Open Cut – installing pipe using standard trenching techniques. Pipe is laid with a sand or pea gravel surround and gas marker tape is laid above the sand.

'No-Dig' Techniques



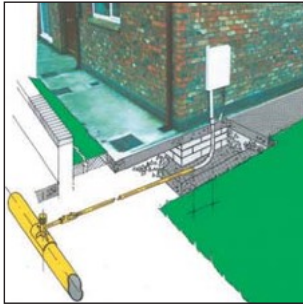
Insertion – utilising existing metal gas mains / services as a carrier for new PE pipes. Inserted PE may be a close or loose fit. The carrier pipe is broken out at connection points, i.e. at pipe joints or where a gas service pipe is connected.



Moling/Directional Drilling – installing mains/ services where a 'moling' machine drills from one location to another pulling the pipe behind it using "no-dig" technology.

Note: Where pipe has been installed using "no-dig" techniques, the gas pipe will not have sand surround or marker tape.

Gas Networks Ireland construction – **depth of cover**



Typical service arrangement

New Mains – Normally 750 mm in roads and 600 mm in footpaths. (1.1 m in open fields)

New Services – 450 mm rising to 375 mm within 1.5 m of the building line. In some cases these depths are not achievable.

Note:

Older mains and services may have reduced cover.

Services and other connections are taken from the top of the main and will therefore have a reduced depth of cover.

Alteration since original installation – roads, footpaths and grass verges may have been altered since the gas main or service was laid and reduced the depth of cover.

Purge Points and Test Caps – Mains are laid with “purge points” and/or test caps at the ends. These may also rise above the top of the main.

Gas Valve Covers – Gas valves are a key safety component part of the gas network.

Some gas mains and services have valves installed below ground with valve covers marked “GAS”.

Do not cover over or remove gas valve covers.

The risk of a gas valve cover being removed or covered over is particularly high during resurfacing or reinstatement works.

Even shallow excavation techniques such as road planing can damage gas pipelines with reduced cover.



Service Connection



Purge Point

Requesting **Gas Networks Ireland** maps

Gas Networks Ireland operates a **Dial Before You Dig** service to enable those involved in excavations to obtain natural gas network maps prior to starting work.

This service operates from 9am to 5.30pm, Monday to Friday.

You can also email your enquiry to:
dig@gasnetworks.ie

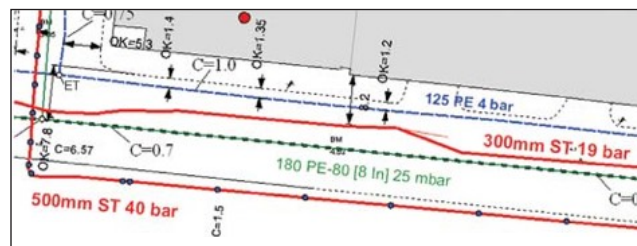


Maps will be sent out by post or by email where appropriate. When you contact Gas Networks Ireland to request a map, ensure you give the precise location of the intended works. You may be required to give some information regarding the nature of the planned work, i.e. start date, any high risk activity, etc.

Ensure you have allowed enough time for the maps to be obtained and to organise for the pipe location to be marked out if transmission pipelines are involved.

Note: Typical turnaround for maps is five working days.

Organisers or planners of any work should ensure that the map is made available to personnel on-site.

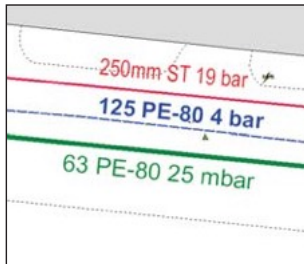


Excerpt from a Gas Networks Ireland map.

Reading **Gas Networks Ireland** maps

Note: Natural Gas Network maps will only show mains and not services.

See page 16 for more information on service pipe locations.



The colour coding is as follows:

Red = Transmission Main*
= 7 to 85 bar.

Blue = Distribution Medium Pressure
= 100 mbar to 7 bar.

Green = Distribution Low Pressure
= up to 100 mbar.



Typical AGI

Pressure regulating installations are marked as:

DRI – District Regulating Installation (Above Ground).

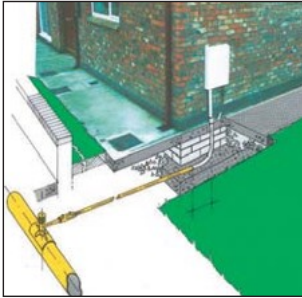
DRIug - District Regulating Installation (Under Ground).

UGI – Under Ground Installation.

AGI – Above Ground Installation.

* If you obtain a natural gas network map that shows a **red** Transmission main in the area of the proposed works, consultation with Gas Networks Ireland **must** take place **before** starting works. Gas Networks Ireland will advise you on the safety measures required and will arrange for the exact location of the pipe to be marked out on site.

Gas services



Typical service arrangement

Natural gas services are not normally identified on network maps, but their presence should be assumed. Services will normally, but not always, run at right angles from the main to the meter point.

To assist in determining the approximate position of gas services ensure you:

- Obtain a natural gas network map to identify the position of the gas main.
- Complete a site survey looking for gas meter boxes/cabinets, house entry points, service risers and gas valve covers.
- Older buildings may have no visible signs of a service, as the service may run directly into the building underground, with the meter fitted internally. In these cases a check should be made inside the building to identify the meter position.



Service riser cover

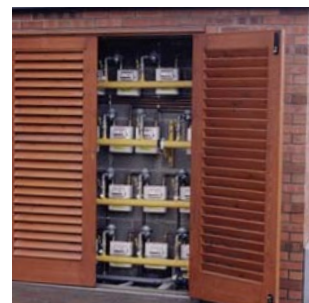
Note: Ensure you utilise safe digging practices to locate the exact position of gas services.



Domestic meter box



Six meter cabinet



Purpose built multi-meter house (apartment complex).

Safe systems of work

Safe systems of work, as recommended by the Health and Safety Authority (HSA) should be employed on all projects.

Guidance on this can be found in the:

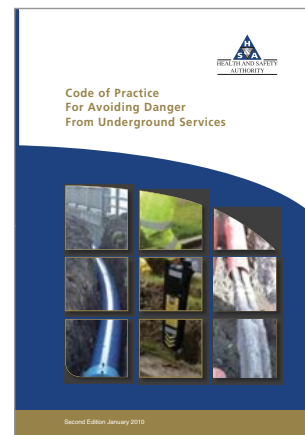
[HSA: Code of Practice for Avoiding Danger from Underground Services.](#)

Available from HSA website: www.hsa.ie

A safe system of work will include the following elements:

- Planning.
- Obtaining and using utility maps.
- Identifying pipes/services.
- Safe digging practices.
- Explosives must not be used within 30 m of any gas pipe (400 m for Transmission Pipelines), without prior consultation with Gas Networks Ireland.
- Piling, directional drilling or boring must not take place within 15 m of a gas pipe unless Gas Networks Ireland has been consulted.
- Extra care should be exercised when performing 'hot work' (such as welding) where a gaseous atmosphere could exist. If this potential exists Gas Networks Ireland must be consulted.
- Extra care should also be taken when using welding equipment, burners, torches or other heat generating equipment near pipelines (even if there is no potential for a gaseous atmosphere to exist) to ensure that the heat or sparks generated do not lead to the melting of polyethylene pipes or damage to pipeline coatings.

**Contact Gas Networks Ireland for general enquiries on:
1850 20 06 94**



Safe systems of work

Planning

- Early contact should be made with Gas Networks Ireland to obtain a Natural Gas Network map.
Dial Before You Dig 1850 42 77 47
- Work involving piling, demolition, directional drilling, use of explosives or 'hot works' should be mentioned, as this may necessitate a site visit from Gas Networks Ireland personnel.
- Ensure you have allowed enough time to obtain the maps.

Maps

- Gas Networks Ireland will issue maps as outlined in this booklet. It is imperative that these maps are available for the operatives on-site for the duration of any works. The responsible person should ensure that operatives on-site understand the maps.

Identifying Pipes

- Steel, cast iron and ductile iron gas pipes can usually be traced using a conventional pipe/cable locating device set to "R" (Radio) mode.
- Polyethylene mains and services cannot be traced using conventional devices, so it is essential that maps are used and site surveys for meter boxes, valve covers, service risers, reinstatement scarring and other signs are completed.
- During the progress of works ensure no gas valve covers or markers are covered over.
- The position of gas mains and services should be marked out as they are located.

Note: Transmission pipelines must be marked out by a Gas Networks Ireland inspector.

Safe systems of work

Safe Digging Practices:

- As per the HSA Code of Practice, gas mains and services should be located by digging trial holes by hand. Mechanical excavators should not be used within 500 mm of any gas main.

Mechanical excavators MUST NOT be used within 3 m of a Transmission pipeline.

(Refer to Code of Practice for Working in the Vicinity of the Transmission Network - AO/PR/127)

- Never use hand held power tools directly over gas pipes unless precautions to prevent damage have been made and the pipe has been positively located.

Use of handheld power tools is not permitted within 1.5 m of a Transmission pipeline.

(Refer to Code of Practice for Working in the Vicinity of the Transmission Network - AO/PR/127)

- Do not leave a polyethylene gas pipe exposed.
- Provide adequate support for any gas pipe uncovered during the work.
- Report any damage, no matter how minor it may appear, to **1850 20 50 50**.
- If you have any concerns regarding safety around gas pipes contact Gas Networks Ireland for advice on **1850 20 06 94**.



What to do if a gas pipeline is damaged (or if you smell gas in the area)

- Do not turn any electrical switches on or off, e.g. ignition switches.
- Do not operate any plant or equipment.
- Move people away from, and upwind of, the affected area.
Restrict employee and public access to the affected area.
- Prevent smoking, the use of naked flames, the use of mobile phones and other ignition sources in the vicinity of the leak.
- Report the leak/damage immediately to:
Gas Networks Ireland 24hr Emergency Service on 1850 20 50 50.
- Provide accurate information on your location and the nature of the incident.
- Do not attempt to repair the damage.
- Do not cover up a damaged main or service, this may lead to the gas travelling through soil, ducts, sewers, chambers or voids and potentially building up inside a premises or confined space.
- Do not turn off any gas valves in the road or footpath (you may be causing further problems by doing so).
- Assist Gas Networks Ireland emergency personnel as required.
- Remember any damage to gas pipes, even if the pipe does not appear to be leaking, must be reported to Gas Networks Ireland.

If you smell gas call
1850 20 50 50
24hr emergency service

Gas Networks Ireland contacts

The main contact numbers for Gas Networks Ireland are

24hr Emergency Service
1850 20 50 50

24 hours, 7 days a week

Dial Before You Dig
1850 42 77 47

Monday to Friday 9am – 5.30pm

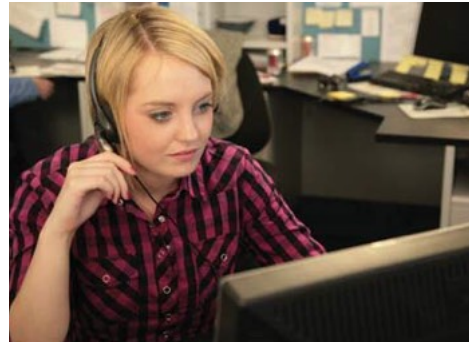
General Enquiries
1850 200 694

Monday to Friday 8am – 8pm

Saturday 9am – 5.30pm

gasnetworks.ie

For “Dial Before You Dig” posters or stickers for your workplace call: **1850 20 06 94**



Other useful publications

HSA: Code of Practice for Avoiding Danger
from Underground Services

HSA: Guide to Safety in Excavations

both are available free of charge from:
Health and Safety Authority on **1890 289 389**
www.hsa.ie

ESB Networks: Avoidance of Electrical Hazards
When Digging

available free of charge from:
ESB Networks on **1850 37 27 57**
esb.ie/esbnetworks





The main contact details for Gas Networks Ireland are:

General Enquiries
1850 200 694

Dial Before You Dig
1850 42 77 47

24hr Emergency Service
1850 20 50 50

networksinfo@gasnetworks.ie
gasnetworks.ie



An Roinn Gnó, Fiontar agus Nuálaíochta
Department of Business, Enterprise and Innovation

Our Ref: 180724/MIN

7 June, 2018

Ms. Ruth Barr
RPS Consulting Engineers
Elmwood House
74 Boucher Road
Belfast BT12 6RZ
Northern Ireland

Dear Ms. Barr,

I wish to acknowledge receipt of your recent correspondence to the Minister for Business, Enterprise and Innovation, Ms. Heather Humphreys T.D., regarding the proposed strategic infrastructure development project at Dublin Port.

I will bring your correspondence to the Minister's attention at the earliest opportunity.

Yours sincerely,



Eamonn McCormack
Private Secretary



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

National Office for Public
Health/ChildHealth
Strategic Planning &
Transformation,
Health Service Executive,
Public Health Department,
Second Floor,
Mount Kennett House,
Henry Street,
Limerick

Post Code V94KN3N

Tel: (061) 483347

Fax: (061) 464205

Website: <http://www.hse.ie>

19th. June 2018

Ms. Ruth Barr
RPS Consulting Engineers
Elmwood House
74 Boucher Road
Belfast BT12 6RZ

Re: Proposed Strategic Infrastructure Development Project at Dublin Port
Your Ref. IBE1429/ltr01

Dear Ms. Barr,

Thank you for your recent letter in relation to the above project. I have passed on this letter and attachments to my colleague Dr. Deirdre Mulholland who is the Director of Public Health in the East and this comes under her remit.

Thanking you.

Yours sincerely,

DR. KEVIN KELLEHER, FFPHM, FFPHMI
ASSISTANT NATIONAL DIRECTOR –PUBLIC HEALTH/CHILD HEALTH – STRATEGIC
PLANNING & TRANSFORMATION
Medical registration number 19719

c.c. Dr. D. Mulholland, Director of Public Health, HSE East, Dr. Steeven's Hospital, Dublin 8



**An Roinn Cultúir,
Oidhreacht agus Gaeltachta**
Department of Culture,
Heritage and the Gaeltacht

Our Ref: **G Pre00043/2018** *(Please quote in all related correspondence)*
Your Ref: **IBE1429/ltr01**

14 June 2018

Ruth Barr BSc MSc CSci MCIWEM,
Senior Associate – RPS,
Consulting Engineers,
Elmwood House,
74 Boucher Road,
Belfast,
BT12 6RZ,
Northern Ireland

Via email: Ruth.Barr@rpsgroup.com

Re: Meeting request regarding the EIAR and AA for the MP2 Project which is the second major capital project from the Dublin Port Masterplan 2012 -2040.

A chara,

On behalf of the Department of Culture, Heritage and the Gaeltacht, I refer to correspondence received in connection with the above.

Outlined below are heritage-related observations/recommendations of the Department under the stated heading.

Nature Conservation:

With regard to your meeting request, in order to progress this matter, please find below some general (non-site specific) scoping comments for Environmental Impact Assessment Report (EIAR), appropriate assessment screening and appropriate assessment/Natura Impact Statement (NIS), and for licensing requirements which may assist.

In addition please note that you should consult the requirements of this Department in relation to pre-planning at <https://www.npws.ie/development%20consultations>, in particular the section entitled pre-application consultation/engagement. Should you have any further queries or wish to meet regarding a specific topic please contact this Department at manager.dau@chg.gov.ie quoting the above reference number.

This Department understands from Natura consultants that there is a small marine element to the project in the form of a jetty outside any SAC but adjacent to an SPA. Therefore ex-situ impacts will need to be assessed on any relevant European sites.

EIAR

Ecological Survey

With regard to scoping for an EIAR for a proposed development, in order to assess impacts on biodiversity, fauna, flora and habitats, an ecological survey should be carried out of the site of the

proposed development site including the route of any access roads, pipelines or cables etc. to survey the habitats and species present. Any improvement or reinforcement works required for access and transport anywhere along any proposed haul route(s) should be included in the EIAR and subjected to ecological impact assessment with the inclusion of mitigation measures, as appropriate. Where ex-situ impacts are possible survey work may be required outside of the development sites.

Surveys should be carried out by suitably qualified persons at an appropriate time of the year depending on the species being surveyed for. The EIAR should include the results of the surveys, and detail the survey methodology and timing of such surveys. It is expected by this Department that in any survey methodology used that best practice will be adhered to and if necessary non Irish methodology adapted for the Irish situation. The EIAR should cover the whole project, including construction, operation and, if applicable, restoration or decommissioning phases. Alternatives examined should also be included in the EIAR. Inland Fisheries Ireland (IFI) should be consulted with regard to fish species if applicable. For information on Geological and Geomorphological sites the Geological Survey of Ireland should be consulted.

Baseline data

With regard to the scope of baseline data, details of designated sites can be found at www.npws.ie/. For flora and fauna the data of the National Parks and Wildlife Service (NPWS) should be consulted at www.npws.ie/. Where further detail is required on any information on the website, a data request form should be submitted. This can be found at www.npws.ie/sites/default/files/general/Data%20request%20form.doc. Further information may be found at <http://dahg.maps.arcgis.com/home/index.html>. Other sources of information relating to habitats and species include that of the National Biodiversity Data Centre (www.biodiversityireland.ie), Inland Fisheries Ireland (www.fisheriesireland.ie), BirdWatch Ireland (www.birdwatchireland.ie) and Bat Conservation Ireland (www.batconservationireland.org). Data may also exist at a County level within the Planning Authority.

Impact assessment

The impact of the development on the flora, fauna and habitats present should be assessed. In particular the impact of the proposed development should be assessed, where applicable, with regard to:

- Natura 2000 sites, i.e. Special Areas of Conservation (SAC) designated under the EC Habitats Directive (Council Directive 92/43/EEC) and Special Protection Areas (SPA) designated under the EC Birds Directive (Directive 2009/147 EC),
- Other designated sites, or sites proposed for designation, such as Natural Heritage Areas and proposed Natural Heritage Areas, Nature Reserves and Refuges for Fauna or Flora, designated under the Wildlife Acts 1976 to 2012,
- Species protected under the Wildlife Acts including protected flora,
- ‘*Protected species and natural habitats*’, as defined in the Environmental Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008, including Birds Directive – Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur) and Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur),
- Important bird areas such as those identified by Birdlife International,

- Features of the landscape which are of major importance for wild flora and fauna, such as those with a “stepping stone” and ecological corridors function, as referenced in Article 10 of the Habitats Directive.
- Other habitats of ecological value in a national to local context (such as those identified as locally important biodiversity areas within Local Biodiversity Action Plans and County Development Plans).
- Red data book species,
- and biodiversity in general.

Reference should be made to the National Biodiversity Action Plan 2017-2021 and any relevant County Biodiversity Plan, as well as the All-Ireland Pollinator Plan 2015-2020.

It should be noted that the National Biodiversity Action Plan sets out Government policy on nature conservation and includes as Objective 1 to “mainstream biodiversity into decision making” , including for all public authorities to move towards no net loss of biodiversity. It also requires Local Authorities to develop policies and objectives for the protection and restoration of biodiversity.

Any losses of biodiverse habitat associated with this proposed development (including access roads and cabling) such as woodland, scrub, hedgerows and other habitats should be mitigated for.

In order to assess the above impacts it may be necessary to obtain hydrological and/or geological data. In particular any impact on water table levels or groundwater flows may impact on wetland sites some distance away. The EIAR should assess cumulative impacts with other plans or projects if applicable. Where negative impacts are identified suitable mitigation measures should be detailed if appropriate. As EU Member States have to report every 6 years on the National resource of habitats and species listed under the Habitats Directive it is important that any impact on such habitats and species both inside and outside of Natura 2000 sites is recorded.

Alien invasive species

The EIAR should also address the issue of invasive alien plant and animal species, such as Japanese Knotweed, and detail the methods required to ensure they are not accidentally introduced or spread during construction. Information on alien invasive species in Ireland can be found at <http://invasives.biodiversityireland.ie/> and at <http://invasivespeciesireland.com/>.

Hedgerows and protected species

Hedgerows form important wildlife corridors and provide areas for birds to nest in. In addition badger setts may be present. If suitable trees are present bats may roost there and they use hedgerows as flight routes. Hedgerows also provide a habitat for woodland flora. Where a hedgerow forms a townland or other historical boundary it is usually an old hedgerow. Such hedgerows will contain more biodiversity than a younger hedgerow. Hedgerows should be maintained where possible. The EIAR should provide an estimate of the length of hedgerow that will be lost, if any. Where trees or hedgerows have to be removed there should be suitable planting of native species in mitigation. Hedgerows and trees should not be removed during the nesting season (i.e. March 1st to August 31st).

Bats

Bat roosts may be present in trees, buildings and bridges. Bat roosts can only be destroyed under licence under the Wildlife Acts and a derogation under the Birds and Natural Habitats Regulations and such a licence would only be given if suitable mitigation measures were implemented. Where

so called bat friendly lighting is proposed as mitigation then it should be proven to work as mitigation.

Rivers and Wetlands

Wetlands are important areas for biodiversity. Any watercourse or wetland impacted on should be surveyed for the presence of protected species and species listed on Annexes II and IV of the Habitats Directive. These species could include otters (*Lutra lutra*), which are protected under the Wildlife Acts and listed on Annexes II and IV of the Habitats Directive, Salmon (*Salmo salar*) and Lamprey species listed on Annex II of the Habitats Directive, and White-clawed Crayfish (*Austropotamobius pallipes*) which are protected under the Wildlife Acts and listed on Annex II of the Habitats Directive, Frogs (*Rana temporaria*) and Newts (*Trituris vulgaris*) protected under the Wildlife Acts and Kingfishers (*Alcedo atthis*) protected under the Wildlife Acts and listed on Annex I of the Birds Directive (Council Directive 79/409 EEC).

One of the main threats identified in the threat response plan for otter is habitat destruction (see www.npws.ie/sites/default/files/publications/pdf/2009_Otter_TRP.pdf).

In addition a 10 m riparian buffer on both banks of a waterway is considered to comprise part of the otter habitat. Therefore any proposed development should be located at least 10 m away from the waterway.

A suitable riparian habitat should be left along each watercourse. Construction work should not be allowed impact on water quality and measures should be detailed in the EIAR to prevent sediment and/or fuel runoff from getting into watercourses which could adversely impact on aquatic species. Flood plains, if present, should be identified in the EIAR and left undeveloped to allow for the protection of these valuable habitats and provide areas for flood water retention. If applicable the EIAR should take account of the guidelines for Planning Authorities entitled "The Planning System and Flood Risk Management" and published by the Department of the Environment, Heritage and Local Government in November 2009.

IFI should be consulted with regard to impacts on fish species and the applicant may find it useful to consult their publication entitled "Planning for watercourses in the urban environment" which can be downloaded from their website at

<http://www.fisheriesireland.ie/fisheries-management-1/86-planning-for-watercourses-in-the-urban-environment-1/file>.

Water quality

Ground and surface water quality should be protected during the construction and operation of the proposed development and if applicable the applicant should ensure that adequate sewage treatment facilities are or will be in place prior to any development. The applicant should also ensure that adequate water supplies are present prior to development.

Marine

Marine information is available at www.npws.ie/marine/. In particular the best practice guidelines at www.npws.ie/marine/best-practice-guidelines should be adhered to.

CMPs

Complete project details including outline construction management plans (CMPs) need to be provided in order to allow an adequate assessment to be undertaken. Applicants need to be able to demonstrate that CMPs and other such plans are adequate and effective mitigation, supported by scientific information and analysis, and that they are feasible within the physical constraints of the site. The positions, locations and sizes of construction infrastructure and mitigation, such as settlement ponds, disposal sites and construction compounds, may significantly affect European sites, other designated sites, habitats, and species in their own right and could have an effect for example on drainage, water quality, habitat loss, and disturbance. If these are undetermined at

time of the assessment, all potential effects of the development on the site are not being considered. If applicants are not in a position to decide the exact location and details of these at time of application, then they need to consider the range of options that may be used in their assessment so that all issues are covered.

Appropriate Assessment (AA)

Guidance

Guidance on AA is available in the Departmental guidance document on Appropriate Assessment, which is available on the NPWS website at www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf and in the EU Commission guidance entitled "*Assessment of plans and projects significantly affecting Natura 2000 sites Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*" which can be downloaded from http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf. However CJEU and Irish case law has clarified some issues and should also be consulted.

Conservation objectives

In order to carry out the appropriate assessment screening, and/or prepare the Natura Impact Statement (NIS), information about the relevant Natura 2000 sites including their conservation objectives will need to be collected. Details of designated sites and species and conservation objectives can be found on www.npws.ie/. Site-specific, as opposed to generic, conservation objectives are now available for some sites. Each conservation objective for a qualifying interest (QI) is defined by a list of attributes and targets and is often supported by further documentation. Where these are not available for a site, an examination of the attributes that are used to define site-specific conservation objectives for the same QIs in other sites can be usefully used to ensure the full ecological implications of a proposal for a site's conservation objective and its integrity are analysed and assessed. It is advised, as per the notes and guidelines in the site-specific conservation objectives that any reports quoting conservation objectives should give the version number and date, so that it can be ensured and established that the most up-to-date versions are used in the preparation of Natura Impact Statements and in undertaking appropriate assessments.

Where further detail is required on any information on the website a data request form should be submitted. This can be found at www.npws.ie/sites/default/files/general/Data%20request%20form.doc.

Cumulative and ex situ impacts

A rule of thumb often used is to include all Natura 2000 sites within a distance of 15 km. It should be noted however that this will not always be appropriate. In some instances where there are hydrological connections a whole river catchment or a groundwater aquifer may need to be included. Similarly where bird flight paths are involved the impact may be on an SPA more than 15 km away.

Other relevant Local Authorities should be consulted to determine if there are any projects or plans which, in combination with this proposed development, could impact on any Natura 2000 sites.

Water and wastewater

If this development is not on mains sewerage then impacts from wastewater, including cumulative impacts, on groundwater and any nearby surface waters or wetland habitats should be assessed. In addition if it is not on mains water supply then impacts, including cumulative impacts, relating to water abstraction should be assessed. This may require hydrogeological information. Where connection will be to existing infrastructure the impact of the demand for additional potable water, waste water treatment, and additional surface runoff should be assessed.

Alien invasive species

If the proposed development is adjacent to a Natura 2000 site and involves construction, landscaping or a garden, care should be taken to ensure that no terrestrial or aquatic invasive species are used which could impact negatively on these sites. Information on alien invasive species in Ireland can be found at <http://invasives.biodiversityireland.ie/> and at <http://invasivespeciesireland.com/>.

CMPs

Complete project details including outline construction management plans (CMPs) need to be provided in order to allow an adequate appropriate assessment to be undertaken. Applicants need to be able to demonstrate that CMPs and other such plans are adequate and effective mitigation, supported by scientific information and analysis, and that they are feasible within the physical constraints of the site. The positions, locations and sizes of construction infrastructure and mitigation, such as settlement ponds, disposal sites and construction compounds, may significantly affect European sites, designated sites, habitats, and species in their own right and could have an effect for example on drainage, water quality, habitat loss, and disturbance. If these are undetermined at time of the assessment, all potential effects of the development on the site are not being considered. If applicants are not in a position to decide the exact location and details of these at time of application, then they need to consider the range of options that may be used in their assessment so that all issues are covered. The CMP should also include methods to ensure invasive alien species are not introduced or spread.

Licences

Where there are impacts on protected species and their habitats, resting or breeding places, licences may be required under the Wildlife Acts or derogations under the Habitats Regulations. In particular bats and otters and cetaceans are strictly protected under annex IV of the Habitats Directive. A copy of Circular Letter NPWS 2/07 entitled “Guidance on Compliance with Regulation 23 of the Habitats Regulations 1997 – strict protection of certain species/applications for derogation licences” can be found on the Departmental website at www.npws.ie/sites/default/files/general/circular-npws-02-07.pdf. It should be noted however that the Regulations of 1997 have since been revoked and that Part 6 of the European Communities (Birds and Natural Habitats) Regulations 2011-2015 is now the relevant part dealing with the protection of flora and fauna. In particular reference to Regulation 23 in the circular letter should be taken to mean Regulation 51 in the current Regulations.

In addition the planning authority will be required to take account of species protected under sections 21, 22 and 23 of the Wildlife Acts if there are any impacts on other protected species or their resting or breeding places, such as on protected plants, badger setts or birds’ nests. They will also need to be cognisant of article 5 (d) of the Birds Directive. For that reason vegetation, including hedges and trees, should not be removed during the nesting season (i.e. March 1st to August 31st).

In order to apply for any such derogation as mentioned above the results of a survey should be submitted to the National Parks and Wildlife Service of this Department. Such surveys are to be carried out by appropriately qualified person/s at an appropriate time of the year. Details of survey methodology should also be provided. Such licences should be applied for in advance of planning to avoid delays and in case project modifications are necessary.

Should this survey work take place well before construction commences, it is recommended that an ecological survey of the development site should take place immediately prior to construction to ensure no significant change in the baseline ecological survey has occurred. If there has been any significant change mitigation may require amendment and where a licence has expired, there will be a need for new licence applications for protected species.

The above observations/recommendations are based on the papers submitted to this Department on a pre-planning basis and are made without prejudice to any observations that the Minister may make in the context of any consultation arising on foot of any development application referred to the Minister, by the planning authority, in her role as statutory consultee under the Planning and Development Act, 2000, as amended.

You are requested to send further communications to this Department's Development Applications Unit (DAU) at manager.dau@ahg.gov.ie (team monitored); if this is not possible, correspondence may alternatively be sent to:

The Manager,
Development Applications Unit (DAU),
Department of Culture, Heritage and the Gaeltacht,
Newtown Road,
Wexford,
Y35 AP90

Is mise, le meas



Sinéad O' Brien
Development Applications Unit

APPENDIX 5 PROJECT SCOPING & CONSULTATION

Appendix 5-5

Introducing Dublin Port's MP2 Project

What does the proposed MP2 Project involve?



Community Gain Initiative



Find out more and make your views known.



Dublin Port Company (DPC) will shortly be bringing a planning application to An Bord Pleanála (ABP) for a new significant capital project in Dublin Port.

The proposed development is the second major capital project from the Dublin Port Masterplan and is identified as the MP2 Project.

The MP2 Project is required to facilitate Dublin Port to maximise the efficient use of land adjacent to river berths and to facilitate the efficient operation of key aspects of port operations for Ro-Ro, Lo-Lo and passenger traffic.

The development will involve reconfiguring existing facilities to allow Dublin Port to meet the anticipated growth in passenger and mercantile trade in the period through to 2040.

This will be done through ensuring the optimal use of land space allied to the provision of new river berths at the north-eastern part of the DPC Estate at Dublin Port.

This newsletter is intended to provide an introduction to the proposed development as Dublin Port commences pre-application consultations.

DPC would welcome any queries or feedback on any elements of the MP2 Project and will take any feedback into account in determining the final form of the Project.



Yours sincerely,
Eamonn O'Reilly
Chief Executive, Dublin Port Company



MP2 Project Site

The MP2 Project site is approximately 57 hectares and is located in the north-eastern part of the port estate, water bound to the north and east by the Tolka Estuary, and to the south by the Dublin Harbour. West of the site are existing port operations including facilities for the importation of petroleum products. Current activities on the site include existing ferry terminals, parking, loading and waiting areas, oil berth and ancillary facilities, as well as the storage of transit containers.

What does the proposed MP2 Project involve?

The proposed **landside** elements of the MP2 Project comprise;

A unified ferry terminal, incorporating existing Terminals 1, 2 and 5.

Reconfiguration of existing roadways, buildings and lands to create an additional three hectares of usable terminal area.

A new unified set of "in-gates" north of the existing terminal area accessed from the permitted Promenade Road Extension.

A new ferry terminal building constructed overlooking the Tolka Estuary.

Facilities for border control purposes for State Services (Revenue, Immigration and Agriculture).

The expansion of an existing container terminal in terms of both berthage and land for the transit storage of imported and exported containers from Lo-Lo container ships.

The **marine side** works forming the MP2 Project include;

A new open jetty to provide a fifth Ro-Ro berth at the eastern end of the port.

Extensions and changes to existing berths (Berths 50A and Oil Berth 3).

Infilling of existing Oil Berth 4.

Capital dredging works at the new berths to create berth pockets and areas for ships to manoeuvre on and off the berths.



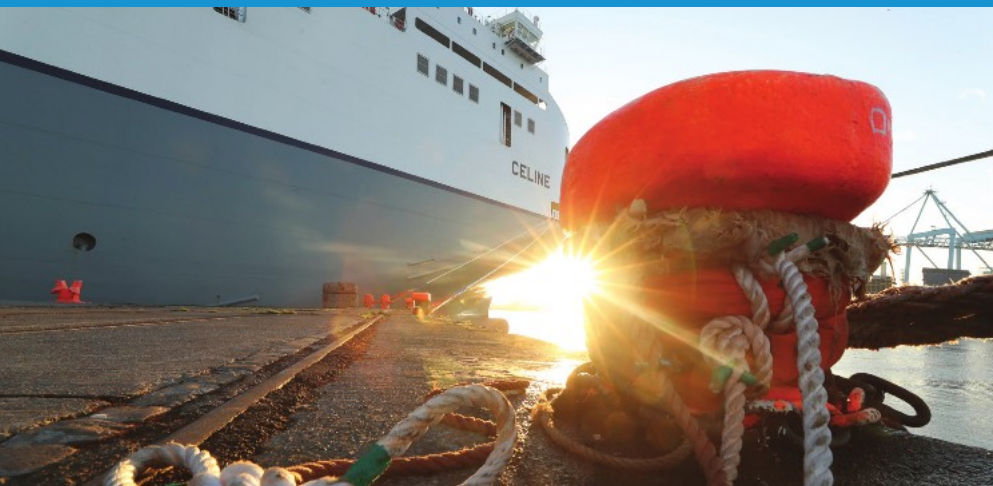
Environmental Assessment

DPC is committed to an extensive programme of environmental management and protection.

A detailed **environmental assessment** is being carried out of the impact of the proposed MP2 Project. This will be informed by an extensive **monitoring programme**.

An Environmental Impact **Assessment Report (EIAR)** will be prepared and include assessments on population & human health, use of natural resources including biodiversity, flooding & climate change, waste management, etc.

A **detailed assessment** will be undertaken of the potential impact of the proposed development on the qualifying interests of the adjacent Natura 2000 sites.



Community Gain Initiative

DPC is advancing a Community Gain Initiative as a core part of the MP2 Project. This will involve the development of a City Farm on the former ESB Pole Field site opposite St. Joseph's Co-Ed National School, a DPC-owned site on the East Wall Road.

The City Farm, which will mirror successful urban farm concepts in London, will provide an attractive and appealing area where farm animals and livestock will be kept, along with a horticultural area and associated facilities. The City Farm will act as an important social and community hub with significant appeal to existing local groups, schools and visitors city-wide.

DPC is developing the City Farm concept in conjunction with the Parks Department of Dublin City Council. The proposed community gain initiative will include DPC providing access to the land involved and allocating funding to help the City Farm to get established and running with the involvement of the local community. For more detailed information on the proposed Community Gain Initiative, see www.dublinport.ie/MP2.



Make Your Views Known

Before DPC submits the MP2 Project to ABP for planning permission we are keen to hear any views of any stakeholders on the proposed development. In particular, we are keen to hear views on the nature of the proposed Community Gain initiative.

To get in touch and make your views known by 18th June 2018, please contact: -

Charlie Murphy
Communications Manager
Dublin Port Company
Port Centre
Alexandra Road
Dublin 1

MP2@dublinport.ie

01 887 6000 (Mon-Fri, 9am – 4pm)

26th September 2018

Sarah Horgan
Dublin Port Company
Port Centre
Alexandra Road
Dublin 1
Ireland

Re: Dublin Port Company – MP2 Project

Dear Ms. Horgan,

Having examined the proposed works at Berth 50-A, ESB Networks do not have an objection in principle to the proposal.

The following points are key to the acceptance in principle of these proposals:

- As built records for the cable ducts must be thoroughly verified prior to commencement of any detailed design or new build works
- The detailed design and execution of the concrete encasement of the cable duct bank must be fully discussed and agreed with ESB Asset Management in advance of the work
- Detailed methodology and control measures for dredging and piling in the vicinity of the ducts must be discussed and agreed with ESB Asset Management in advance of the works

Yours sincerely,



John Emerson
Underground Asset Manager
ESB Networks



Subject to Lease/Lease Denied

Mr. Michael Sheary
Chief Financial Officer & Company Secretary
Dublin Port Company
Port Centre
Alexandra Road
Dublin D01 H4C6

12 September 2018

Our Ref: FS006893
(Please quote on all
correspondence)

**Foreshore Consent Application on behalf of Dublin Port Company in respect of
MP2 project**

Dear Mr. Sheary,

I refer to the foreshore consent pre-application in respect of the MP2 Project, received on 10 September 2018.

I can confirm that this Department has no objection to the making of an application for planning permission in respect of the proposed development.

No works can be undertaken on the foreshore until the appropriate foreshore approval has been obtained.

Yours sincerely,

David Carolan
Marine Planning-Foreshore Section
053 9117477
David.carolan@housing.gov.ie



O'Keeffe, James

From: Holland, Kevin
Sent: 2019-06-21 11:18
To: Niamh Fitzgerald; Hanratty, Garry
Cc: O'Keeffe, James
Subject: RE: Pre-planning - Dublin Port - MP2
Attachments: CP1770-ATK-01-ZZ-M2-CE-0501_4.pdf; CP1770-BLP-ZZ-ZZ-M2-MA-0005-DP-4.pdf; CP1770-BLP-ZZ-ZZ-M2-MA-0001-DP-3.pdf; CP1770-BLP-ZZ-ZZ-M2-MA-0002-DP-4.pdf; CP1770-BLP-ZZ-ZZ-M2-MA-0004-DP-3.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Niamh,

Thank you for taking my call recently regarding the proposed MP2 project at Dublin Port. We note and appreciate your comments below regarding our drainage proposals for proposed additional hardstanding/impermeable areas, at proposed Berth 53 and infill of Oil Berth 4, as being acceptable in principle. As discussed, there is limited scope to incorporate additional SUDS measures within the remaining areas of the planning application which consist of existing and consented hardstanding/impermeable areas. We note the development is being delivered in line with the Masterplan for Dublin Port, which incorporates soft landscaping areas, and the development is bounded to the north and east perimeter by a proposed greenway which was consented under the Dublin Port Internal Roads Project (consented under Reg. Ref. 3084/16).

There have been no changes of significance to our proposals in terms of drainage since our previous issue below. As agreed, I've attached relevant of the latest drawings for your reference as outlined below.

- CP1770-ATK-01-ZZ-M2-CE-0501-DP-4. Proposed storm drainage (DP Rev 4)
- CP1770-BLP-ZZ-ZZ-M2-MA-0001-DP-3 - Overall Site Location Map (DP Rev 3)
- CP1770-BLP-ZZ-ZZ-M2-MA-0002-DP-4 - Existing Site Layout Plan (DP Rev 4)
- CP1770-BLP-ZZ-ZZ-M2-MA-0004-DP-3 - Permitted Site Layout Plan (DP Rev 3)
- CP1770-BLP-ZZ-ZZ-M2-MA-0005-DP-4 - Proposed Site Layout Plan (DP Rev 4)

I trust the attached is acceptable and feel free to contact me should you wish to discuss.

Regards,

Kevin Holland *BEng CEng MIEI*

Associate Director
Atkins Ireland

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From: Niamh Fitzgerald <niamh.fitzgerald@dublincity.ie>

Sent: 2019-04-25 14:23

To: Holland, Kevin <Kevin.Holland@atkinsglobal.com>; Hanratty, Garry <Garry.Hanratty@atkinsglobal.com>

Subject: RE: Pre-planning - Dublin Port - MP2

Hi Kevin,

I will call you about this next week, I hope that suits. This week has been taken up with a lot of meetings.

Regards,
Niamh

From: Holland, Kevin <Kevin.Holland@atkinsglobal.com>

Sent: 23 April 2019 14:49

To: Niamh Fitzgerald <niamh.fitzgerald@dublincity.ie>; Garry Hanratty [atkinsglobal] <garry.hanratty@atkinsglobal.com>

Subject: RE: Pre-planning - Dublin Port - MP2

Hi Niamh,

I hope you are well and thank you for your response below. I tried to get through to you earlier regarding the mails below on the MP2 project. The submission date for our application was pushed back by a few months for various reasons but we are now working to conclude our planning package.

I would like to speak with you regarding the drainage discussed in mails below and your response. Would it be possible for you to give me a call at your convenience to discuss?

Thank you in advance for your assistance in this regard.

Regards,

Kevin Holland *BEng CEng MIEI*

Associate Director
Atkins Ireland

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From: Niamh Fitzgerald <niamh.fitzgerald@dublincity.ie>
Sent: 2019-01-11 10:13
To: Hanratty, Garry <Garry.Hanratty@atkinsglobal.com>
Cc: Holland, Kevin <Kevin.Holland@atkinsglobal.com>
Subject: RE: Pre-planning - Dublin Port - MP2

Hi Garry,

And a happy new year to you!

In terms of Area 1 (Oil berth 4) and Area 2 (Berth 53), referred to in email below, the drainage proposals are acceptable in principle. As regards the remaining area of the planned application sustainable drainage (SuDS) elements would be welcomed if at all possible to incorporate.

Regards,
Niamh

From: Garry Hanratty [atkinsglobal] <garry.hanratty@atkinsglobal.com>
Sent: 10 January 2019 18:15
To: Niamh Fitzgerald <niamh.fitzgerald@dublincity.ie>
Cc: Holland, Kevin <Kevin.Holland@atkinsglobal.com>
Subject: RE: Pre-planning - Dublin Port - MP2

Niamh,

Happy new year to you.

Just chasing you up on the email below in relation to the Pre-planning - Dublin Port - MP2.
We are moving towards to lodging the planning submission in the next couple of weeks as previous discussed. Can you let me know if there any items that need to be address prior to submission.

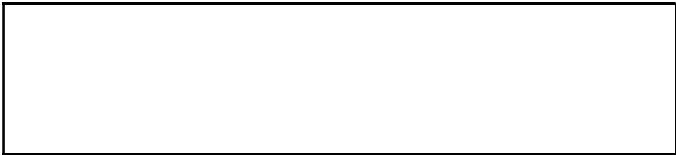
Please give me a call if you wish to discuss further.

Regards
Garry

Garry Hanratty *BEng Tech IEI*
Senior Engineer
Atkins Ireland

+353 1 8108079 +353 861995861

Atkins House, 150 Lakeside Drive, Airside Business Park, Swords, Co. Dublin, Ireland. K67V3P4



Company

From: Niamh Fitzgerald <niamh.fitzgerald@dublincity.ie>
Sent: 2018-12-05 12:33
To: Hanratty, Garry <Garry.Hanratty@atkinsglobal.com>
Cc: Holland, Kevin <Kevin.Holland@atkinsglobal.com>
Subject: RE: Pre-planning - Dublin Port - MP2

Thanks Garry.
I will get looking at it next week and come back to you then if any queries.
Regards,
Niamh

Niamh Fitzgerald | Senior Executive Engineer | Wastewater - Capital Delivery | Environment & Transportation Department
Comhairle Cathrach Bhaile Átha Cliath, B1 U4, Oifigí na Cathrach, Sráid Sheamlas an Éisc, B.Á.C. 8, Éire.
Dublin City Council, Block 1, Floor 4, Civic Offices, Fishamble Street, Dublin 8, Ireland.
T +353-1-2224369 | T +353-87-7691987 | F +353-1-2222300 | E niamh.fitzgerald@dublincity.ie | www.dublincity.ie

From: Garry Hanratty [atkinsglobal] <garry.hanratty@atkinsglobal.com>
Sent: 05 December 2018 12:28
To: Niamh Fitzgerald <niamh.fitzgerald@dublincity.ie>
Cc: Holland, Kevin <Kevin.Holland@atkinsglobal.com>
Subject: RE: Pre-planning - Dublin Port - MP2

Niamh,

Was good to talk to you in relation to the proposed Dublin Port - MP2
The client is looking to lodge mid-January, therefore if anything comes out of the review of the drawings issued I would prefer to discuss or meeting with you before Christmas to allow us time make changes etc.

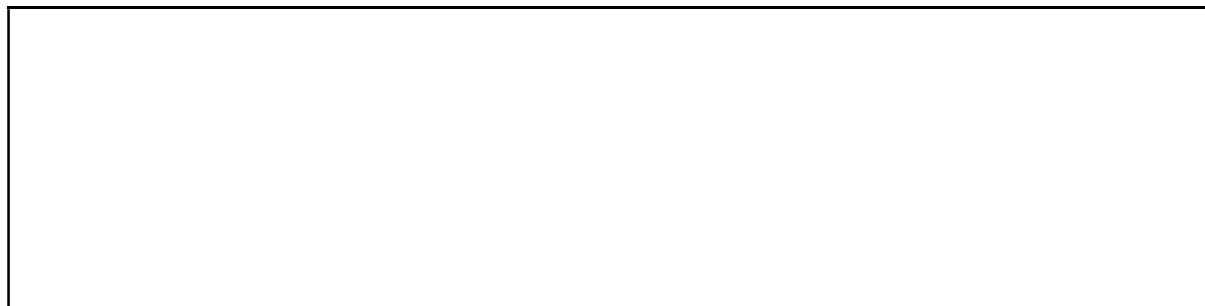
Regards
Garry

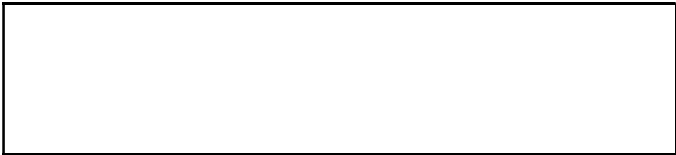
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Senior Engineer
Atkins Ireland

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Company

From: Hanratty, Garry
Sent: 2018-12-03 18:01
To: 'niamh.fitzgerald@dublincity.ie' <niamh.fitzgerald@dublincity.ie>
Cc: Holland, Kevin <Kevin.Holland@atkinsglobal.com>
Subject: RE: Pre-planning - Dublin Port - MP2

Niamh,

Can you please give me a call to discuss the project below issued to your college on the 24th of September 2018.

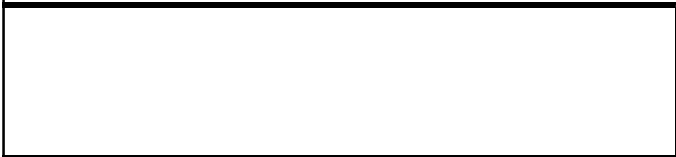
Regards
Garry

Garry Hanratty *BEng Tech IEI*
Senior Engineer
Atkins Ireland

+353 1 8108079 +353 861995861



Atkins House, 150 Lakeside Drive, Airside Business Park, Swords, Co. Dublin, Ireland. K67V3P4



Company

From: Hanratty, Garry
Sent: 2018-09-24 10:02
To: 'Maria Treacy' <maria.treacy@dublincity.ie>
Subject: Pre-planning - Dublin Port - MP2

Maria,

We are currently engaged by Dublin Port Company as designer for the Masterplan 2 SID planning application and have been asked to engage with Dublin City Council on the drainage design proposed.

The main elements involved include:

- A unified ferry terminal, incorporating existing Terminals 1, 2 and 5.

- Reconfiguration of existing roadways, buildings and lands to create an additional usable terminal area
- A new unified set of “in-gates” north of the existing terminal area accessed from the permitted Promenade Road Extension.
- The expansion of an existing container terminal in terms of both berthage and land for the transit storage of imported and exported containers from Lo-Lo container ships.
- A new open jetty to provide a fifth Ro- Ro berth at the eastern end of the port.
- Extensions and changes to existing berths (Berths 50A and Oil Berth 3).
- Infilling of existing Oil Berth 4.
- Capital dredging works at the new berths to create berth pockets and areas for ships to manoeuvre on and off the berths.

Of the works above there are 2 no. areas which will impact on the existing and consented drainage on the site through addition of hardstanding areas. These are discussed below.

Area 1 (Oil Berth 4 – indicated to the South West of the drawing)

Infilled basin at Oil Berth 4 to provide new hardstanding area above for landside operations. The existing Storm water drainage outfall at the existing quay wall will be extended to discharge at the new quay wall. The new hardstanding space will be drained by a series of gullies and drains through a new oil interceptor/separator and silt trap prior to discharge to the sea through the relocated outfall.

Area 2 (Bert 53 – indicated to the South East of the drawing)

There is previously consented works in this area to construct Berth 52 and infill the existing basin under the Alexander Basin Redevelopment project. (refer to drawing IBM0498-GA-301 attached) There is limited additional hardstanding area proposed in this area for new Berth 53. Works include a new open structure jetty with maintenance road access above. There is a double tier ramp and linkspan to facilitate embarking and disembarking of Ro Ro traffic from the ferry to land. It is proposed to collect storm water on the new hardstanding areas in a closed system and discharge via a new silt trap and oil interceptor/separator to the outfall at Berth 52 as consented as part of the ABR project.

Note there will be no storm water discharge for either work area, as the outfall is directly to sea, and will not impact water course or existing DCC drainage network.

If you have any quires on the attached please give me a call or alternately I can call into you to discuss further.

Regards
Garry

Garry Hanratty *BEng Tech IEI*
Project Engineer
Atkins Ireland

+353 1 8108079 +353 861995861

Atkins House, 150 Lakeside Drive, Airside Business Park, Swords, Co. Dublin, Ireland. K67V3P4



Company

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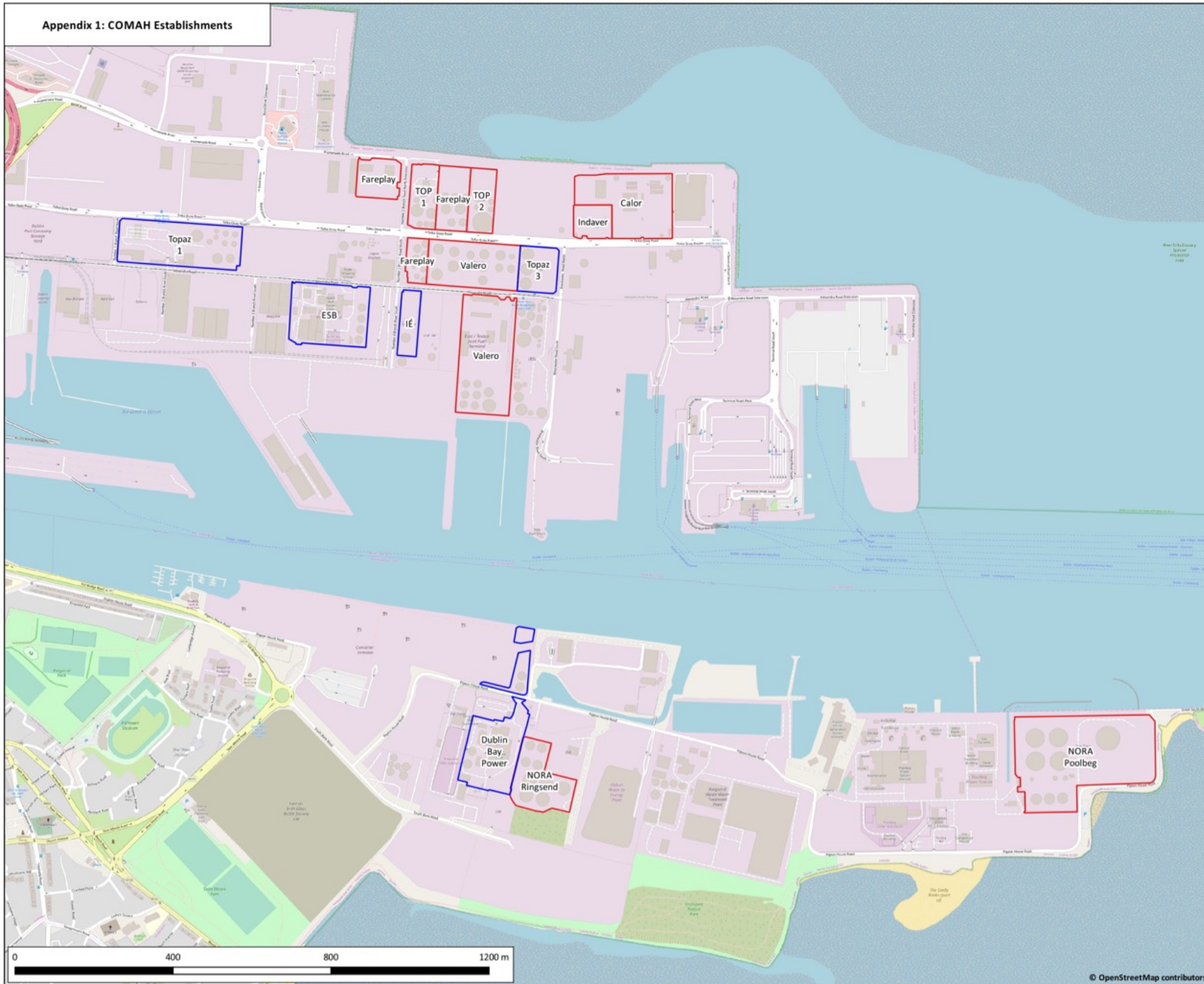
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APPENDIX 6 RISK OF MAJOR ACCIDENTS

Appendix 6-1

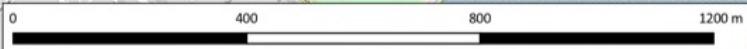
Appendix 1: COMAH Establishments



Legend

COMAH establishments

- Lower tier
- Upper tier



Byrne Ó Cléirigh Ltd.

30A Westland Square
 Pearse Street, Dublin 2, D02 PN76, Ireland
 t: 353 1 677 0733 | f: +353 1 677 0729 | e: info@boc.ie
 www.boc.ie

Client	RPS		
Project	COMAH Land Use Planning Assessment MP2 Project		
Title	COMAH Establishments in Dublin Port		
Scale	1:15,000	541-19X0055 A1	R1
FBS	541:14:03		

APPENDIX 6 RISK OF MAJOR ACCIDENTS

Appendix 6-2

APPENDIX 3: POPULATION DATA

3.1 CSO Small Areas

3.2 Table 18: CSO Small Area Data

3.3 CSO Workplace Zones

3.4 Table 19: CSO Workplace Zone Data

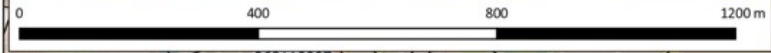
3.5 Table 20: Dublin Port Estate Population

3.6 Dublin Port Berths

3.7 Table 21: Dublin Port Berth Occupancy (2018)

3.8 Table 22: Cruise Liner Data

Appendix 3.1: CSO Small Areas



Byrne Ó Cléirigh Ltd.

30A Westland Square
 Pearse Street, Dublin 2, D02 PN76, Ireland
 t: 353 1 677 0733 | f: +353 1 677 0729 | e: info@boc.ie
 www.boc.ie

Client	RPS		
Project	COMAH Land Use Planning Assessment MP2 Project		
Title	CSO Small Areas		
Scale	1:15,000	541-19X0055 A3.1	RD
FBS	541:14:03		

Table 18: CSO Small Area Data

No.	CSO Small Area (SA) reference	Co-ordinates of SA centroid		SA centroid to centre of risk curves (km)	Residential population
		X	Y		
1	268042001	720208	736094	1.26	237
2	268042002	720235	735946	1.15	282
3	268042003	720416	735887	1.23	133
4	268042004	720474	735990	1.35	201
5	268042005	720386	735812	1.16	326
6	268042006	720660	736005	1.50	174
7	268042007	720885	736039	1.69	285
8	268042008	720563	736111	1.50	281
9	268042009	720621	736207	1.60	360
10	268042010	720232	736605	1.71	279
11	268042013	720688	736557	1.91	282
12	268042018	720325	736326	1.51	267
13	268042019	720169	736334	1.44	128
14	268042020	720474	736614	1.84	280
15	268042022	720852	736490	1.97	152
16	268042023	720722	736355	1.78	232
17	268042024	721047	736296	1.98	167
18	268042026	720968	736259	1.89	242
19	268042027	720293	736839	1.95	302
20	268043001	719786	736322	1.30	299
21	268043002	719826	736481	1.46	303
22	268043003	719386	736154	1.11	295
23	268043004	719450	736004	0.95	213
24	268043005	719795	735976	0.97	199
25	268043006	719759	736144	1.12	253
26	268043007	719725	736597	1.56	251
27	268043008	720018	736887	1.91	275
28	268043009	719781	736919	1.89	214
29	268043010	719679	736795	1.75	363
30	268043011	720008	736000	1.07	255
31	268043012	720009	736696	1.72	263

No.	CSO Small Area (SA) reference	Co-ordinates of SA centroid		SA centroid to centre of risk curves (km)	Residential population
		X	Y		
32	268044001	719429	737030	1.98	301
33	268044002	719365	736782	1.74	209
34	268044003	718919	736539	1.60	330
35	268044004	719028	736569	1.59	340
36	268044005	719238	736513	1.49	237
37	268044006	719115	736432	1.44	304
38	268044007	719348	736406	1.36	419
39	268044008	719015	736030	1.10	250
40	268044009	719024	736162	1.21	376
41	268048003	718482	736270	1.59	241
42	268048006	719067	737001	2.00	316
43	268048008	718136	736433	1.95	150
44	268048010	718375	736421	1.78	289
45	268048011	718495	736478	1.75	142
46	268048012	718778	736498	1.62	343
47	268048013	718622	736462	1.67	240
48	268048014	718726	736773	1.89	302
49	268048016	718410	736591	1.89	211
50	268048017	718619	736625	1.81	138
51	268049004	717788	736056	1.99	315
52	268108001	717765	735373	1.77	240
53	268108002	717731	735296	1.79	220
54	268108006	717573	735375	1.96	219
55	268108008/01	717742	734990	1.77	124
56	268108008/02	717900	735165	1.61	334
57	268108008/03	717784	735130	1.73	134
58	268108009	717641	735217	1.87	275
59	268108010	717727	735175	1.79	207
60	268108020	717815	734633	1.74	408
61	268108021/01	717765	734713	1.78	216
62	268108021/02	717873	734710	1.67	185
63	268108022	717574	735007	1.94	187

No.	CSO Small Area (SA) reference	Co-ordinates of SA centroid		SA centroid to centre of risk curves (km)	Residential population
		X	Y		
64	268108023	717567	735132	1.94	265
65	268108026 / 268108027	718874	734892	0.65	922
66	268108029/01	717578	734743	1.95	140
67	268108029/02	717709	734707	1.83	271

Appendix 3.3: CSO Workplace Zones



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Client	RPS		
Project	COMAH Land Use Planning Assessment MP2 Project		
Title	CSO Workplace Zones		
Scale	1:15,000	541-19X0055 A3.3	RD
FBS	541:14:03		

Table 19: CSO Workplace Zone Data

No.	CSO Workplace Zone reference	Co-ordinates of workplace centroid		Workplace centroid to centre of risk curves (km)	Residential population
		X	Y		
1	DC0141	720535	736708	1.95	1187
2	DC0142	720870	736260	1.82	589
3	DC0143	720435	735856	1.23	587
4	DC0144	720385	736164	1.42	944
5	DC0145	719883	736903	1.89	950
6	DC0146	719780	736919	1.89	807
7	DC0147	719425	736656	1.61	848
8	DC0148	719785	736321	1.30	1547
9	DC0149	720008	736004	1.08	851
10	DC0150	719396	736076	1.03	743
11	DC0151	719429	737035	1.99	330
12	DC0152	718953	736516	1.57	653
13	DC0160	718354	736299	1.70	367
14	DC0161	718415	736481	1.80	669
15	DC0164	718656	736230	1.45	173
16	DC0170	717786	736055	1.99	456
17	DC0326	717625	735185	1.89	840
18	DC0331	717794	734709	1.75	359
19	DC0332	717816	734634	1.74	661
20	DC0333	717988	734483	1.62	192
21	DC0334	719898	734599	0.60	343
22	DC0335	719692	735016	0.19	260
23	DC0336	719088	734589	0.62	648
24	DC0337	718980	735015	0.53	210
25	DC0338	718250	734875	1.27	412
26	DC0339	717824	735091	1.68	651
27	DC0340	718345	735225	1.18	394
28	DC0341	717858	735497	1.71	192
29	DC0342	717927	735681	1.70	764
30	DC0343	717983	735633	1.63	391

No.	CSO Workplace Zone reference	Co-ordinates of workplace centroid		Workplace centroid to centre of risk curves (km)	Residential population
		X	Y		
31	DC0344	718116	735667	1.52	1389
32	DC0345	718237	735625	1.40	874
33	DC0346	718196	735488	1.38	218
34	DC0347	718373	735454	1.20	643
35	DC0348	718643	735400	0.93	154
36	DC0349	718963	735388	0.64	175
37	DC0350	717990	734667	1.57	404
38	DC0351	717702	735563	1.88	215
39	DC0352	718098	735532	1.49	224
40	DC0353	718215	735444	1.35	311
41	DC0354	718400	735598	1.24	383
42	DC0668	718532	733794	1.59	876
43	DC0669	718192	733672	1.91	762
44	DC0670	718054	733851	1.89	343
45	DC0671	718044	734100	1.75	1161
46	DC0672	719028	733644	1.49	232
47	DC0673	720522	733603	1.77	168
48	DC0674	719645	733618	1.44	139

Table 20: Dublin Port Estate Population

Facility / location	Estimated population	% indoor	% outdoor
Blackhorse Transport Ltd	10.0	70%	30%
Bord na Móna	2.0	100%	0%
Calor - office & maintenance	17.0	100%	0%
Calor north site	1.0	0%	100%
Cobblefret Office	2.0	100%	0%
Container parking	6.0	100%	0%
Custom House	100.0	100%	0%
Dareland Enterprises	12.0	100%	0%
Dublin Container & Transport Services	5.0	100%	0%
Dublin Ferryport Container	25.0	24%	76%
Dublin Ferryport offices + Weighbridge	30.0	83%	17%
Dublin Port Co HQ - Port administration offices	84.0	100%	0%
Dublin Port Service Station	15.0	100%	0%
Dublin Stevedore office & canteen	25.0	20%	80%
ESB Northwall Generating Station (security only)	6.0	50%	50%
Valero (north)	2.0	100%	0%
Valero (south)	15.0	100%	0%
Fareplay No. 1 Yard		0%	100%
Fareplay No. 2 Yard		0%	100%
FSK Freight Services Limited	20.0	25%	75%
Gwynedd Shippin	3.0	100%	0%
Heiton Buckley Ltd	8.0	100%	0%
Former Henry Crosbie (Dublin Port Warehouses)	45.0	100%	0%
Indaver	30.0	80%	20%
Irish Bitumen Storage	10.0	80%	20%
Irish Continental Group	50.0		100%
Irish Ferries Freight Offices	43.0	100%	0%
Irish Ferries Offices	60.0	100%	0%
Irish Rail	0	0%	100%
Irish Tar & Bitumen	15.0	80%	20%
Lagan Bitumen Offices	5.0	80%	20%

Facility / location	Estimated population	% indoor	% outdoor
M & S (Dub Port Service & maintenance)	50.0	100%	0%
Molloy & Sherry Eirfreeze	30.0	83.33%	16.67%
Molloy & Sherry Transport	10.0	100%	0%
Montgomery Transport	11.0	45.45%	54.55%
Moyglare Holdings	5.0	100%	0%
Odlums	5.0	100%	0%
O'Reilly Transport	20.0	100%	0%
Otter Engineering	10.0	100%	0%
Port Operations Centre	25.0	100%	0%
R & H Hall	15.0	100%	0%
RA Burke Offices	80.0	62.50%	37.50%
Referecare	11.0	45.45%	54.55%
Revenue Commissioners	2.0	100%	0%
Rubbshed	2.0	100%	0%
Stack"C"	20.0	100%	0%
Storecon Ltd	2.0	100%	0%
Tanktrans Ltd	2.0	100%	0%
Tara Mines	2.0	100%	0%
Tedcastle Oil 1	3.0	80%	20%
Tedcastle Oil 2		80%	20%
Terminal 5 (offices)	20.0	80%	20%
Trim Transport	12.0	33%	67%
Wincanton Group Ltd (Stobart)	51.0	69%	31%
Woodside Ireland	2.0	100%	0%
Topaz 1	20.0	100%	0%
Topaz 3	2.0	100%	0%
Topaz Fareplay	10.0	100%	0%

Table 21: Dublin Port Berth Occupancy

Berth	Number of days occupied	% of time occupied	Estimated population range
49	183.5	50.27%	500 - 2,200
50	1.7	0.46%	10 - 15
51	197.6	54.13%	23 - 1,500
52	172.0	47.14%	8 - 35
53	198.6	54.40%	10 - 35
49A	37.4	10.25%	900
50A	140.2	38.42%	15
50N	217.8	59.67%	15
50S	194.7	53.35%	10 - 15
51A	205.8	56.39%	23 - 2,200
Alex Basin East 38	57.7	15.81%	10 - 31
Alex Basin East 39	139.3	38.16%	10 - 1,718
Alex Basin East 40	44.5	12.19%	10 - 15
Alex Quay West 29	25.1	6.89%	3 - 25
Alex Quay West 30	244.9	67.08%	8 - 2,112
Alex Quay West 31	12.2	3.33%	8 - 820
Bulk North	141.3	38.70%	10 - 15
C.Link 25	0.1	0.02%	10
Cruise 18	186.1	50.97%	0 - 1,885
D.L.2	17.5	4.79%	35 - 372
D.L.4	68.4	18.75%	0 - 372
Deep Water Berth 46	182.1	49.90%	3 - 2,728
Deep Water Berth 47	157.8	43.25%	8 - 146
MTL 41	0.5	0.14%	15
MTL 42	164.2	44.99%	10 - 15
MTL 43	0.1	0.04%	10
MTL 44	204.9	56.13%	10 - 6,036
MTL 45	79.8	21.85%	10 - 15
Nth Wall Quay 17A	16.2	4.45%	5 - 24
Nth Wall Quay 17B	16.3	4.47%	28
Ocean Pier 32	21.1	5.78%	10 - 820
Ocean Pier 33	121.0	33.16%	10 - 6,036
Ocean Pier 34	11.2	3.07%	8 - 44
Ocean Pier 35	168.3	46.12%	3 - 590
Ocean Pier 36	1.7	0.45%	10 - 1,718

Berth	Number of days occupied	% of time occupied	Estimated population range
Ocean Pier 37	158.6	43.46%	8 - 2,112
Oil Berth No. 1	221.6	60.72%	10
Oil Berth No. 2	268.6	73.59%	10
Oil Berth No. 3	65.2	17.88%	10 - 23
Oil Berth No. 4	11.8	3.23%	10
P&O 21	204.4	56.00%	35 - 357
P&O 25	88.8	24.33%	0 - 2,000
Poolbeg Marina	78.5	21.52%	3 - 18
Ringsend Dock/Gut	3.1	0.85%	5
Sir JRQ 7	114.2	31.27%	0 - 84
Sir JRQ 8	88.5	24.24%	13 - 186
SJR Quay 9	26.6	7.28%	16 - 153
SJR Quay 10	46.7	12.79%	0

Notes:

1. Estimated berth occupancies are based on DPC Port arrival & departure data for 2018 (available at <http://booking.dublinport.ie/webx/>)
2. Estimated berth populations are based on the typical complement for the types of vessel moored at the berths. For larger vessels (cruise ships and passenger vessels), the estimates are based on the available data for passenger and crew capacities.

Table 22: Cruise Liner Data

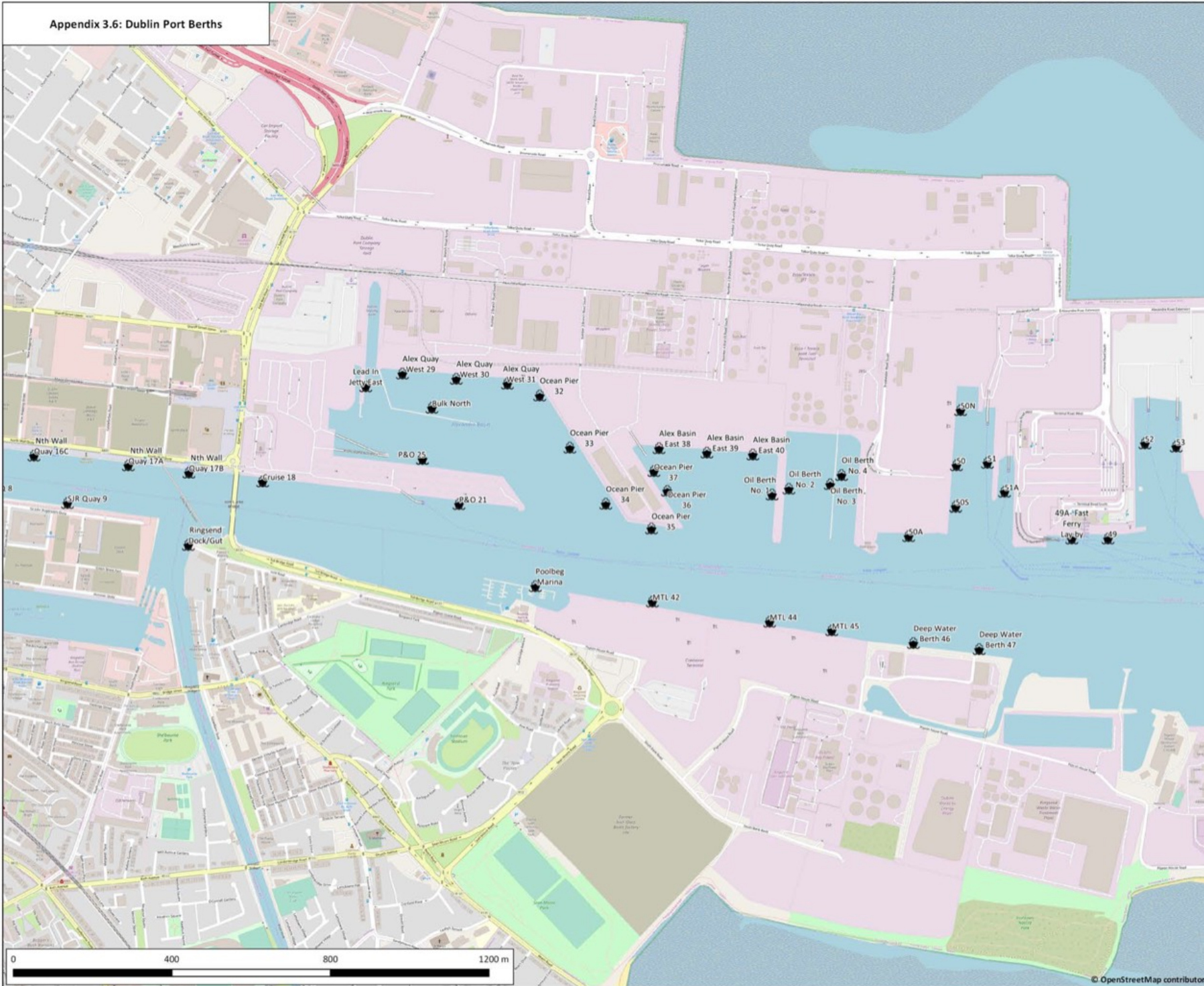
Vessel	2018 visits	Days in port	Capacity		
			Crew	Passengers	Total
Aegean Odyssey	1	1.29	180	380	560
Aidaaura	2	1.73	418	1,300	1,718
Aidavita	1	0.59	426	1,266	1,692
Albatros	2	1.53	424	812	1,236
Amadea	1	0.55	292	624	916
Artania	1	0.58	537	1,260	1,797
Astor	3	1.16	300	650	950
Astoria	6	2.90	274	556	830
Asuka li	1	0.58	545	960	1,505
Aurora	3	2.79	850	1,878	2,728
Azamara Journey	1	0.72	407	694	1,101
Azamara Pursuit	1	0.59	380	777	1,157
Berlin	3	7.07	180	412	592
Boudicca	2	0.88	329	881	1,210
Braemar	1	0.61	371	929	1,300
Brilliance of the Seas	4	4.58	859	2,501	3,360
Celebrity Eclipse	7	7.57	1,271	2,850	4,121
Celebrity Silhouette	1	1.55	1,500	2,886	4,386
Columbus	5	2.88	700	1,856	2,556
Corinthian	13	8.65	70	100	170
Crystal Serenity	1	1.18	655	980	1,635
Disney Magic	1	0.51	950	2,700	3,650
Europa	1	0.46	275	408	683
Europa 2	1	0.68	370	516	886
Hamburg	3	1.43	170	420	590
Hebridean Princess	1	0.75	38	49	87
Island Sky	1	0.71	70	116	186
Le Boreal	1	0.59	136	264	400
Le Soleal	2	0.86	139	264	403
Magellan	8	4.73	660	1,452	2,112
Marco Polo	4	2.71	356	820	1,176
Marina	2	1.37	780	1,252	2,032
Mein Schiff 3	5	3.76	1,000	2,506	3,506
MSC Meraviglia	2	1.40	1,536	4,500	6,036

Vessel	2018 visits	Days in port	Capacity		
			Crew	Passengers	Total
Nautica	4	2.57	386	824	1,210
Norwegian Jade	2	1.20	1,037	2,402	3,439
Ocean Dream	1	0.54	550	1,022	1,572
Ocean Majesty	2	1.04	257	621	878
Oriana	2	0.99	794	1,928	2,722
Pacific Princess	4	2.24	350	750	1,100
Prinsendam	2	2.14	443	835	1,278
Queen Elizabeth	1	0.52	996	2,547	3,543
Queen Victoria	1	0.48	900	2,081	2,981
RCGS Resolute	1	0.52	125	184	309
Regal Princess	1	0.51	1,346	3,560	4,906
Rotterdam	1	1.51	600	1,404	2,004
Royal Princess	11	9.76	1,346	3,600	4,946
Saga Pearl II	1	0.65	252	449	701
Saga Sapphire	1	0.60	406	1,158	1,564
Sea Cloud II	1	0.57	63	96	159
Seabourn Ovation	1	0.48	330	604	934
Seabourn Quest	1	0.72	335	450	785
Seven Seas Explorer	1	0.47	552	750	1,302
Seven Seas Navigator	1	0.53	340	490	830
Silver Cloud	2	1.96	222	296	518
Silver Muse	1	2.47	411	596	1,007
Silver Spirit	1	0.69	376	540	916
Silver Wind	3	2.82	208	294	502
Star Breeze	2	1.05	164	208	372
Star Pride	1	0.57	164	208	372
The World	1	3.70	280	200	480
Variety Voyager Note 1	7	39.39	32	72	104
Viking Sky	1	0.65	550	930	1,480
Viking Sun	3	1.91	550	930	1,480
Zuiderdam	1	1.51	842	2,272	3,114

Notes:

1. The Variety Voyager was detained in Dublin Port between 27 July and 30 August 2018 (for approximately 35 days) (source: Paris MoU, www.parismou.org).

Appendix 3.6: Dublin Port Berths



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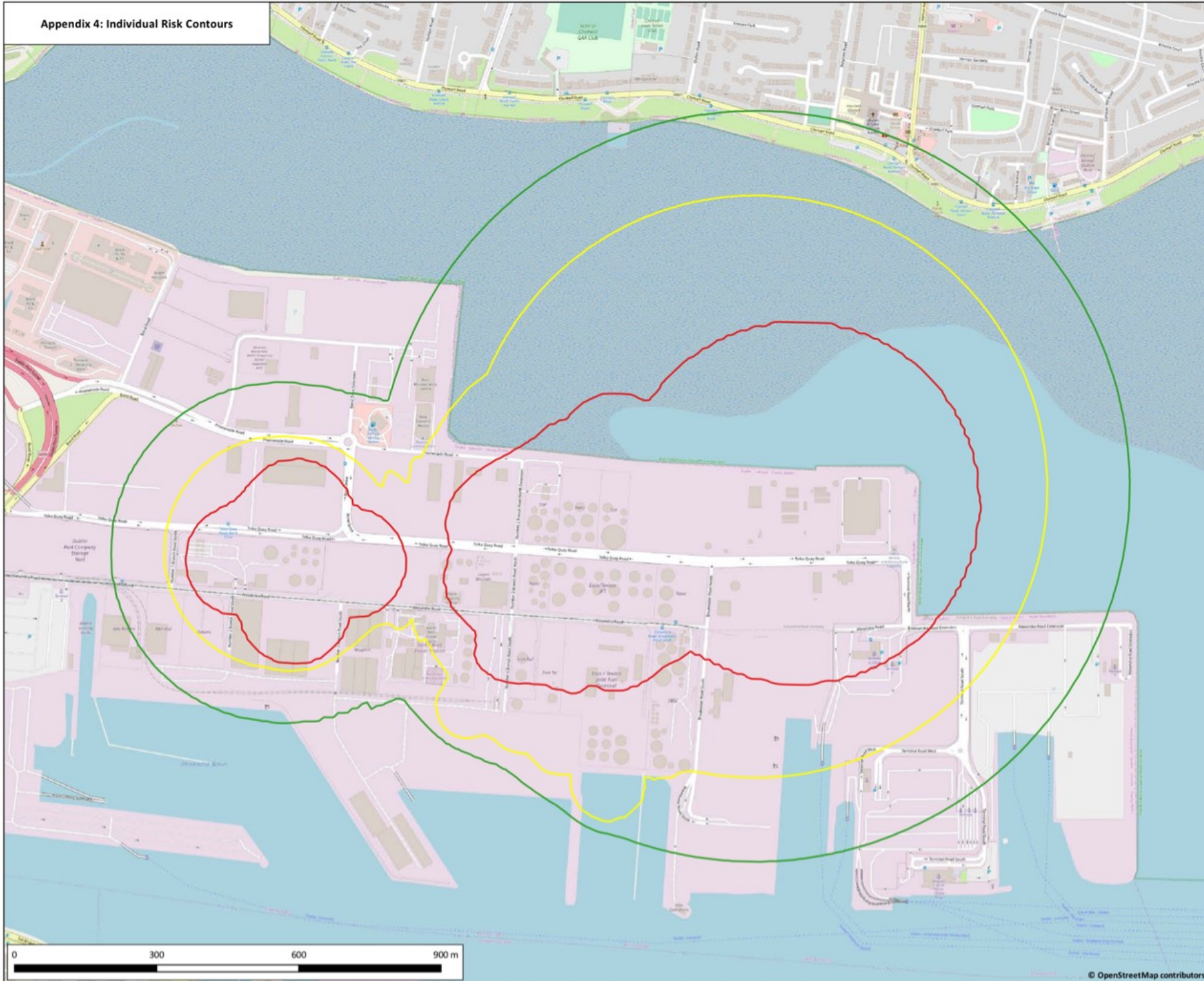
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Client	RPS		
Project	COMAH Land Use Planning Assessment MP2 Project		
Title	Dublin Port Berths		
Scale	1:15,000	541-19X0055 A3.6	RD
FRS	541:14:03		

APPENDIX 6 RISK OF MAJOR ACCIDENTS

Appendix 6-3

Appendix 4: Individual Risk Contours



- Legend**
- Individual risk contours
- 1 x 10⁻⁷ per year
 - 1 x 10⁻⁶ per year
 - 1 x 10⁻⁵ per year



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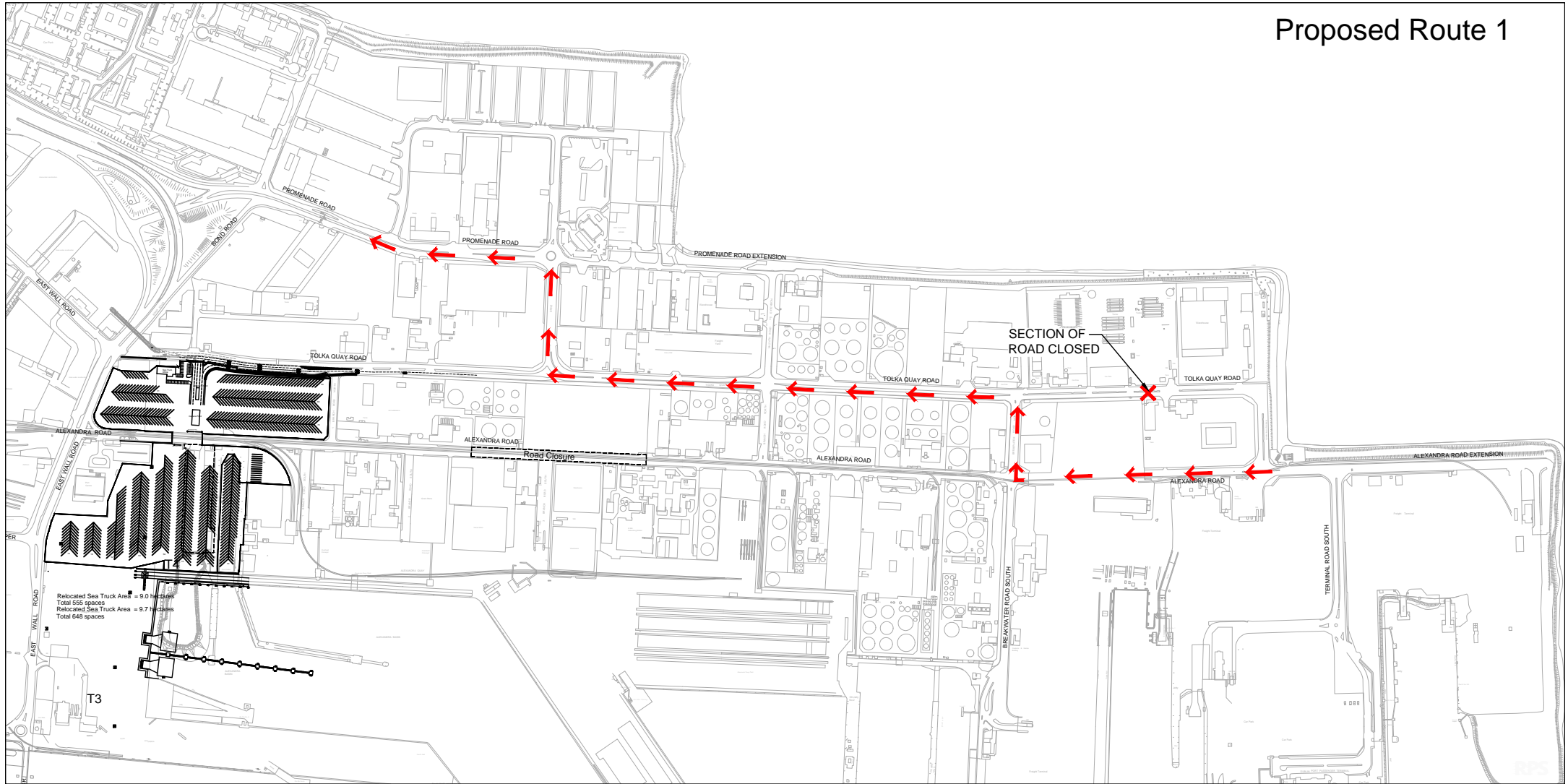
Client	RPS		
Project	COMAH Land Use Planning Assessment MP2 Project		
Title	Individual Risk Contours		
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FBS	541:14:03		

APPENDIX 6 RISK OF MAJOR ACCIDENTS

Appendix 6-4

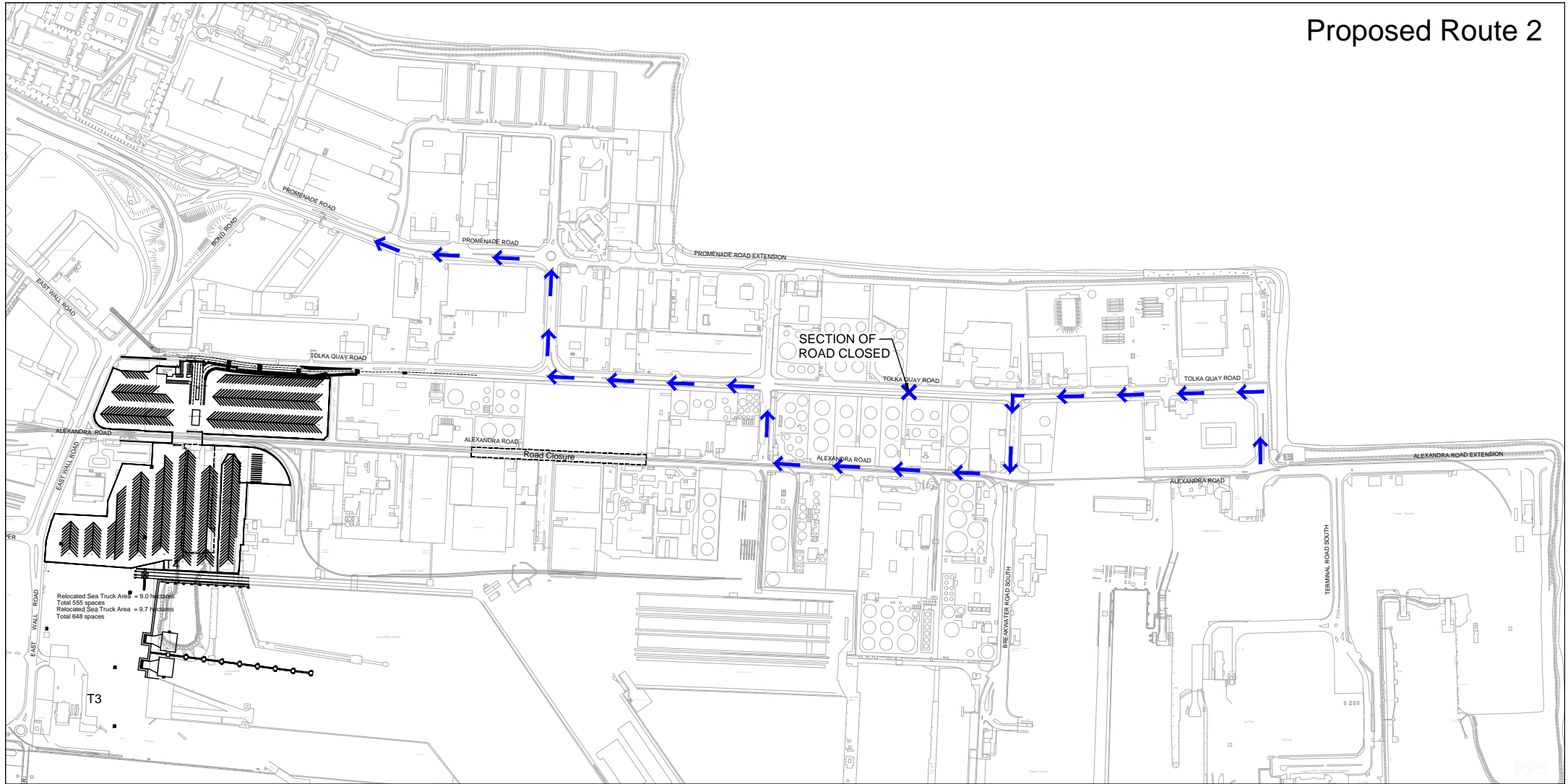
Appendix 5.1 Dublin Port Traffic Diversion Routes - Route 1

Proposed Route 1



Appendix 5.2 Dublin Port Traffic Diversion Routes - Route 2

Proposed Route 2



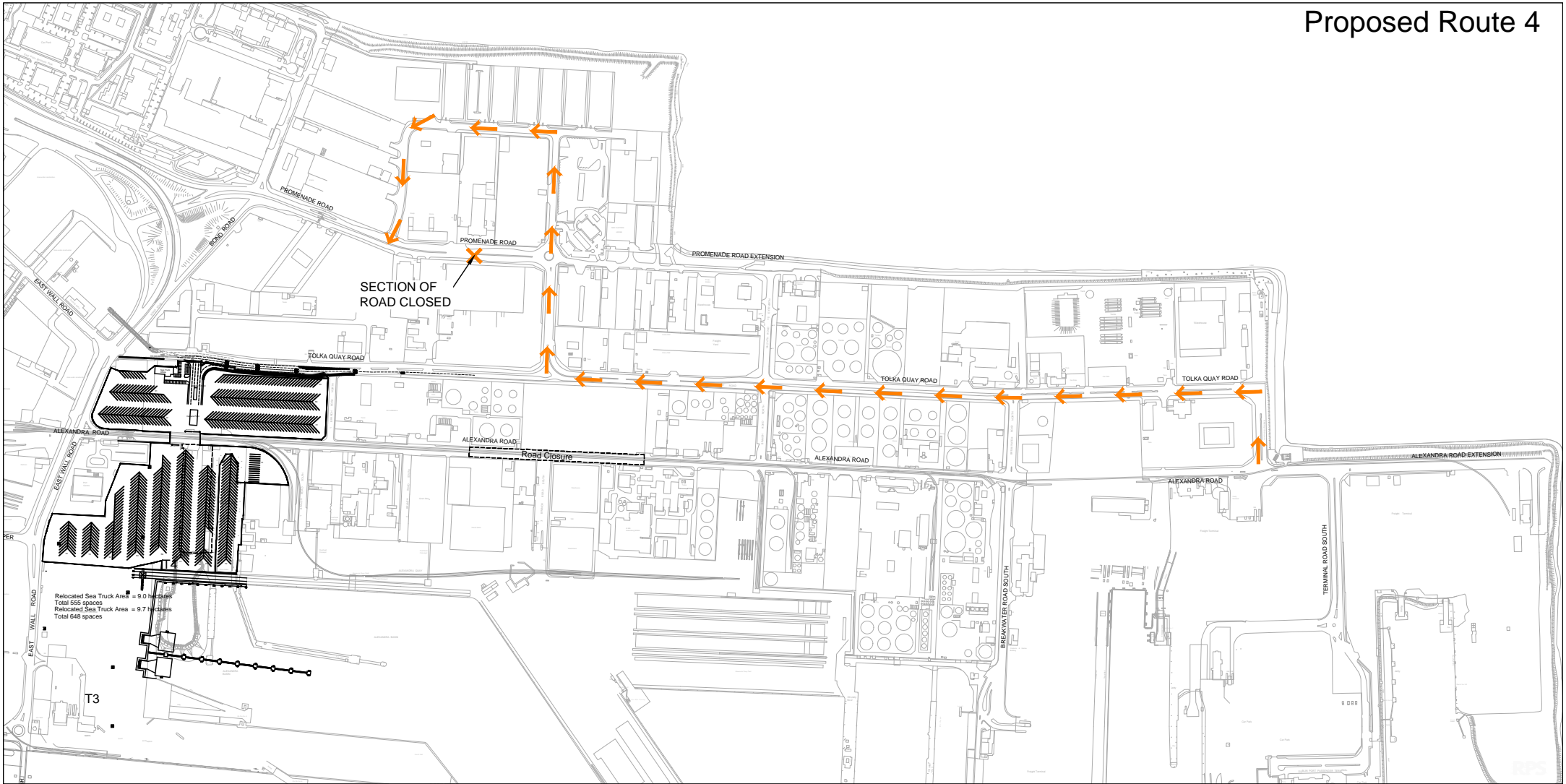
Appendix 5.3 Dublin Port Traffic Diversion Routes - Route 3

Proposed Route 3



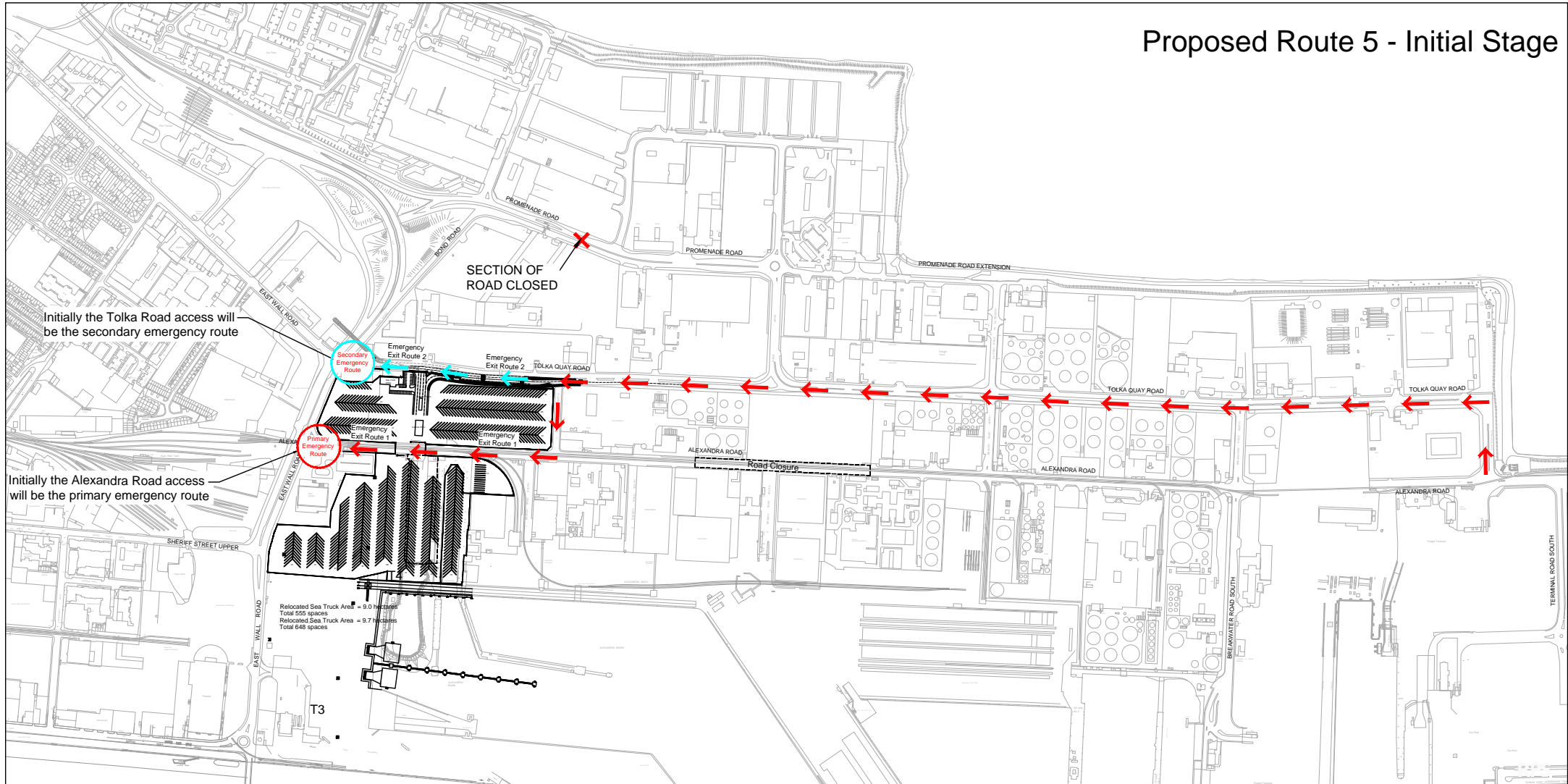
Appendix 5.4 Dublin Port Traffic Diversion Routes - Route 4

Proposed Route 4



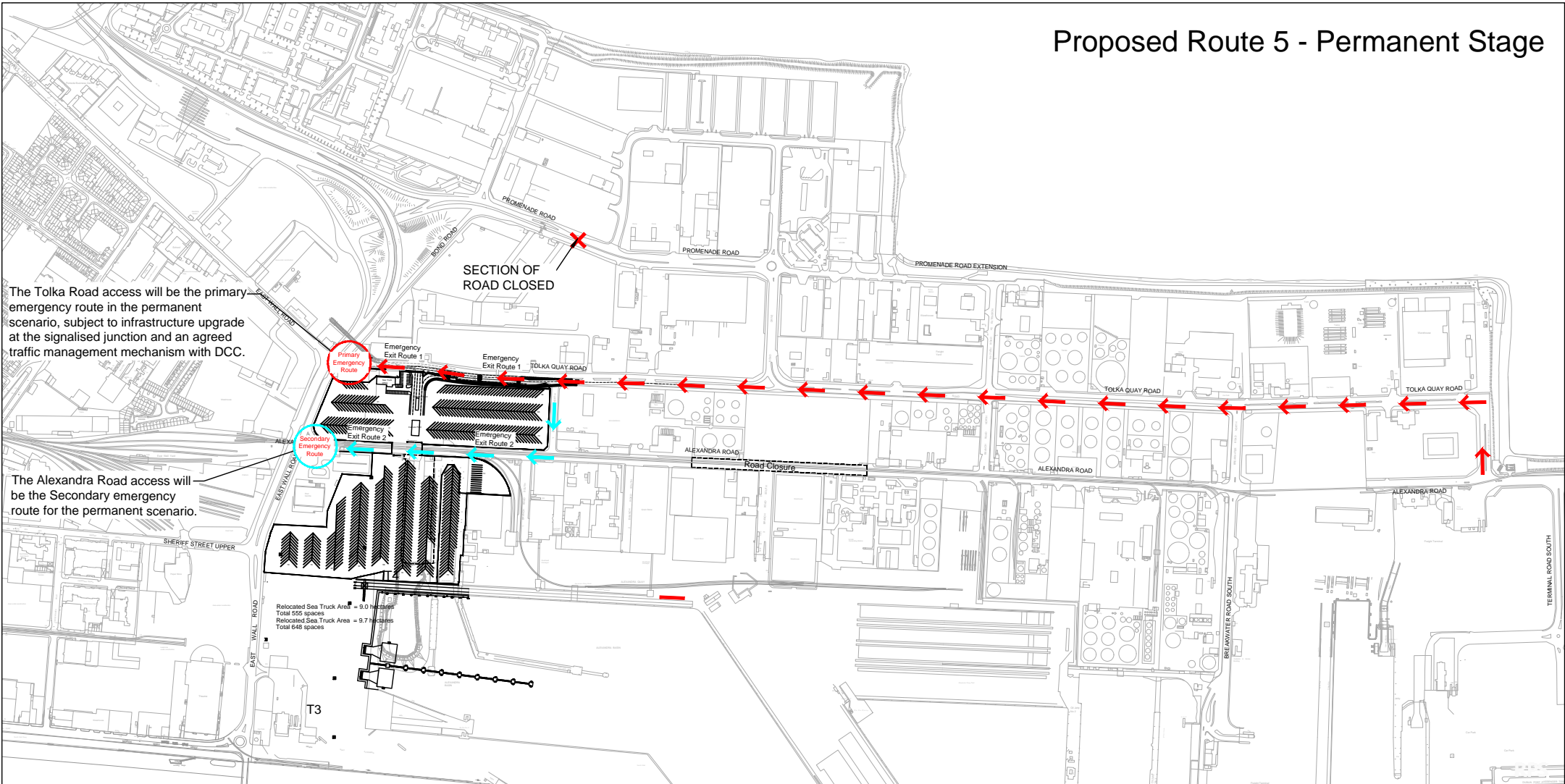
Appendix 5.5 Dublin Port Traffic Diversion Routes - Route 5 (initial)

Proposed Route 5 - Initial Stage



Appendix 5.6 Dublin Port Traffic Diversion Routes - Route 5 (permanent)

Proposed Route 5 - Permanent Stage



APPENDIX 6 RISK OF MAJOR ACCIDENTS

Appendix 6-5



EMERGENCY MANAGEMENT PLAN

The aim of the Dublin Port Company Emergency Management Plan is to outline the structures and arrangements that will be used in response to an emergency in order to mitigate:

- Loss of life or injury to employees, contractors, visitors and local residents
- Damage to the environment
- Damage to the facilities, plant and equipment of DPC, its commercial partners, tenant companies and neighbours

The plan also aims to ensure that DPC emergency management structures and arrangements are compatible with the requirements of the 2006 Framework for Major Emergency Management.”

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 1 of 23

Contents

1. INTRODUCTION	3
2. OBJECTIVES	4
3. SCOPE AND ASSUMPTIONS	5
4. ABBREVIATIONS USED THROUGHOUT THIS PLAN	7
5. DPC EMERGENCY RESPONSE ORGANISATION AND ROLES	7
6. PORT WIDE ALARM ACTIVATION	13
7. COMMUNICATIONS	16
8. TRAINING, EXERCISE AND MAINTENANCE PLAN	17
ANNEX A: CONTACT DETAILS: SECURITY MANAGERS, HARBOUR POLICE & PORT SECURITY, EMERGENCY OPERATIONS CENTRE & FIRE WARDENS (OIL JETTY)	19
ANNEX B: DPC PORT MAP & EVACUATION PLAN.....	20
ANNEX C: DUBLIN PORT SEVESO SITES.....	22
NOTES	23

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 2 of 23

Dublin Port Company Emergency Management Plan (Public)

1. INTRODUCTION

Dublin Port covers an area in excess of 650 acres, within which many activities of a marine, commercial and industrial nature take place. This Emergency Management Plan (EMP) is designed to provide guidelines to the Dublin Port Company (DPC) for responding to an emergency within their area of jurisdiction.

The maritime jurisdiction of Dublin Port is defined under the Harbours Act 1996 (as amended). The land based limits are detailed in the Map at Annex J-1.

Operations at Dublin Port include the following:

- a. Vessel arrivals, departures and shifts.
- b. Pilotage, towage & vessel traffic services (VTS)
- c. Lo-Lo terminals operated in common user area and in designated terminals.
- d. Ro-Ro terminals facilitating both freight and passenger traffic.
- e. Facilities for handling petroleum products, LPG and molasses.
- f. Common oil pipeline linking the oil berths with the storage facilities.
- g. Dry bulk handling facilities for handling concentrate, peat, oil, grain, animal feedstuff, fertilizer, sand, coal, petroleum coke, slags, scrap metals and cement.
- h. Warehouse space
- i. Vehicle storage facilities.
- j. Cruise liner operations.
- k. Leisure craft mooring and movements at Poolbeg and Dublin City Marinas.

In addition to the activities listed, the Dublin Port road network caters for the movement of up to 15,000 vehicle movements through the port per day.

Tenant companies operate several industrial/commercial sites within the DPC estate. Several of these companies are the de-facto 'operating company' of those sites, and have ultimate responsibility for emergency planning within those facilities.

There are currently eight upper tier Seveso sites within the DPC estate, and a number of lower tier sites (See Annex C on page 22). These sites are operated by DPC tenant companies and are regulated under EU Control of Major Accident Hazards involving dangerous substances legislation (Known as COMAH regulations), and transposed into Irish law in SI No. 74/2006.

It should be noted that the DPC Emergency Plan (Public) is an unrestricted document; therefore annexes to the plan are not included in this document for general safety and security, ISPS and confidentiality reasons.

For further information please contact the Dublin Port Company: Land Operations Manager on 01 8876000.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 3 of 23

Dublin Port Company Emergency Management Plan (Public)

2. OBJECTIVES

The objectives of this plan are to

- a. Provide an emergency management organisation structure and arrangements which will enable DPC to respond rapidly and efficiently to any emergency in order to prevent injury to personnel, damage to property or the environment as well as minimizing or eliminating the impact to neighbouring communities.
- b. Ensure all appropriate and relevant resources are identified in advance and made available as quickly as possible during an emergency within Dublin Port.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 4 of 23

Dublin Port Company Emergency Management Plan (Public)

3. SCOPE AND ASSUMPTIONS

The Dublin Port EMP outlines the DPC structures and arrangements for responding to emergencies that may occur within Dublin port.

The plan is intended for guidance purposes only and may be adapted depending on the circumstances of a particular emergency. The actions to be taken in any given emergency will be decided by the Emergency Management Team (EMT).

This plan may be activated by the CEO of DPC, the Emergency Management Marine Coordinator (EMMC) OR the Emergency Management Land Coordinator (EMLC), or their alternates, depending on the circumstances and severity of the incident.

The plan is designed to cater for both marine and land based emergencies.

Marine Emergency Scenarios include:

- Major incident on-board a vessel such as fire, flooding or cargo related.
- Collision between vessels or between a vessel and a fixed object.
- Grounding of a vessel.
- Major oil spillage from a vessel or jetty.
- Major oil spill at sea or oil entering the port from a source upriver.
- A security incident, involving a ship, which has the potential to escalate into an emergency situation.

Land Emergency Scenarios include:

- Major fire within the general port area.
- Major oil spill.
- Major spill of hazardous material.
- A vehicle accident involving hazardous material.
- Chemical incidents (e.g. toxic cloud).
- Major incident in an oil, gas or hazardous material storage facility.

Marine & Land Emergency Scenarios include:

- Infectious Disease (Human or Animal) on Ship due to enter Dublin Port.
- Incident involving transportation or storage of dangerous goods
- Severe weather event

The scenario specific sub-plans for the above events have been developed as part of the overall plan. These focus on the immediate actions to be taken by internal sections, functions or departments of the port authority and are therefore restricted and not included in the public document. However it should be noted that the scenarios are for operational and emergency planning purposes as well for use in training and exercises.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 5 of 23

Dublin Port Company Emergency Management Plan (Public)

DPC adheres to an 'all hazards approach' to Emergency Management, in that the same structures, resources and personnel will be used to respond to all emergencies occurring in or affecting the port.

This plan makes the following assumptions:

- All personnel with specific roles and responsibilities are familiar with their role in the plan, and have been exercised in the implementation of the plan.
- All contact details for key stakeholders are up to date at the date of the last plan revision.
- That the resources outlined in the plan are available and maintained.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 6 of 23

Dublin Port Company Emergency Management Plan (Public)

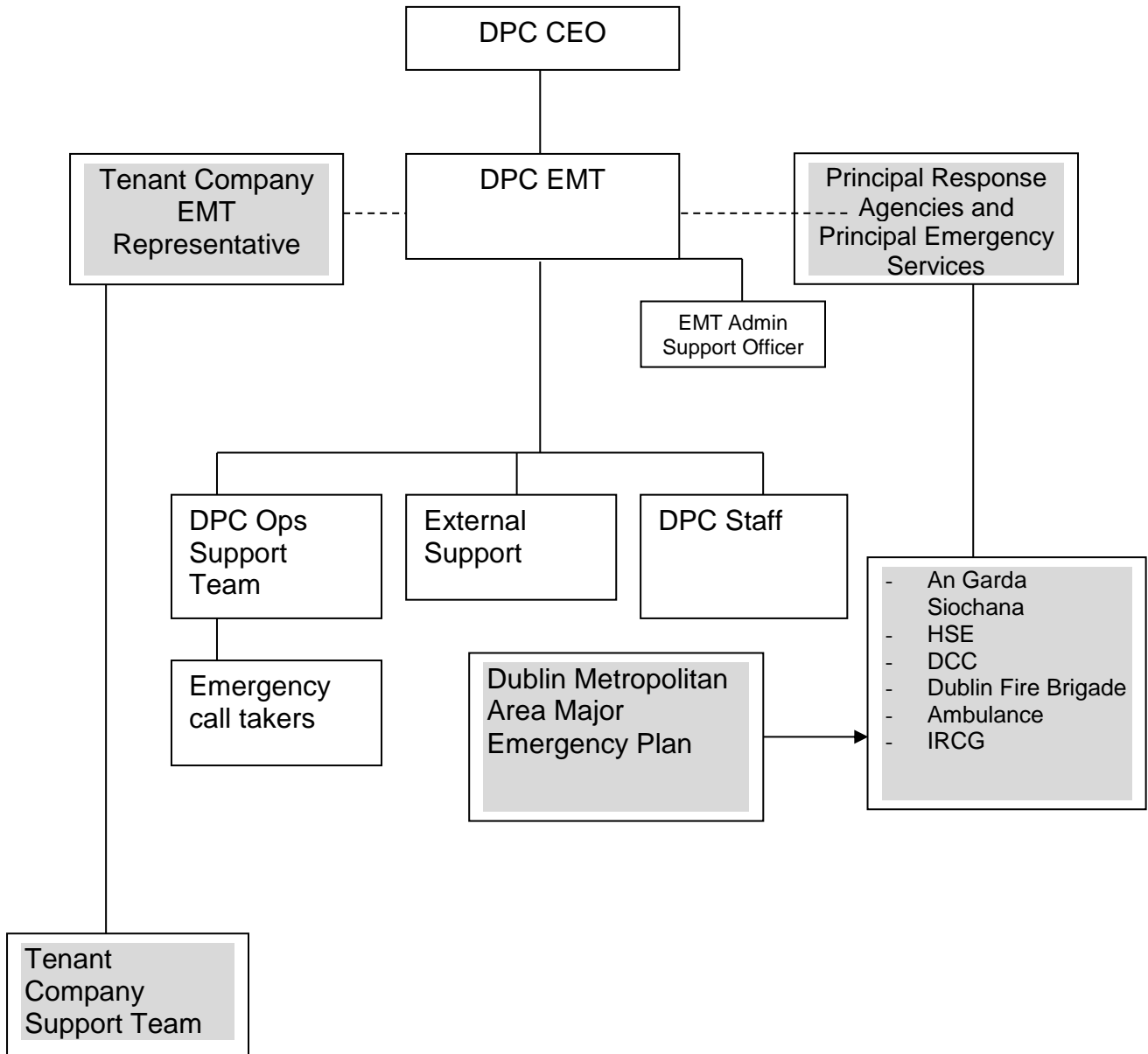
4. ABBREVIATIONS USED THROUGHOUT THIS PLAN

AAR	After Action Review (formal debrief).
AGS	An Garda Siochana
CA	Competent Authority
COP	Common Oil Pipeline
CEO	Chief Executive Officer
DTTAS	Department of Transport, Tourism and Sport
DCC	Dublin City Council
DFB	Dublin Fire Brigade
DG	Dangerous Goods
DoH	Department of Health
DPC	Dublin Port Company
EMA	Emergency Management Administrator
EMLC	Emergency Management Land Coordinator
EMMC	Emergency Management Marine Coordinator
EMP	Emergency Management Plan
EMT	Emergency Management Team
EOC	Emergency Operations Centre
EPA	Environmental Protection Agency
ESRVP	Emergency Services Rendezvous Point
HM	Harbour Master
HP/PS	Harbour Police/Port Security
HSA	Health & Safety Authority
HSE	Health Service Executive
IHR	International Health Regulations (2005)
IMDGC	International Maritime Dangerous Goods Code
IRCG	Irish Coast Guard
ISPS	International Ship and Port Facility Security (code)
MCIB	Marine Casualty Investigation Board
MSDS	Material Safety Data Sheet
NOG	National Operations Group (oil spill)
NOK	Next of Kin
OFA	Occupational First Aid
PES	Principal Emergency Services
PRA	Principal Response Agencies
PFSP	Port Facility Security Plan
POC	Port Operations Centre
SIC	Site Incident Controller
SSP	Ship's Security Plan
SWEAT	Severe Weather Event Assessment Team
SWEP	Severe Weather Event Plan
VTS	Vessel Traffic Services

5. DPC EMERGENCY RESPONSE ORGANISATION AND ROLES

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 7 of 23

Dublin Port Company Emergency Management Plan (Public)



DPC Emergency Management Team Structure

EMT Role	Appointment holder
Chief Executive Officer	CEO

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 8 of 23

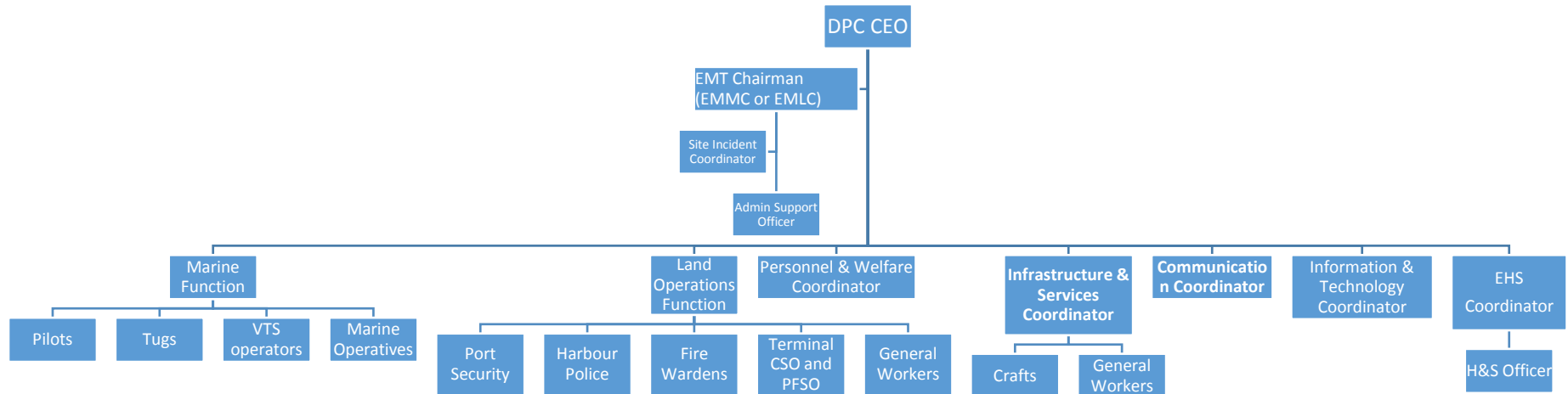
Dublin Port Company Emergency Management Plan (Public)

Emergency Management Marine Coordinator (EMMC)	Harbour Master
Alternate	Deputy Harbour Master
Emergency Management Land Coordinator (EMLC)	Land Operations Manager
Alternate	Security Manager
Infrastructure and Services Coordinator	Engineering Services Manager
Alternate	Port Engineer
Personnel and Welfare Coordinator	Head of Employee Relations & Human Resources and Cruise Business Manager
Alternate	Human Resource Officer
Communications Coordinator	Company Secretary
Alternate	Communications Manager
Information and Technology Coordinator	IT Manager
Alternate	IT Officer
Facilities Coordinator	Head of Property
Alternate	TBC
EHS Coordinator	EHS Manager
Alternate	EH&S Officer
EMT Administration Support Officer	Clerical/ Admin Officer
Emergency Management Administrator	Land Operations Manager

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 9 of 23

Dublin Port Company Emergency Management Plan (Public)

EMT Organisation Chart



Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 10 of 23

Dublin Port Company Emergency Management Plan (Public)

EMT - Overview and role

The EMT is made up of senior DPC managers drawn from the key functional areas of the company. The specific roles and responsibilities of team members largely reflect their day-to-day responsibilities.

The DPC CEO has overall responsibility for all operations in the port, both marine and land. Many of the day-to-day tasks are delegated to the EMMC and the EMLC, as well as to other management functions. Each EMT member has a designated alternate or deputy, capable of standing in for the primary EMT member should they be unavailable for any reason. Alternates receive the same training for EMT operations as primary team members. Others not listed on the core team may be drafted to the team if their expertise is required.

The Chair of the EMT reports to the DPC CEO, who may in certain situations decide to chair the EMT him/herself.

In general terms the overall role of the EMT is to:

- Coordinate and control the DPC response to an emergency within the port area of responsibility
- To liaise with the external emergency services and provide all reasonable support to them
- To manage DPC's interaction with external stakeholders throughout the response to an incident.

Emergency Management Administrator (EMA)

The EMP will be maintained by the Emergency Management Administrator (EMA) who will ensure the plan is kept up to date, and is responsible for arranging training and exercises for EMT members and support staff. The EMA will also ensure the Emergency Operations Centre (EOC) is fit for purpose. The EMA is not an EMT operational role as all tasks associated with the role are undertaken outside of EMT operations. The EMA will ensure the plan is reviewed internally each year and externally once every 5 years

Site Incident Coordinator (SIC)

In the event of an emergency occurring within the port area of operations, on the marine or the land side, DPC will appoint a 'Site Incident Coordinator'. This will usually be the EMMC or EMLC, their alternate or a person appointed by him. The SIC's role is to manage the DPC resources at the site, to liaise with external agencies responding to the emergency and to keep the EMT up to date with the situation at the emergency site. The SIC will be in direct contact with the Port Operations Centre (POC) by radio, and will be equipped with a mobile phone.

Emergency Call Takers

A panel of emergency call takers has been identified and trained in assisting the receptionist with responding to calls to DPC in the event of an emergency. The call

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 11 of 23

Dublin Port Company Emergency Management Plan (Public)

takers take all emergency related calls and ensure the calls are logged and/or passed to the appropriate EMT or DPC person.

Vessel Traffic Services (VTS) Operator

The VTS operator is the primary point of contact in the event of any marine related incident. In the event of an incident the VTS operator will immediately contact the duty Harbour Master (HM) who will decide what action should be taken, including mobilisation of the EMT. If the duty HM deems it appropriate, the VTS operator will contact emergency services and mobilise the tugs. VTS & HP/PS will liaise closely during all emergencies.

Marine Operatives

Marine Operatives of the port will support the VTS staff and the tugs, and will act on all instructions issued by the Harbour Master during an emergency.

Harbour Police/Port Security (Contact details at Annex B)

The HP/PS has a critical role in the security of port facilities, roads and infrastructure, which include the control and coordination of emergencies including initiating the immediate response to an emergency incident. They also play a key role in alarm monitoring, receipt of calls, gathering of information, notification of emergency services, meeting the emergency services at the ESRVP, guiding them to the site of an emergency within the port, and controlling traffic within the port.

DPC Fire Wardens (Contact details at Annex B)

DPC Fire Wardens staff the oil jetty's on a 24/7/365 basis. They are responsible for the safety and security of all shipping operations on the Oil Jetty, the Common Oil Pipeline (COP), and can communicate directly with the POC and COP users via specific radio telephone channels.

DPC Fire Marshals

DPC has identified and trained a number of Fire Marshals who have a key role in accounting for personnel in their designated area during an emergency. Fire Marshals have been appointed in all DPC buildings, and they have a key role in accounting for personnel in their facility during evacuations, and in keeping the EOC informed of events in their area.

DPC Occupational First Aiders

DPC has a number of qualified Occupational First Aid (OFA) staff suitable for deployment in the event of an emergency. OFA's report to the Incident Site Coordinator once they have been accounted for by their Fire Marshal, and are prepared to administer first aid and to assist the emergency services on request.

The Emergency Operations Centre (EOC) (Contact details at Annex B)

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 12 of 23

Dublin Port Company Emergency Management Plan (Public)

The primary EOC is located on the 1st floor of the POC located at the southern end of Breakwater Road. The EMT will meet here in the event of an emergency being declared. Should the emergency affect the POC then the alternate EOC will be used and is based in the IT training room located on the lower ground floor of the Port Centre on Alexandra Road. Should both locations be unavailable then the EMT Chair will decide on an appropriate location and inform other EMT members. Both the primary and alternate EOC are equipped for emergency operations.

Emergency Services

In the event of an emergency in Dublin Port, Emergency Services should go immediately to the Emergency Services Rendezvous Point (ESRVP), located at the junction of East Wall Road & Tolka Quay Road west. HP/PS will meet with and guide the emergency services to the area of emergency, if safe to do so. The primary unit of the initial lead agency will attend the scene and relay information to emergency services gathered at or near the ESRVP. In a multi-agency response the lead agency will generally appoint a senior officer as the Incident Commander or Coordinator at a safe forward point and senior operational staff from each emergency service and the DPC appointed SIC will collectively manage the emergency from this location.

EMT Member - Administration Support Officer. (Administrative/ clerical officer)

Provide all administrative support required in by the EMT, including but not limited to

- The setting up of the EOC on activation of the EMT
- Maintain an incident log throughout the emergency
- Acting as a conduit between the EMT and the administrative support personnel (call takers, secretarial support etc.)

Information Management Officer (IMO).

The IMO is responsible for maintaining the information display boards in the EOC. This role should be filled by an EMT member who has been trained in the role but can be filled by any EMT member if a trained IMO is not available. The panel of EMT IMO's should receive refresher training every two years, and should be practiced in the role when the EMT is exercised.

6. PORT WIDE ALARM ACTIVATION

The DPC fire alarm panel system is located in the HP/PS Control Room, situated on the ground floor of the POC, Breakwater Road, Dublin Port. The fire alarm system monitors approximately 21 sites, and break glass units located throughout the port estate.

The fire alarm system can be activated manually or automatically from various points around the port directly linked to the system. When activated, the HP/PS are alerted and investigate the alarm before deciding on what action is required.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 13 of 23

Dublin Port Company Emergency Management Plan (Public)

The port wide sirens are located at the ESB North Wall Power Station, the Oil Jetties and Port Centre, and are generally regularly on a scheduled basis. With the exception of alarm tests, all pumping stops immediately on sounding of the port wide siren.

For confirmed alarm activations, the affected site and HP/PS must call 999/112 and request emergency services attendance, whilst clearly stating the nature of the emergency, name and location of the site affected.

In passing information to the Emergency Services the E.T.H.A.N.E. pneumonic should be used:-

- **E**xact location of the emergency
- **T**ype of emergency – e.g. Fire; hazardous material spill; Road Traffic Accident.
- **H**azards, present and potential
- **A**ccess route to the emergency
- **N**umber and type of casualties (if known)
- **E**mergency Services – those present and those required

Once confirmed HP/PS will immediately open the emergency gates located at the western end junction of Tolka Quay Road and East Wall Road and this immediate area operates as the ESRVP.

DFB will be dispatched to the Port to deal with the incident, whilst HP/PS will implement a traffic control plan, with the support of Gardaí, as required.

The port wide alarm system is a continuous wailing alarm sound, similar to an air-raised siren. On hearing this alarm port users should:

- Be aware that an incident is on-going.
- Account for staff, visitors and contractors.
- Continue to operate as normal unless instructed otherwise or individual company SOP's indicate otherwise.
- Wait for further instructions from the HP/PS or the PES.

Port users, and members of the wider community, are asked to bear in mind that calling DPC by telephone during sounding of the port wide siren may block telephone lines at a vital time. Port users should await further information from the HP/PS, whilst members of the public should tune in to a national radio station for updates.

A new port-wide fire-main was installed in 2015 and replaced the former Salt Water mains system that covers the majority of bulk fuel storage facilities in Dublin Port. The system is fully automated and is controlled from the Port Operations Centre Control Room that is manned 24/7 by HP/PS.

Port Evacuation

During an emergency it may be necessary to evacuate the port, or parts of the port, for safety reasons.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 14 of 23

Dublin Port Company Emergency Management Plan (Public)

The HP/PS will control traffic flow throughout the port in the event of an evacuation of one or more areas.

The details of port evacuation routes are included at **Annex B** to this plan.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 15 of 23

Dublin Port Company Emergency Management Plan (Public)

7. COMMUNICATIONS

In the event of an emergency in Dublin Port the media and social media will be critical in informing the public of the incident. The perception of what has happened and whether people perceive themselves at risk will depend on what they see and hear. The importance of managing this relationship with the media cannot be overstated especially concerning information released via formal and informal (social media) channels.

Members of the public seeking information should tune in to local and national radio and television stations; social media platforms e.g. Facebook, Twitter.

Concerned members of the public can contact DPC by phone, email or social media; however DPC's first priority will be to assist Emergency Services in the protection of life, property and the environment and that patience will be required when trying to contact them during an emergency. The primary point of contact for incidents on port tenants sites should be the company itself or for general port incidents 01 8876000 or by emailing info@dublinport.ie

Telephone Enquiries

The response to callers by reception staff at DPC will be determined by the information they may have at the time, and the specific instructions of the EMT as issued through the EMT Communications Coordinator.

DPC Spokesperson

The DPC CEO in conjunction with the EMT Communications Coordinator will appoint a spokesperson to speak directly to the media and/or issue media releases.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 16 of 23

Dublin Port Company Emergency Management Plan (Public)

8. TRAINING, EXERCISE AND MAINTENANCE PLAN

General

DPC's Emergency Management competency is continuously enhanced through participation in training and exercises at different levels. DPC management regularly participate in Emergency Management exercises on tenant sites, as well as exercising as the DPC EMT in a stand-alone capacity, at least twice annually. Whilst there are a number of scenario specific sub-plans associated with the overall EMP, DPC adheres to an 'all hazard approach' to Emergency Management.

It will be the responsibility of the EMA to ensure all aspects of the Training, Exercise & Maintenance Plan are implemented. Training and exercising within the context of DPC's EMP is generally concerned with achieving the following objectives:

- Continuously developing the competence of the EMT organisation in implementing the plan.
- Continuously improving the plan by identifying potential gaps in the plans during training exercising and taking action to ensure these are addressed.
- Continuously familiarising the EMT members and supporting staff with the plan and with their roles during plan implementation.

Objective

The objective of this 'Training, Exercise and Maintenance Plan' is to provide a structured framework for training and exercising the members of the EMT in their roles as well as providing a sound basis for maintaining the integrity of the information contained within the plan.

Annual Training Requirement

Training will be conducted annually as follows:

- EMT members and their alternates will receive (induction or refresher) training in relation to the nature of emergencies and their role in the Emergency Management System.
- The EMT will exercise formally in the implementation of the EMP.
- Administrative staff and potential support group members (e.g. emergency call takers) will receive Emergency Management familiarisation training.
- Security, reception and other staff will receive training on the EMP sub-plans and their role in implementing the plans, as appropriate.

The EMA will ensure training records are maintained for all EMT training activities.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 17 of 23

Dublin Port Company Emergency Management Plan (Public)

EMT exercises will consist of two exercises per year, one land and one marine based to ensure all possible emergency situations are regularly covered.

In addition to DPC specific EMT training, management and staff of DPC regularly participate in or observe at tenant site emergency exercises, many of which are attended by the PES.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 18 of 23

Dublin Port Company Emergency Management Plan (Public)

Annex A: Contact Details

For Security Managers, Harbour Police & Port Security, Emergency Operations Centre and Fire Wardens

SECURITY MANAGERS, HARBOUR POLICE & PORT SECURITY

Name	Phone	E-mail
Security Managers	01 8876000	
Fire Wardens	01 8559010	
Harbour Police & Port Security Control Room	01 8876858 & 01 8876859	controlroom@dublinport.ie

EMERGENCY OPERATIONS CENTRE

EOC Line	Number
1	01 8876833 or 01 7040833
2	01 8876834 or 01 7040834
Fax Number	01 8876057

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 19 of 23

Dublin Port Company Emergency Management Plan (Public)

Annex B – Port Map & Evacuation Plan



Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 20 of 23

Dublin Port Company Emergency Management Plan (Public)

Dublin Port Company Evacuation Plan

DPC has circa 155 employees located at the following locations.

- Port Centre, Corner of East Wall Road & Alexandra Road.
- Maintenance & Services Building, Bond Drive Extension
- Oil Jetty Control Room, Jetty Road
- Port Operations Centre, Breakwater Road
- Terminal 1 Building, Terminal Road South

All locations have individual emergency evacuation Standard Operating Procedures including assembly points. Due to the nature of business carried out within the port via the common oil pipeline and the bulk storage of petroleum products, LPG and molasses there is always the potential for a serious event to occur, which could require a full or partial evacuation.

Six evacuation and or alternative routes to exit/enter the port environs have been designated for all port users, including emergency services in attendance.

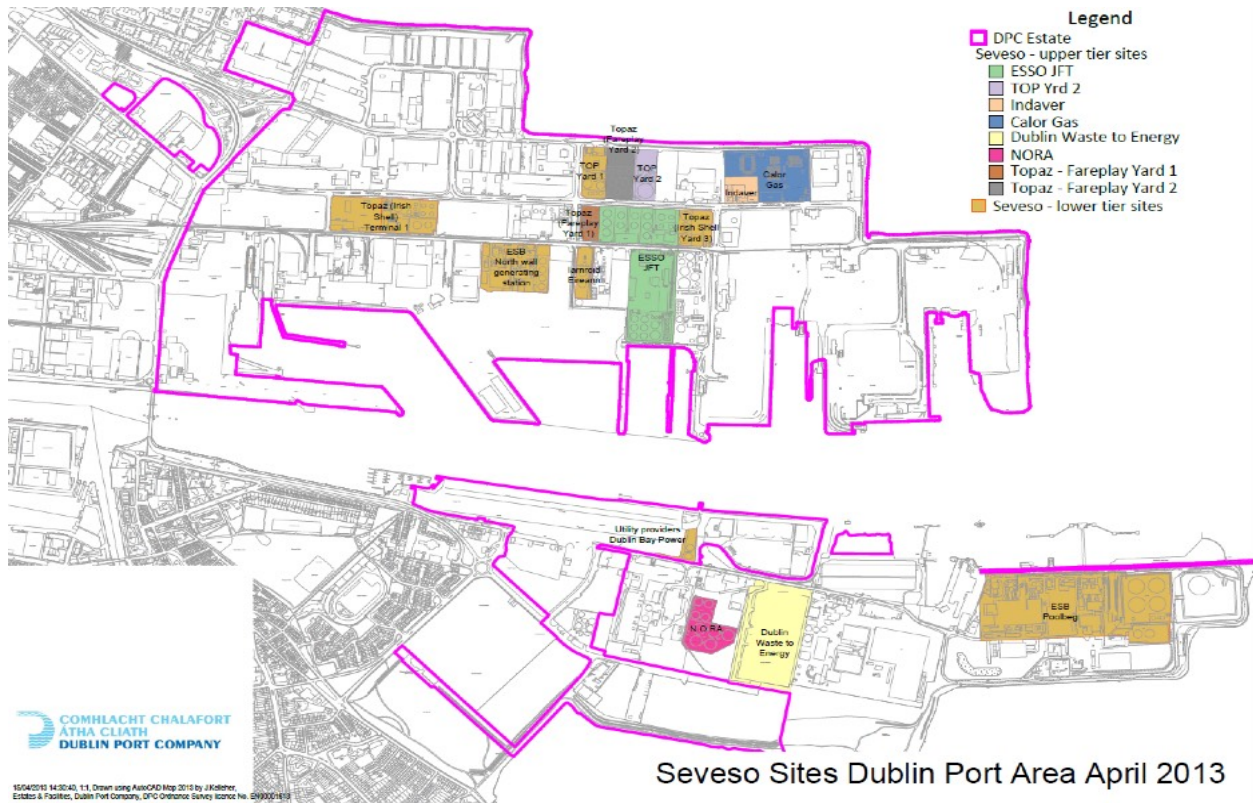
1. Promenade Road
2. Tolka Quay Road (locked gates, keys held by HP/PS)
3. Alexandra Road
4. Port Operations Centre (facilitated by HM via Marine Operatives)
5. East Oil Jetty (life boat capsule)
6. West Oil Jetty (life boat capsule)

In addition to the above, Alexandra Road (DFT terminal between Breakwater Road & Terminal Road) is a designated evacuation route. In addition to the above, DPC acknowledge there are other alternative evacuation routes available to be utilised, however the nature or extent of the event, along with the directions of emergency services would dictate the actions of all parties involved.

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 21 of 23

Dublin Port Company Emergency Management Plan (Public)

Annex C – Dublin Port SEVESO sites



Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 22 of 23

Dublin Port Company Emergency Management Plan (Public)

Notes

Public version No.	Date of Issue	Approved by	Page No.
3.0	Jan 2019	EMA	Page 23 of 23

APPENDIX 7 BIODIVERSITY, FLORA & FAUNA

Appendix 7-1

The species presented below are those afforded protection under national and international legislation, as well as those listed as 'vulnerable', 'near threatened' and 'endangered' in accordance with the International Union for the Conservation of Nature (IUCN) threat assessment categories and criteria (IUCN 2001). Also presented are regulated invasive species listed in the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011, as well as non-regulated 'medium impact species'.

Birds and marine species are excluded. Also excluded are common species with no designation.

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
amphibian	Common Frog (<i>Rana temporaria</i>)	57	30/08/2018	Amphibians and reptiles of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex V Protected Species: Wildlife Acts
amphibian	Smooth Newt (<i>Lissotriton vulgaris</i>)	3	19/10/2016	Amphibians and reptiles of Ireland	Protected Species: Wildlife Acts
flatworm (Turbellaria)	<i>Arthurdendyus triangulatus</i>	2	02/04/2016	New Zealand Flatworm (<i>Arthurdendyus triangulates</i>) Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species
flatworm (Turbellaria)	<i>Australoplana sanguinea</i>	2	18/04/2013	National Invasive Species Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
flowering plant	Butterfly-bush (<i>Buddleja davidii</i>)	25	10/10/2018	Online Atlas of Vascular Plants 2012-2020	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
flowering plant	Canadian Fleabane (<i>Conyza canadensis</i>)	2	30/09/2016	Ireland's BioBlitz	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
flowering plant	Canadian Waterweed (<i>Elodea canadensis</i>)	3	30/09/2016	Ireland's BioBlitz	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
flowering plant	Cherry Laurel (<i>Prunus laurocerasus</i>)	3	04/01/2018	Online Atlas of Vascular Plants 2012-2020	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species
flowering plant	Common Cord-grass (<i>Spartina anglica</i>)	3	16/08/2018	Online Atlas of Vascular Plants 2012-2020	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
flowering plant	Evergreen Oak (<i>Quercus ilex</i>)	3	08/06/2013	Local BioBlitz Challenge 2013	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
flowering plant	<i>Fallopia japonica</i> x <i>sachalinensis</i> = <i>F. x bohemica</i>	14	21/05/2010	National Invasive Species Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
flowering plant	Giant Hogweed (<i>Heracleum mantegazzianum</i>)	47	24/06/2015	National Invasive Species Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
flowering plant	Great Burnet (<i>Sanguisorba officinalis</i>)	1	30/09/2016	Ireland's BioBlitz	Threatened Species: Endangered
flowering plant	Himalayan Honeysuckle (<i>Leycesteria formosa</i>)	3	10/10/2018	Online Atlas of Vascular Plants 2012-2020	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
flowering plant	Indian Balsam (<i>Impatiens glandulifera</i>)	118	27/08/2017	National Invasive Species Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
flowering plant	Japanese Knotweed (<i>Fallopia japonica</i>)	92	02/08/2018	National Invasive Species Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
flowering plant	Japanese Rose (<i>Rosa rugosa</i>)	4	24/09/2018	Online Atlas of Vascular Plants 2012-2020	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
flowering plant	Lesser Centaury (<i>Centaurium pulchellum</i>)	1	31/12/2010	BSBI tetrad data for Ireland	Threatened Species: Endangered

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
flowering plant	Meadow Barley (<i>Hordeum secalinum</i>)	3	31/12/1905	Irish Crop Wild Relative Database	Threatened Species: Endangered
flowering plant	Narrow-leaved Ragwort (<i>Senecio inaequidens</i>)	8	13/08/2018	Online Atlas of Vascular Plants 2012-2020	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
flowering plant	Nuttall's Waterweed (<i>Elodea nuttallii</i>)	7	31/07/2009	National Invasive Species Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
flowering plant	Parrot's-feather (<i>Myriophyllum aquaticum</i>)	1	26/06/2008	National Invasive Species Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
flowering plant	Purple Spurge (<i>Euphorbia peplis</i>)	1	30/09/2016	Ireland's BioBlitz	Threatened Species: Regionally Extinct
flowering plant	Sea-buckthorn (<i>Hippophae rhamnoides</i>)	14	26/09/2018	Online Atlas of Vascular Plants 2012-2020	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
flowering plant	Small Cudweed (<i>Filago minima</i>)	1	12/07/2012	Online Atlas of Vascular Plants 2012-2020	Threatened Species: Vulnerable
flowering plant	Spanish Bluebell (<i>Hyacinthoides hispanica</i>)	3	17/05/2018	Online Atlas of Vascular Plants 2012-2020	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
flowering plant	Sycamore (<i>Acer pseudoplatanus</i>)	21	10/10/2018	Online Atlas of Vascular Plants 2012-2020	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
flowering plant	Three-cornered Garlic (<i>Allium triquetrum</i>)	14	16/05/2018	Online Atlas of Vascular Plants 2012-2020	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
flowering plant	Traveller's-joy (<i>Clematis vitalba</i>)	7	09/06/2018	Online Atlas of Vascular Plants 2012-2020	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
flowering plant	Turkey Oak (<i>Quercus cerris</i>)	1	08/06/2013	Local BioBlitz Challenge 2013	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
flowering plant	Wild Clary (<i>Salvia verbenaca</i>)	2	24/08/2017	Online Atlas of Vascular Plants 2012-2020	Threatened Species: Vulnerable
insect - beetle (Coleoptera)	<i>Agabus (Gaurodytes) conspersus</i>	1	31/12/1930	Water Beetles of Ireland	Threatened Species: Endangered
insect - beetle (Coleoptera)	<i>Helophorus (Helophorus) fulgidicollis</i>	1	31/12/1936	Water Beetles of Ireland	Threatened Species: Vulnerable
insect - beetle (Coleoptera)	<i>Heterocerus flexuosus</i>	1	31/12/1900	Water Beetles of Ireland	Threatened Species: Data deficient
insect - beetle (Coleoptera)	<i>Ochthebius (Asiobates) auriculatus</i>	2	28/10/1945	Water Beetles of Ireland	Threatened Species: Near threatened
insect - beetle (Coleoptera)	<i>Ochthebius (Asiobates) bicolon</i>	1	31/12/1900	Water Beetles of Ireland	Threatened Species: Vulnerable
insect - beetle (Coleoptera)	<i>Ochthebius (Ochthebius) marinus</i>	2	19/08/1942	Water Beetles of Ireland	Threatened Species: Near threatened
insect - butterfly	Dark Green Fritillary (<i>Argynnis aglaja</i>)	1	04/06/2010	Irish Butterfly Monitoring Scheme	Threatened Species: Vulnerable
insect - butterfly	Grayling (<i>Hipparchia semele</i>)	6	23/07/1990	Moths Ireland	Threatened Species: Near threatened
insect - butterfly	Marsh Fritillary (<i>Euphydryas aurinia</i>)	87	07/06/2018	Butterflies of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Threatened Species: Vulnerable

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
insect - butterfly	Small Blue (<i>Cupido minimus</i>)	3	14/08/2010	Irish Butterfly Monitoring Scheme	Threatened Species: Endangered
insect - butterfly	Small Heath (<i>Coenonympha pamphilus</i>)	26	24/06/2018	Butterflies of Ireland	Threatened Species: Near threatened
insect - butterfly	Wall (<i>Lasiommata megera</i>)	22	27/08/2011	Irish Butterfly Monitoring Scheme	Threatened Species: Endangered
insect - dragonfly (Odonata)	Scarce Blue-tailed Damselfly (<i>Ischnura pumilio</i>)	2	04/07/2017	Dragonfly Records	Threatened Species: Vulnerable
insect - hymenopteran	<i>Andrena</i> (<i>Melandrena</i>) <i>nigroaenea</i>	3	04/05/2008	Bees of Ireland	Threatened Species: Vulnerable
insect - hymenopteran	<i>Bombus</i> (<i>Bombus</i>) <i>cryptarum</i>	1	01/04/2006	Bees of Ireland	Threatened Species: Data deficient
insect - hymenopteran	<i>Colletes</i> (<i>Colletes</i>) <i>similis</i>	3	17/08/2009	Bees of Ireland	Threatened Species: Near threatened
insect - hymenopteran	Great Yellow Bumble Bee (<i>Bombus</i> (<i>Subterraneobombus</i>) <i>distinguendus</i>)	1	31/08/1922	Bees of Ireland	Threatened Species: Endangered
insect - hymenopteran	Hill Cuckoo Bee (<i>Bombus</i> (<i>Psithyrus</i>) <i>rupestris</i>)	1	09/09/1972	Bees of Ireland	Threatened Species: Endangered
insect - hymenopteran	Large Red Tailed Bumble Bee (<i>Bombus</i> (<i>Melanobombus</i>) <i>lapidarius</i>)	66	18/08/2018	Bees of Ireland	Threatened Species: Near threatened
insect - hymenopteran	<i>Megachile</i> (<i>Delomegachile</i>) <i>willughbiella</i>	1	25/06/1945	Bees of Ireland	Threatened Species: Near threatened
insect - hymenopteran	Moss Carder-bee (<i>Bombus</i> (<i>Thoracombus</i>) <i>muscorum</i>)	27	20/05/2018	Bees of Ireland	Threatened Species: Near threatened
insect - hymenopteran	Neat Mining Bee (<i>Lasioglossum</i> (<i>Evylaeus</i>) <i>nitidiusculum</i>)	1	22/07/2008	Bees of Ireland	Threatened Species: Vulnerable
insect - hymenopteran	Trimmer's Mining Bee (<i>Andrena</i> (<i>Hoplandrena</i>) <i>trimmerana</i>)	1	07/05/2003	Bees of Ireland	Threatened Species: Critically Endangered
insect - mayfly (Ephemeroptera)	<i>Procloeon bifidum</i>	1	31/12/1947	Mayflies (Ephemeroptera) of Ireland	Threatened Species: Vulnerable

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
insect - mayfly (Ephemeroptera)	Rhithrogena germanica	1	31/12/1947	Mayflies (Ephemeroptera) of Ireland	Threatened Species: Vulnerable
liverwort	Petalwort (Petalophyllum ralfsii)	12	11/06/2009	Bryophytes of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: Flora Protection Order Protected Species: Flora Protection Order >> Flora Protection Order 2015 Schedule C (Liverworts)
mollusc	Common Garden Snail (Cornu aspersum)	2	29/09/2016	Ireland's BioBlitz	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
mollusc	Glutinous Snail (Myxas glutinosa)	2	05/10/2003	All Ireland Non-Marine Molluscan Database	Threatened Species: Endangered
mollusc	Jenkins' Spire Snail (Potamopyrgus antipodarum)	1	30/09/2016	Ireland's BioBlitz	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
mollusc	Moss Chrysalis Snail (Pupilla (Pupilla) muscorum)	1	09/09/1992	All Ireland Non-Marine Molluscan Database	Threatened Species: Endangered
mollusc	Pisidium pseudosphaerium	2	05/10/2003	All Ireland Non-Marine Molluscan Database	Threatened Species: Endangered
mollusc	Pisidium pulchellum	1	05/10/2003	All Ireland Non-Marine Molluscan Database	Threatened Species: Endangered
mollusc	Ventrosia ventrosa	3	08/11/1993	All Ireland Non-Marine Molluscan Database	Threatened Species: Vulnerable
mollusc	White Snail (Theba pisana)	1	27/08/2006	All Ireland Non-Marine Molluscan Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
mollusc	Wrinkled Snail (Candidula intersepta)	1	09/09/1992	All Ireland Non-Marine Molluscan Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species
moss	Blunt-fruited Pottia (Tortula modica)	1	29/01/2011	Bryophytes of Ireland	Threatened Species: Vulnerable

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
moss	Ceruous Thread-moss (<i>Bryum uliginosum</i>)	2	03/10/2008	Bryophytes of Ireland	Protected Species: Flora Protection Order Protected Species: Flora Protection Order >> Flora Protection Order 2015 Schedule B (Mosses) Threatened Species: Endangered
moss	Lesser Screw-moss (<i>Syntrichia virescens</i>)	2	22/05/2009	Bryophytes of Ireland	Threatened Species: Data deficient
moss	Many-seasoned Thread-moss (<i>Bryum intermedium</i>)	2	14/09/2007	Bryophytes of Ireland	Protected Species: Flora Protection Order Protected Species: Flora Protection Order >> Flora Protection Order 2015 Schedule B (Mosses) Threatened Species: Endangered
moss	Megapolitan Feather-moss (<i>Rhynchostegium megapolitanum</i>)	3	14/09/2007	Bryophytes of Ireland	Threatened Species: Near threatened
moss	Shady Beard-moss (<i>Didymodon umbrosus</i>)	4	17/11/2004	Bryophytes of Ireland	Threatened Species: Vulnerable
moss	Warne's Thread-moss (<i>Bryum warneum</i>)	5	14/09/2007	Bryophytes of Ireland	Protected Species: Flora Protection Order Protected Species: Flora Protection Order >> Flora Protection Order 2015 Schedule B (Mosses) Threatened Species: Endangered
reptile	Common Lizard (<i>Zootoca vivipara</i>)	2	27/04/2014	Amphibians and reptiles of Ireland	Protected Species: Wildlife Acts
reptile	Red-eared Terrapin (<i>Trachemys scripta</i>)	1	08/06/2013	Local BioBlitz Challenge 2013	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species Invasive Species: Invasive Species >> EU Regulation No. 1143/2014
terrestrial mammal	American Mink (<i>Mustela vison</i>)	7	27/02/2016	Mammals of Ireland 2016-2025	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
terrestrial mammal	Brown Long-eared Bat (<i>Plecotus auritus</i>)	1	25/07/2013	National Bat Database of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
terrestrial mammal	Brown Rat (<i>Rattus norvegicus</i>)	13	30/09/2016	Mammals of Ireland 2016-2025	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
terrestrial mammal	Daubenton's Bat (<i>Myotis daubentonii</i>)	48	03/08/2014	National Bat Database of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
terrestrial mammal	Eastern Grey Squirrel (<i>Sciurus carolinensis</i>)	90	31/12/2017	Mammals of Ireland 2016-2025	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
terrestrial mammal	Eurasian Badger (<i>Meles meles</i>)	16	17/09/2017	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts
terrestrial mammal	Eurasian Pygmy Shrew (<i>Sorex minutus</i>)	6	08/11/2015	Atlas of Mammals in Ireland 2010-2015	Protected Species: Wildlife Acts
terrestrial mammal	Eurasian Red Squirrel (<i>Sciurus vulgaris</i>)	7	02/08/2017	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts
terrestrial mammal	European Otter (<i>Lutra lutra</i>)	12	28/09/2017	Mammals of Ireland 2016-2025	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
terrestrial mammal	European Rabbit (<i>Oryctolagus cuniculus</i>)	3	23/06/2015	Atlas of Mammals in Ireland 2010-2015	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species

Species group	Species name	Record count	Date of last record	Title of dataset	Designation
terrestrial mammal	House Mouse (<i>Mus musculus</i>)	9	20/01/2017	Mammals of Ireland 2016-2025	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species
terrestrial mammal	Lesser Noctule (<i>Nyctalus leisleri</i>)	32	25/07/2013	National Bat Database of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
terrestrial mammal	Nathusius's Pipistrelle (<i>Pipistrellus nathusii</i>)	2	15/09/2010	National Bat Database of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
terrestrial mammal	Natterer's Bat (<i>Myotis nattereri</i>)	1	30/09/2016	Ireland's BioBlitz	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
terrestrial mammal	Pine Marten (<i>Martes martes</i>)	3	04/06/2013	Atlas of Mammals in Ireland 2010-2015	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex V Protected Species: Wildlife Acts
terrestrial mammal	Pipistrelle (<i>Pipistrellus pipistrellus sensu lato</i>)	34	03/08/2013	National Bat Database of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
terrestrial mammal	Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	33	30/09/2016	Ireland's BioBlitz	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
terrestrial mammal	West European Hedgehog (<i>Erinaceus europaeus</i>)	10	19/06/2016	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts

APPENDIX 7 BIODIVERSITY, FLORA & FAUNA

Appendix 7-2

2019

Bat Assessment



Dr Tina Aughney
Bat Eco Services
6/5/2019

Bat Eco Services, Ulex House, Drumheel, Lisduff, Virginia, Co. Cavan. A82 XW62.

Licensed Bat Specialist: Dr Tina Aughney (tina@batecoservices.com, 086 4049468)

NPWS licence C30/2017 (Licence to handle bats, expires 31st December 2019)

NPWS licence 33/2017 (Licence to photograph/film bats, expires 31st December 2019)

NPWS licence DER/BAT 2017-09 (Licence to disturb a roost, expires 29th March 2020)

Client: Dublin Port Company, contracted through RPS

Project Name & Location: MP2, Dublin Port.

Report Revision History

Date of Issue	Draft Number	Issued To
5/6/19	Draft 1	James McCrory, RPS

Purpose

This document has been prepared as a Final Report for RPS.

Bat Eco Service accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

Carbon Footprint Policy

It is the policy of Bat Eco Services to provide documentation digitally in order to reduce carbon footprint. Printing of reports etc. is avoided, where possible.

Bat Record Submission Policy

It is the policy of Bat Eco Services to submit all bat records to Bat Conservation Ireland database one year post-surveying. This is to ensure that a high level bat database is available for future desktop reviews. This action will be automatically undertaken unless otherwise requested, where there is genuine justification.

Executive Summary

Project Name & Location: MP2, Dublin Port

Proposed work: Redevelopment of MP2

Bat Survey Results - Summary

Bat Species	Roosts	Foraging	Commuting
Common pipistrelle <i>Pipistrellus pipistrellus</i>			
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>			
Nathusius' pipistrelle <i>Pipistrellus nathusii</i>			
Leisler's bat <i>Nyctalus leisleri</i>			
Brown long-eared bat <i>Plecotus auritus</i>			
Daubenton's bat <i>Myotis daubentonii</i>			
Natterer's bat <i>Myotis nattereri</i>			
Whiskered bat <i>Myotis mystacinus</i>			
Lesser horseshoe bat <i>Rhinolophus hipposideros</i>			

Bat Survey Duties Completed

Tree PBR Survey	<input type="radio"/>	Daytime Building Inspection	<input checked="" type="checkbox"/>
Static Detector Survey	<input type="radio"/>	Daytime Bridge Inspection	<input type="radio"/>
Dusk Bat Survey	<input type="radio"/>	Dawn Bat Survey	<input type="radio"/>
Walking Transect	<input checked="" type="checkbox"/>	Driving Transect	<input checked="" type="checkbox"/>
Trapping / Mist Netting	<input type="radio"/>	IR Camcorder filming	<input type="radio"/>
Endoscope Inspection	<input type="radio"/>	Other	<input type="radio"/>

Contents

1. Introduction	4
1.1 Relevant Legislation & Bat Species Status in Ireland	4
1.2 Relevant Guidance Documents	5
1.3 Project Description.....	7
1.3.1 Site Location	7
1.3.2 Proposed Project	7
1.3.3 Bat Survey Aims	7
2. Bat Survey Methodology	8
2.1 Daytime Inspections.....	8
2.1.1 Building & Structure Inspection	8
2.2 Night-time Bat Detector Surveys	9
2.2.1 Dusk & Dawn Bat Surveys	9
2.3 Survey Constraints	9
3. Bat Survey Results	10
3.1 Daytime Inspections.....	10
3.1.1 Building & Structure Inspection	10
3.2 Night-time Bat Detector Surveys	10
3.2.1 Dusk & Dawn Bat Survey.....	10
4. Bat Ecological Evaluation	11
4.1 Bat Species Recorded & Sensitivity	11
5. Impact Assessment & Mitigation	11
6. Bibliography	12

1. Introduction

Bat Eco Services was commissioned by RPS to undertake a general bat activity survey of the MP2 area of Dublin Port to determine if further survey work was required in relation to buildings previously surveyed in 2018.

1.1 Relevant Legislation & Bat Species Status in Ireland

All Irish bat species are protected under the Wildlife Act (1976) and Wildlife Amendment Acts (2000 and 2010). Also, the EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive 1992), seeks to protect rare species, including bats, and their habitats and requires that appropriate monitoring of populations be undertaken. All Irish bats are listed in Annex IV of the Habitats Directive and the lesser horseshoe bat *Rhinolophus hipposideros* is further listed under Annex II. Across Europe, they are further protected under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982), which, in relation to bats, exists to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was instigated to protect migrant species across all European boundaries. The Irish government has ratified both these conventions.

Also, under existing legislation, the destruction, alteration or evacuation of a known bat roost is a notifiable action and a derogation licence has to be obtained from the *National Parks and Wildlife Service* before works can commence. Any works interfering with bats and especially their roosts, may only be carried out under a licence to derogate from Regulation 23 of the Habitats Regulations 1997 and Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011 (which transposed the EU Habitats Directive into Irish law), issued by NPWS. The details with regards to appropriate assessments, the strict parameters within which derogation licences may be issued and the procedures by which and the order in relation to the planning and development regulations such licences should be obtained, are set out in Circular Letter NPWS 2/07 "*Guidance on Compliance with Regulation 23 of the Habitats Regulations 1997 - strict protection of certain species/applications for derogation licences*" issued on behalf of the Minister of the Environment, Heritage and Local Government on the 16th of May 2007.

There are eleven recorded bat species in Ireland, nine of which are considered resident. Eight resident bat species and one of the vagrant bat species are vesper bats and all vespertilionid bats have a tragus (cartilaginous structure inside the pinna of the ear). Vesper bats are distributed throughout the island. Nathusius' pipistrelle *Pipistrellus nathusii* is a recent addition while the Brandt's bat has only been recorded once to-date (Only record confirmed by DNA testing, all other records has not been genetically confirmed). The ninth resident species is the lesser horseshoe bat *Rhinolophus hipposideros*, which belongs to the Rhinolophidea and has a complex nose leaf structure on the face, distinguishing it from the vesper bats. This species' current distribution is confined to the western seaboard counties of Mayo, Galway, Clare, Limerick, Kerry and Cork. The eleventh bat species, the greater horseshoe bat, was only recorded for the first time in February 2013 in County Wexford and is therefore considered to be a vagrant species.

Irish bat species list (please see Appendices for more information in individual bat species) is presented in Table 1. The current status of the known bat species occurring in Ireland is given in the Table 1 below.

Table 1: Status of the Irish bat fauna (Marnell *et al.*, 2009).

Species: Common Name			Irish Status	European Status	Global Status
Resident Bat Species ^					
Daubenton's bat <i>Myotis daubentonii</i>			Least Concern	Least Concern	Least Concern
Whiskered bat <i>Myotis mystacinus</i>			Least Concern	Least Concern	Least Concern
Natterer's bat <i>Myotis nattereri</i>			Least Concern	Least Concern	Least Concern
Leisler's bat <i>Nyctalus leisleri</i>			Near threatened	Least Concern	Least Concern
Nathusius'	pipistrelle	<i>Pipistrellus nathusii</i>	Least Concern	Least Concern	Least Concern
Common	pipistrelle	<i>Pipistrellus pipistrellus</i>	Least Concern	Least Concern	Least Concern
Soprano	pipistrelle	<i>Pipistrellus pygmaeus</i>	Least Concern	Least Concern	Least Concern
Brown long-eared bat <i>Plecotus auritus</i>			Least Concern	Least Concern	Least Concern
Lesser horseshoe bat		<i>Rhinolophus hipposideros</i>	Least Concern	Near threatened	Least Concern
Possible Vagrants ^					
Brandt's bat <i>Myotis brandtii</i>			Data deficient	Least Concern	Least Concern
Greater horseshoe bat		<i>Rhinolophus ferrumequinum</i>	Data deficient	Near threatened	Near threatened

^ Roche *et al.*, 2014

1.2 Relevant Guidance Documents

This report will draw on guidelines already available in Europe and will use the following documents:

- Collins, J. (Editor) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). Bat Conservation Trust, London
- McAney, K. (2006) A conservation plan for Irish vesper bats, Irish Wildlife Manual No. 20 National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.
- Kelleher, C. & Marnell, F. (2006) Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.
- The status of EU protected habitats and species in Ireland: Conservation status in Ireland of habitats and species listed in the European Council Directive on the Conservation of Habitats, Flora and Fauna 92/43/EEC. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government.

Based on the information collected during the desktop studies and bat surveys, the bat ecologist assigns an ecological value to each bat species recorded based on its conservation status at different geographical scales (Table 2). For example, a site may be of national ecological value for a given species if it supports a significant proportion (e.g. 5%) of the total national population of that species.

Table 2: The six-level ecological valuation scheme used in the CIEM Guidelines (2016) Ecological Value

Ecological Value	Geographical Scale of Importance
International	International or European scale
National	The Republic of Ireland or the island of Ireland scale (depending on the bat species)
Regional	Province scale: Leinster
County	County scale: Co. Dublin
Local	Dublin Port
Negligible	None, the feature is common and widespread

Impacts on bats can arise from activities that may result in:

- Physical disturbance of bat roosts e.g. destruction or renovation of buildings
- Noise disturbance e.g. increase human presence, use of machinery etc.
- Lighting disturbance
- Loss of roosts e.g. destruction or renovation of buildings
- Modifications of commuting or foraging habitats
- Severance or fragmentation of commuting routes
- Loss of foraging habitats.

It is recognised that any development will have an impact on the receiving environment, but the significance of the impact will depend on the value of the ecological features that would be affected. Such ecological features will be those that are considered to be important and potentially affected by the proposed road improvement scheme.

The guidelines consulted recommend that the potential impacts of a proposed development on bats are assessed as early as possible in the design stage to determine any areas of conflict along each of the proposed route options.

1.3 Project Description

1.3.1 Site Location

The proposed area to be surveyed is marked within the Red Rectangle on the aerial photograph below:



Plate 1: Aerial photograph of proposed survey area – outline in red.

1.3.2 Proposed Project

Extensive redevelopment of the MP2 area of Dublin Port.

1.3.3 Bat Survey Aims

The aims of the bat survey at the proposed project site are as follows:

- Collect robust data following good practice guidelines to allow an assessment of the potential impacts of the proposed project on local bat populations, both on and off-site;
- Facilitate the design of mitigation, enhancement and monitoring strategies for local bat populations recorded;
- Provide baseline information with which the results of post-construction monitoring surveys can be compared to, where appropriate;
- Provide clear information to enable NPWS and planning authorities to reach robust decisions with definitive required outcomes;
- Assist clients in meeting their statutory obligations;
- Facilitate the conservation of local bat populations.

2. Bat Survey Methodology

2.1 Daytime Inspections

One purpose of daytime inspections is to determine the potential of bat roosts within the survey area. Due to the transient nature of bats and their seasonal life cycle, there are a number of different types of bat roosts. Where possible, one of the objectives of the surveys is to be able to identify the types of roosts present, if any. However, the determination of the type of roost present depends on the timing of the survey and the number of bat surveys completed. Consequently, the definition of roost types, in this report, will be based on the following:

Table 3: Bat Roost Types (Collins 2016).

Roost Type	Definition	Time of Survey
Day Roost	A place where individual bats or small groups of males, rest or shelter in the daytime but are rarely found by night in the summer.	Anytime of the year
Night Roost	A place where bats rest or shelter in the night but are rarely found in the day. May be used by a single bat on occasion or it could be used regularly by the whole colony.	Anytime of the year
Feeding Roost	A place where individual bats or a few bats rest or feed during the night but are rarely present by day.	Anytime of the year
Transitional Roost	A place used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.	Outside the main maternity and hibernation periods.
Swarming Site	Where large numbers of males and females gather. Appear to be important mating sites.	Late summer and autumn
Mating Site	Where mating takes place.	Late summer and autumn
Maternity Site	Where female bats give birth and raise their young to independence.	Summer months
Hibernation Site	Where bats are found, either individually or in groups in the winter months. They have a constant cool temperature and humidity.	Winter months in cold weather conditions
Satellite Roost	An alternative roost found in close proximity to the main nursery colony and is used by a few individuals throughout the breeding season.	Summer months

2.1.1 Building & Structure Inspection

Structures, buildings and other likely places that may provide a roosting space for bats are inspected during the daytime for evidence of bat usage. Evidence of bat usage is in the form of actual bats (visible or audible), bat droppings, urine staining, grease marks (oily secretions from glands present on stonework) and claw marks. Inspections are undertaken visually with the aid of a strong torch beam (LED Lenser P14.2) and endoscope (General DC5660A Wet / Dry Scope).

2.2 Night-time Bat Detector Surveys

2.2.1 Dusk & Dawn Bat Surveys

Dusk surveys are completed from 10 minutes before sunset to at least 120 minutes post sunset. Surveys are completed during mild and dry weather conditions with air temperature 8°C or greater.

The following equipment is used:

Surveyor 1: Wildlife Acoustics Echo Meter Touch (Generation 1, Apple IOS) connected to iPad 2 (32 GB storage) and Petersson D200 Heterodyne Bat Detector.

Surveyor 2: Wildlife Acoustics Echo Meter Touch2 Pro (Android) connected to Samsung Galaxy Tab S3 and Petersson D200 Heterodyne Bat Detector.

Walking transects involve the surveyor(s) walking the survey area, noting the time, location and bat species encountered.

Driving transects are undertaken for large survey areas. The Wildlife Acoustics Echo Meter Touch2 Pro (Android) microphone is attached to a 5m extension microphone cable (attached to Samsung Galaxy Tab S3) and is located outside on the passenger side of a vehicle. The vehicle is driven at 24 km/hr following Bat Conservation Ireland's car-based bat monitoring methodology (Aughney *et al.*, 2018). The time, location (grid reference) and bat species encountered are recorded.

2.3 Survey Constraints

The following assessment has been completed in relation to Survey Constraints:

Table 5: Survey Constraint Assessment Results.

Category	Discussion
Timing of surveys	None – survey was completed on the 23/4/2019 during the recommended bat activity survey season (mid-April to mid-September)
Weather conditions	None – weather conditions were favourable. Weather conditions: patchy cloud cover, dry, calm, 13-15°C.
Survey effort	None – two surveyors
Equipment	None – all equipment was functional

It is therefore deemed that the survey work completed is Appropriate in order to complete the aims of the bat survey.

3. Bat Survey Results

3.1 Daytime Inspections

3.1.1 Building & Structure Inspection

A daytime inspection was completed on 23rd May 2019 to determine the survey area and to determine the level of surveying required. The survey area is a large industrial zone with numerous buildings of low bat roosting potential. Due to security risks and health and safety issues, it was deemed to undertake a bat activity survey of the MP2 zone to determine if there was any bat activity and therefore a requirement to access buildings within secure areas.

3.2 Night-time Bat Detector Surveys

3.2.1 Dusk & Dawn Bat Survey

A walking transect was completed on 30th May 2019 from 21:45 hrs to 00:00 hrs. A driven transect was undertaken on the 1st June 2019 from 00:15 hrs to 01:15 hrs. The driving route was similar to both walking routes.

Walking transect

Surveyor 1 started from the Circle K petrol station (North-west point) and walked all roads within the survey area from East to West making her way to the Port Harbour Building / Irish Ferries before returning in to the start point. The walking route is shown in Yellow on Figure 2.



Surveyor 2 started at the Port Harbour Buildings (South-east point) and walked all roads, including the Seatruck Facility making his way to the Circle K petrol station. Surveyor 2 walking route is shown in Figure 3 in Red.



No bats were recorded emerging from any buildings within the survey area.

No bats were recorded during either the walking or driving transects.

4. Bat Ecological Evaluation

4.1 Bat Species Recorded & Sensitivity

Bats were not recorded commuting, foraging or roosting within the survey area.

Dublin Port is a highly industrialised and lit up zone with little vegetation for foraging bats.

Therefore the survey area is deemed to have low potential for local bat populations and the buildings surveyed is also deemed to have a low potential as a roosting site for bats.

5. Impact Assessment & Mitigation

The proposed development of the MP2 is deemed to have a low potential impact on local bat populations.

As no bat roosts were recorded within the building, no NPWS Derogation Licence is required and no specific bat mitigation measures are required.

However, as bats are transient mammals, and a bat will roost temporarily in any building during inclement weather conditions, it is recommended that vigilance is undertaken. If a bat is found within the building during demolition, works should cease and NPWS Conservation Ranger and a bat specialist should be contacted immediately for advice.

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APPENDIX 9 WATER QUALITY & FLOOD RISK ASSESSMENT

Appendix 9-1

1 DUBLIN PORT EXTREME WATER LEVELS

1.1 Introduction

An extreme value analysis (EVA) was undertaken by fitting a range of theoretical probability distributions to observed water level values from the Dublin Port tide gauge. Total water level time series data for the period 2000 to 2018 was used for this exercise, using a combination of data provided by Dublin Port (2000-2007) and more recent data downloaded from the Marine Institute data portal for the same gauge. Comparison of the two datasets identified an evident shift between the datums, requiring the older dataset to be raised by 0.205m to ensure consistency with the modern data. The resultant merged time-series was converted from gauge datum to Ordnance Datum Malin (OD) by applying the conversion factor provided by Marine Institute (-2.811m).

A partial duration series, also known as peak over threshold model, was used to select the largest events associated with the Dublin Port water level information. The selection of extreme events was made by applying a threshold level, in this instance 2.16m ODM, and identifying all events above this level.

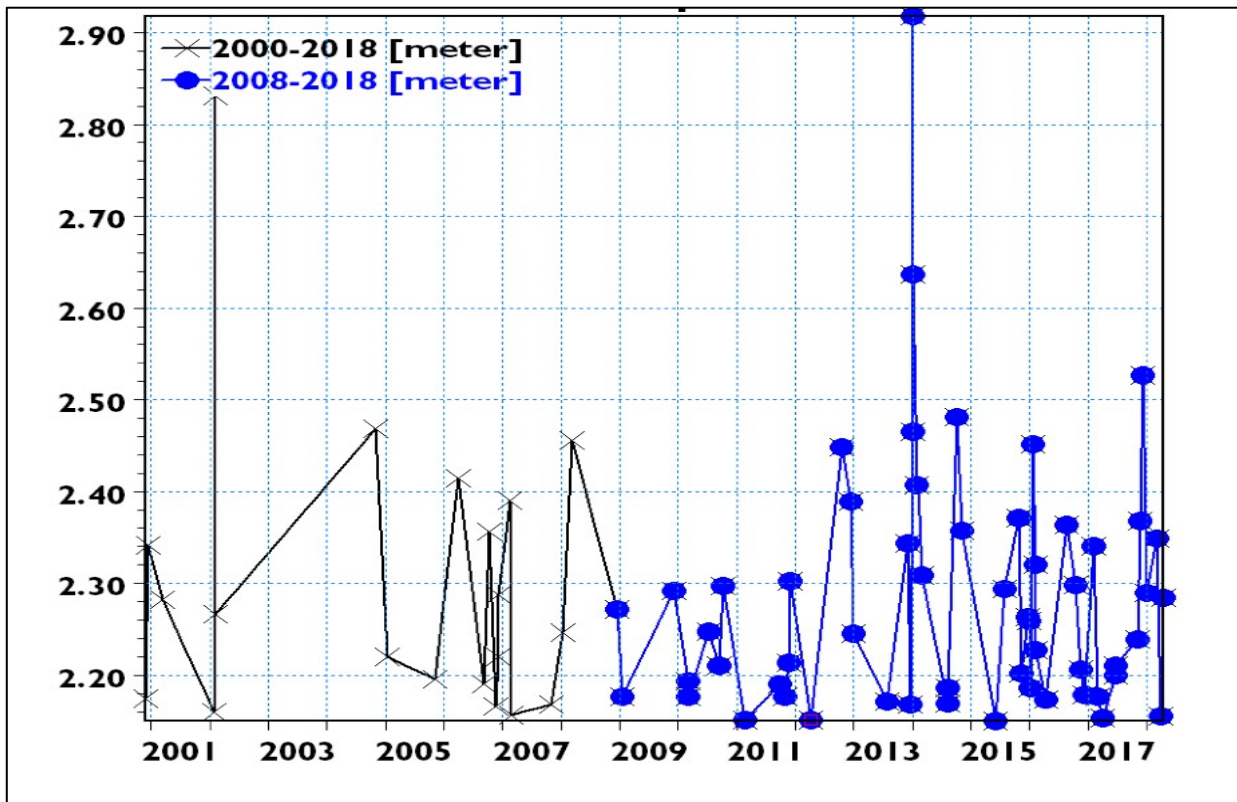


Figure 1-1 Dublin Point Extreme Annual Water Level Events (2000-2018)

The data shown in Figure 1-1, illustrates that the frequency of the occurrence of extreme water level events above the selected threshold level has increased in recent years. The most extreme event recorded by Dublin Port tide-gauge was captured on the 3rd January 2014 (2.918m OD), this new extreme water level superseded that of the previously largest event of 20th October 2002 (2.83m OD) event.

A range of candidate probability distributions were fitted to this data, in total seven distributions were investigated as follows:

- Weibull,
- Generalised Pareto,
- Gamma/Pearson Type 3,
- Log-Pearson Type 3,
- Log-normal,
- Exponential and
- Truncated Gumbel.

Three methods were applied to estimate the nearest fit parameters for each probability distribution; the method of moments, the method of L-moments and maximum likelihood method. Using these methods the parameters of each statistical distributions were determined.

The goodness of fit of the resulting distributions was tested using five statistical methods; Chi-squared, Kolmogorov-Smirnov test, standardised least squares criterion, probability plot correction co-efficient and Log-likelihood measure and visual observation.

The uncertainty in the application of these distributions was also evaluated by application of a Jack-knife re-sampling technique. With this technique the entire data set of n events is resampled $n-1$ times. Each time one of the events is excluded and the distribution is fitted to the remaining $n-1$ events using the same method. Using the various distributions the tidal levels for given return periods were derived and the average and the standard deviation determined. The difference between the average estimate and the estimated value initially derived provides a measure of the convergence of the statistical analysis (i.e. if the analysis covered a long enough period) and the confidence limits of the values are given by the standard deviation.

1.2 Analysis of Extreme Water Level Events

The extreme value analysis of total water levels for Dublin Port was undertaken as described in the previous section. The best fitting results were obtained by using the threshold or fixed location parameter method for selecting data.

The best candidate statistical distributions and respective method used to evaluate the statistical parameters are given below.

- Two parameter Weibull - method of L-moments *
- Gamma - method of L-moments #

At all points the “Gamma - method of L-moments” was found to give the best estimation of the probability distribution, as illustrated in Figure 1-2.

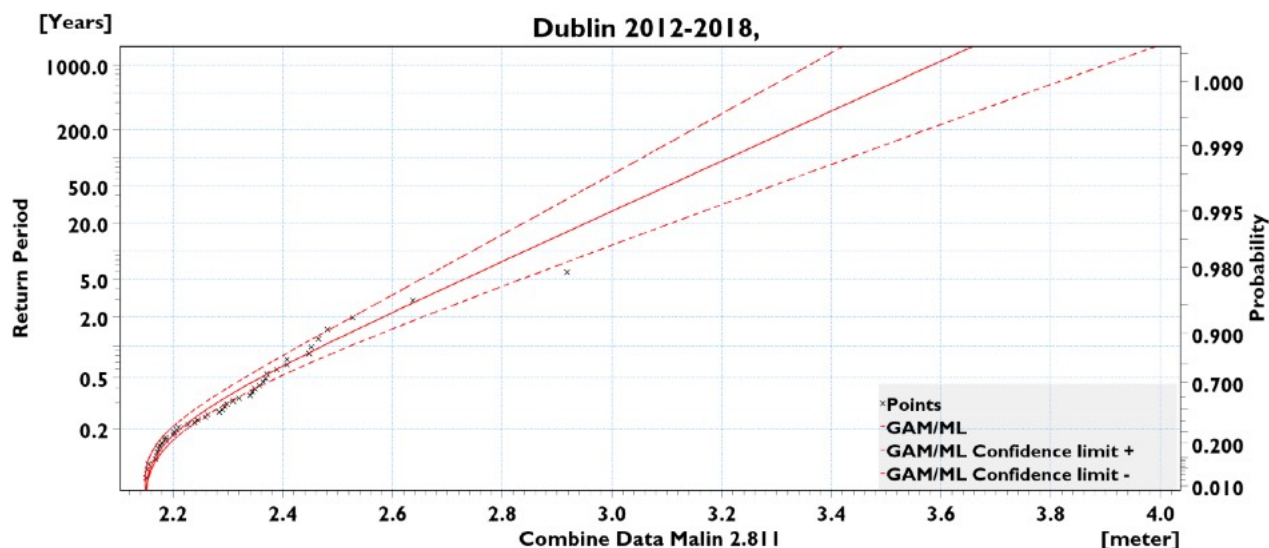


Figure 1-2 Simulated water levels and fitted Gamma (GAM) - method of L-moments (ML)

In order to assess data sensitivity, extreme value analysis was undertaken for the entire dataset (2000-2018) (1), the last 10 years (2008-2018) (2) and the last six years (2012-2018) (3). These analyses were undertaken to evaluate the sensitivity of the Dublin Port dataset to sea-level change and increased storm. In essence, this analysis identified an increased frequency of extreme water level occurrence over the last 5 years at Dublin Port.

The extreme water levels at Dublin Port were evaluated for return periods ranging from a 1 in 2 year to a 1 in 1000 year. Table 1-1 below documents the averaged estimates based on the Jack-knife sampling technique and the standard deviation as discussed in the previous section. For comparison purposes, the previously identified (2006) ICPSS return period levels for node point NE22 (4) are presented.

Table 1-1 Return Period Total Water Level Dublin Port

Return Period	Dublin Port Time-Series (Sidereal year)			
	1. 00-18 (18 yr)	2. 08-18 (10 yr)	3. 12-18 (6 yr)	4. ICPSS (NE22)
	WEI2/ML* (mOD)	WEI2/ML (mOD)	GAM/ML# (mOD)	(mOD)
1 in 2	2.468	2.499	2.584	2.46
1 in 5	2.61	2.64	2.731	2.58
1 in 10	2.72	2.748	2.843	2.67
1 in 20	2.83	2.857	2.954	2.76
1 in 50	2.978	3.003	3.102	2.88
1 in 100	3.091	3.115	3.213	2.97
1 in 200	3.205	3.227	3.325	3.07
1 in 1000	3.472	3.491	3.584	3.28

Considering that the purpose of undertaking this assessment is to inform future development strategy, it is suggested that most conservative estimates should be adopted. Consequently, it is suggested that the return period levels derived from the analysis of dataset (3) to 2012-18 (6 year) dataset are adopted. Although, it must be emphasised that 6 years is a very short time period on which to base the projection of very extreme events (normal guidance would suggest that confidence cannot be guaranteed at return periods exceeding circa 3 times the duration of the analysis dataset). Furthermore it is possible that the recent increased storminess trend may not continue and may reflect a short-term cycle of sub-decadal natural variability, however the uncertainty associated with long-term climate change prediction and the likely increased occurrence of storm events, generally favours that a conservative approach is adopted.

However, in making this recommendation it must be recognised that the original ICPSS levels were based on an analysis of a 46 year dataset, albeit that some of this data was simulated rather than observed, and hence statistically would be considered a more robust projection. This analysis is currently being updated for the NE Irish coast to bring in a further 13 years of data collected since the first analysis was undertaken and early indication of this analysis which now incorporate almost 60 years of data is that the ICPSS prediction of extreme water levels remain valid, when referenced to mean sea level.

APPENDIX 12 MATERIAL ASSETS – COASTAL PROCESSES

Appendix 12-1

1 COASTAL PROCESSES – ADDITIONAL MODELLING INFORMATION

This appendix describes the modelling systems used in to assess the coastal processes in Chapter 12 and presents information relating the model validation process.

1.1 Model Validation

The validation process was undertaken using surface elevation information recorded by the Dublin Port tide gauge and also current regime information recorded by 8 individual Acoustic Doppler Current Profilers (ADCPs) that were moored throughout Dublin Bay between 2013 and present as part of various monitoring programmes. The location of the ADCP devices in relation to Dublin Port is illustrated in Figure 1.1.

The validation process focused on establishing agreement between the model output and recorded observations and thus assessing overall model performance based several key parameters including tidal range, current speed, phase and direction.

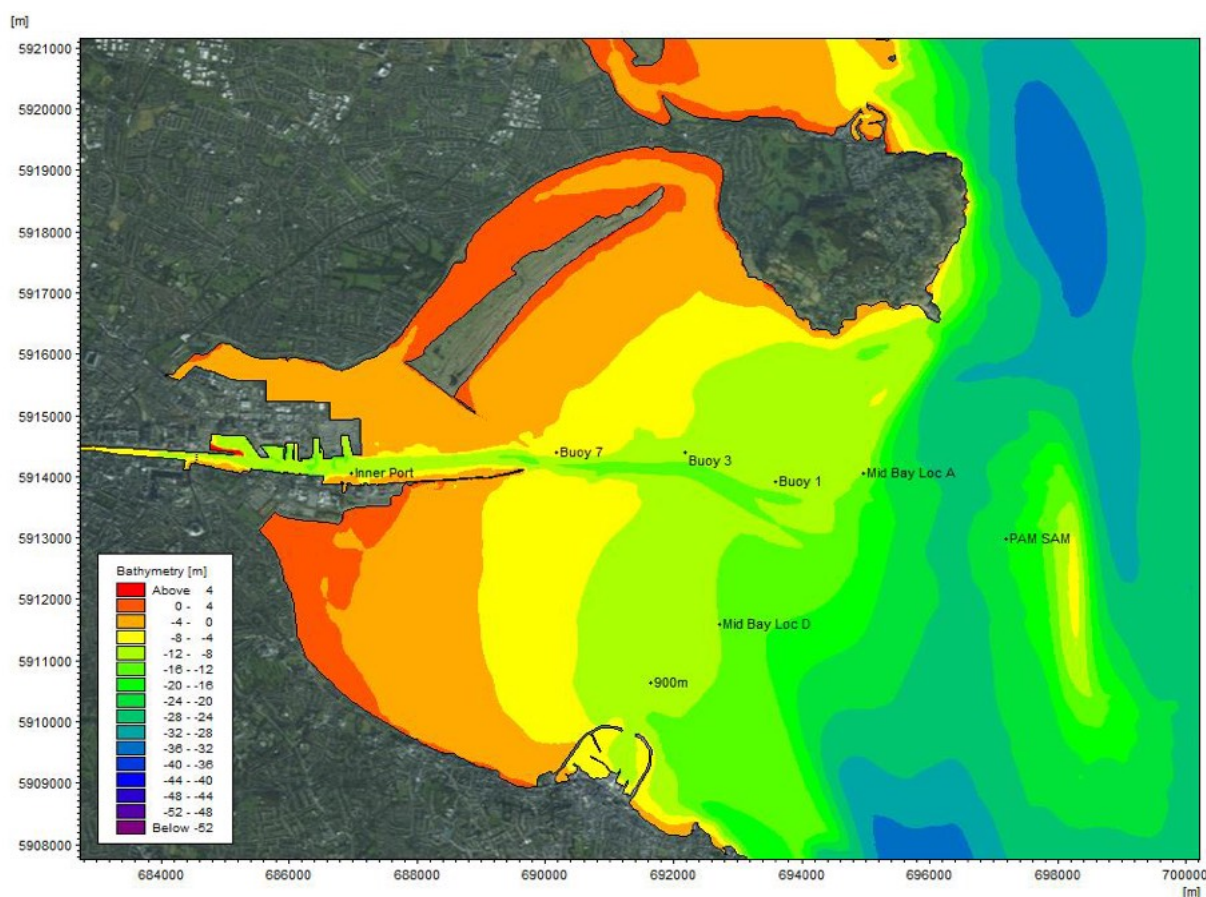


Figure 1.1: Location of the various measurement recording sites throughout Dublin Bay used to validate RPS' baseline numerical model

1.1.1 Validation of simulated tidal ranges

Figure 1.2 presents a comparison between surface elevation data recorded by the Dublin Tide Gauge over a typical spring neap tidal cycle in 2016 and surface elevation data simulated by the Dublin Bay numerical model for the same period. As can be seen from this figure the hydrodynamic model simulates the surface elevations in Dublin Port to a very high degree of accuracy.

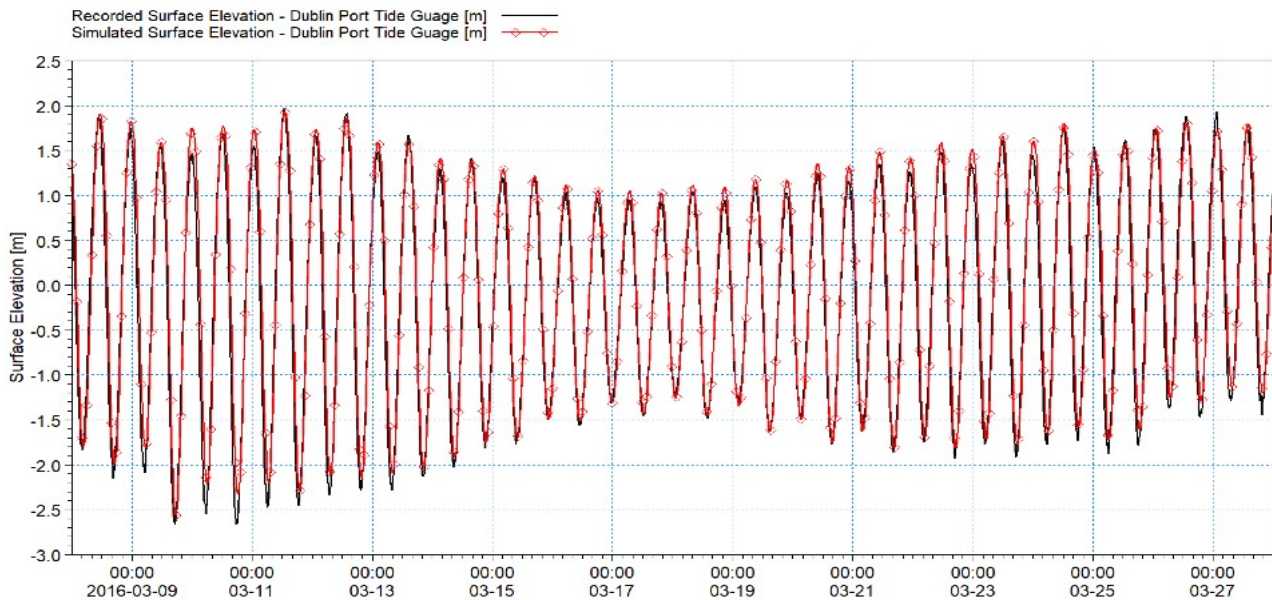


Figure 1.2: Comparison of recorded and simulated surface elevations at the Dublin Port tide gauge

1.1.2 Validation of simulated current regime

The validation of the simulated tidal current regime was undertaken using data recorded by eight individual ADCP devices that were deployed throughout the model domain at various times between 2013 and present as part of various hydrographic and environmental monitoring programmes. It should therefore be noted that the temporal duration of the validation plots vary depending on the device location.

All of the ADCP devices were setup to record current speed, phase and direction at multiple depths throughout the water column. The multiple depth recordings were then grouped together to create representative bottom, middle and top layer signals.

To validate the two-dimensional Dublin Bay model, depth averaged simulated data were compared with data recorded at all sites except the inner Port where stratified conditions prevail. In this area, simulated data from RPS' three-dimensional Dublin Bay model were compared with data recorded by the inner Port ADCP across the top, middle and bottom layers of the water column. For convenience an index for the various validation plots across spring and neap tidal conditions has been presented in Table 1.1 overleaf.

Table 1.1: Index of the validation plots at each of the validation sites for spring and neap conditions

Validation Type	Validation Site	Spring Conditions	Neap Conditions
Depth averaged (2D)	Buoy 1	Figure 1.3	Figure 1.10
	Buoy 3	Figure 1.4	Figure 1.11
	Buoy 7	Figure 1.5	Figure 1.12
	Mid Bay A	Figure 1.6	Figure 1.13
	Mid Bay D	Figure 1.7	Figure 1.14
	VD 900	Figure 1.8	Figure 1.15
	PAM SAM	Figure 1.9	Figure 1.16
Three dimensional (3D)	Inner Port	Figure 1.17	Figure 1.18

Examination of the two-dimensional depth averaged plots used to validate simulate date model outside of the Port demonstrate that the hydrodynamic model predicted current speed, phase and direction during both spring and neap tidal conditions throughout the entire model domain to a very high degree of accuracy. At all validation sites the simulated depth averaged current speed, phase and direction values nearly always falls between the range values observed in the top and bottom layers. It may be noted that there is an minor difference between the modelled and recorded data in the top layer at buoys 3 and 7, however this difference can be attributed to prevailing weather conditions such as high surface winds etc. which would not have been account for in the hydrodynamic model.

Examination of Figure 1.17 and Figure 1.18 which illustrate the plots used to validate RPS' baseline three-dimensional model inside of Dublin Port demonstrate that the actual current speed, phase and direction are all well predicted by the hydrodynamic model. The minor difference observed in current speeds and directions within the top layer of the model is due prevailing weather conditions which would not have been accounted for in the model.

A close inspection of the recorded current speeds and directions within Dublin Port indicates the presence of a salt wedge within the Liffey channel; this is a classic phenomenon observed at the mouth of any estuary or fresh water river that meets the sea. As demonstrated in Figure 1.19 to Figure 1.22 which illustrate the salinity of bottom, middle and top layers of the water column at various phases of a typical spring tidal cycle, RPS' three dimensional model simulates this dynamic pycnocline process very well.

Overall the validation process demonstrated that RPS' two dimensional and three dimensional baseline models of Dublin Bay simulated the current speed, phase, range and direction to a high degree of accuracy throughout the entire model domain. The current regime within the inner harbour flow is complex with some level of circulation, stratification and bi-directional flows; however these phenomena are all well represented by the model. The validation process therefore considered the 2D and 3D baseline models to be fit for purpose and adequate to assess the coastal processes in Dublin Port in context of the MP2 Project.

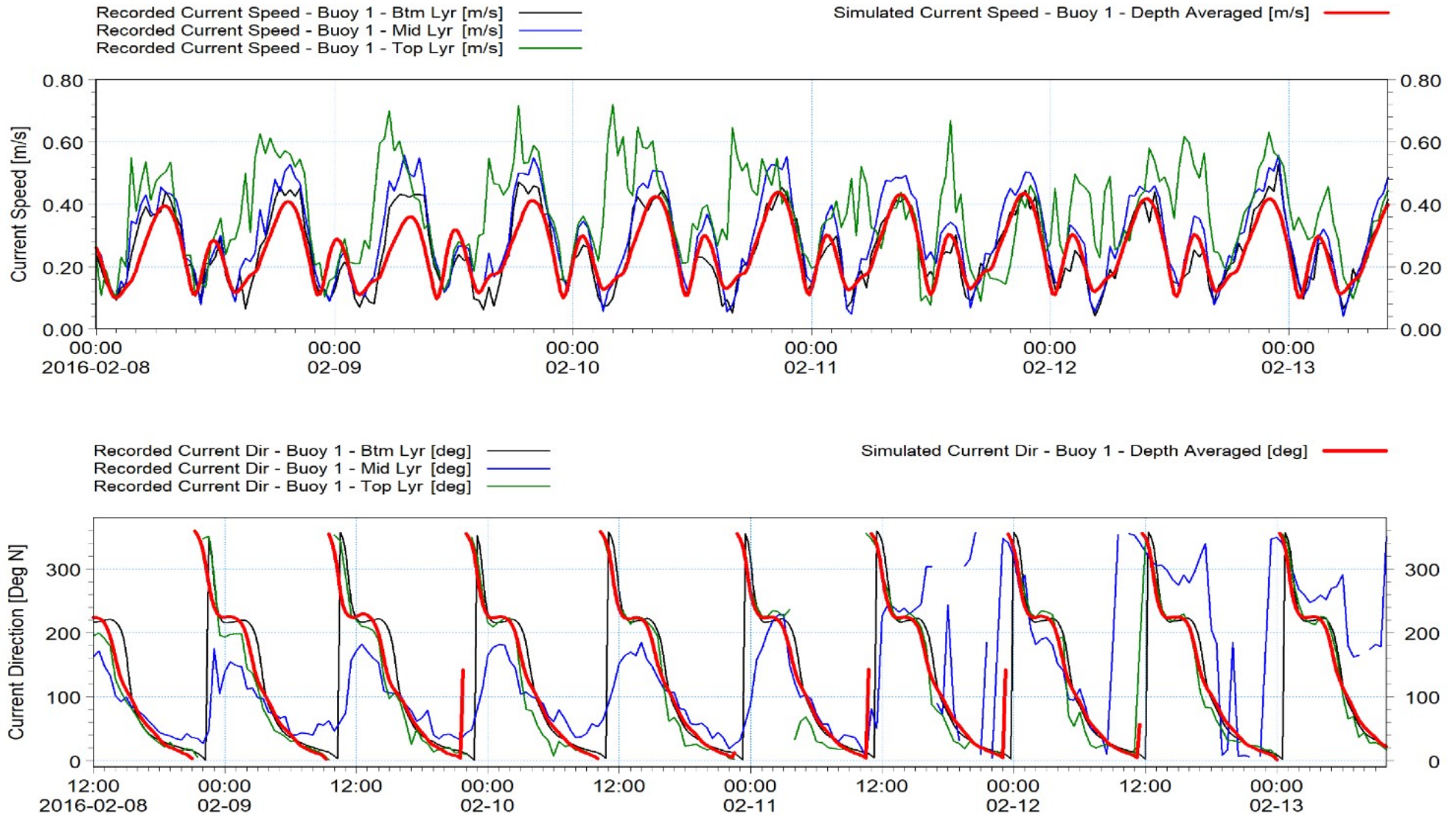


Figure 1.3: Comparison of recorded and simulated current speeds (upper) and directions (lower) at Buoy 1 - Spring Tides

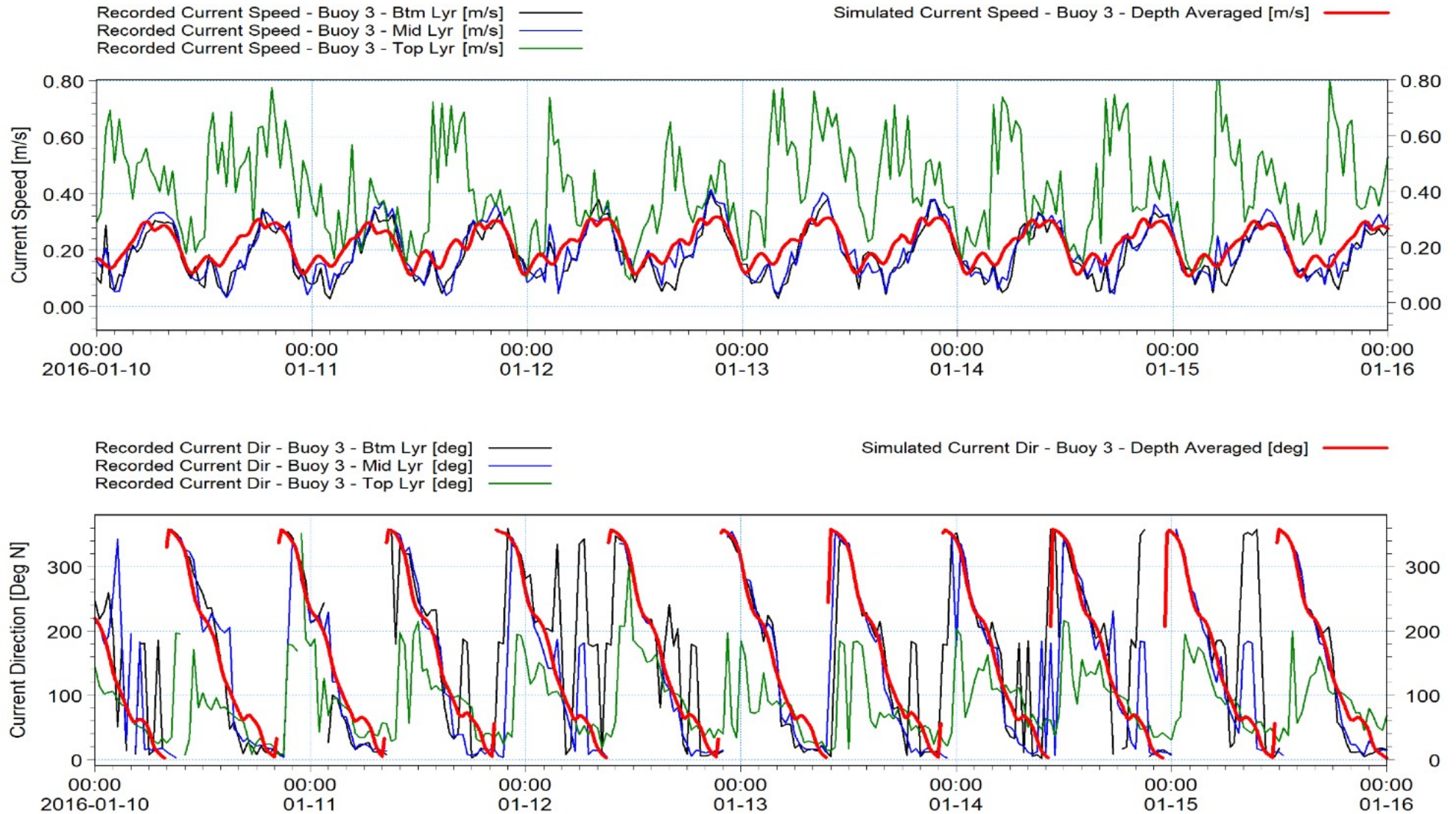


Figure 1.4: Comparison of recorded and simulated current speeds (upper) and directions (lower) at Buoy 3 - Spring Tides

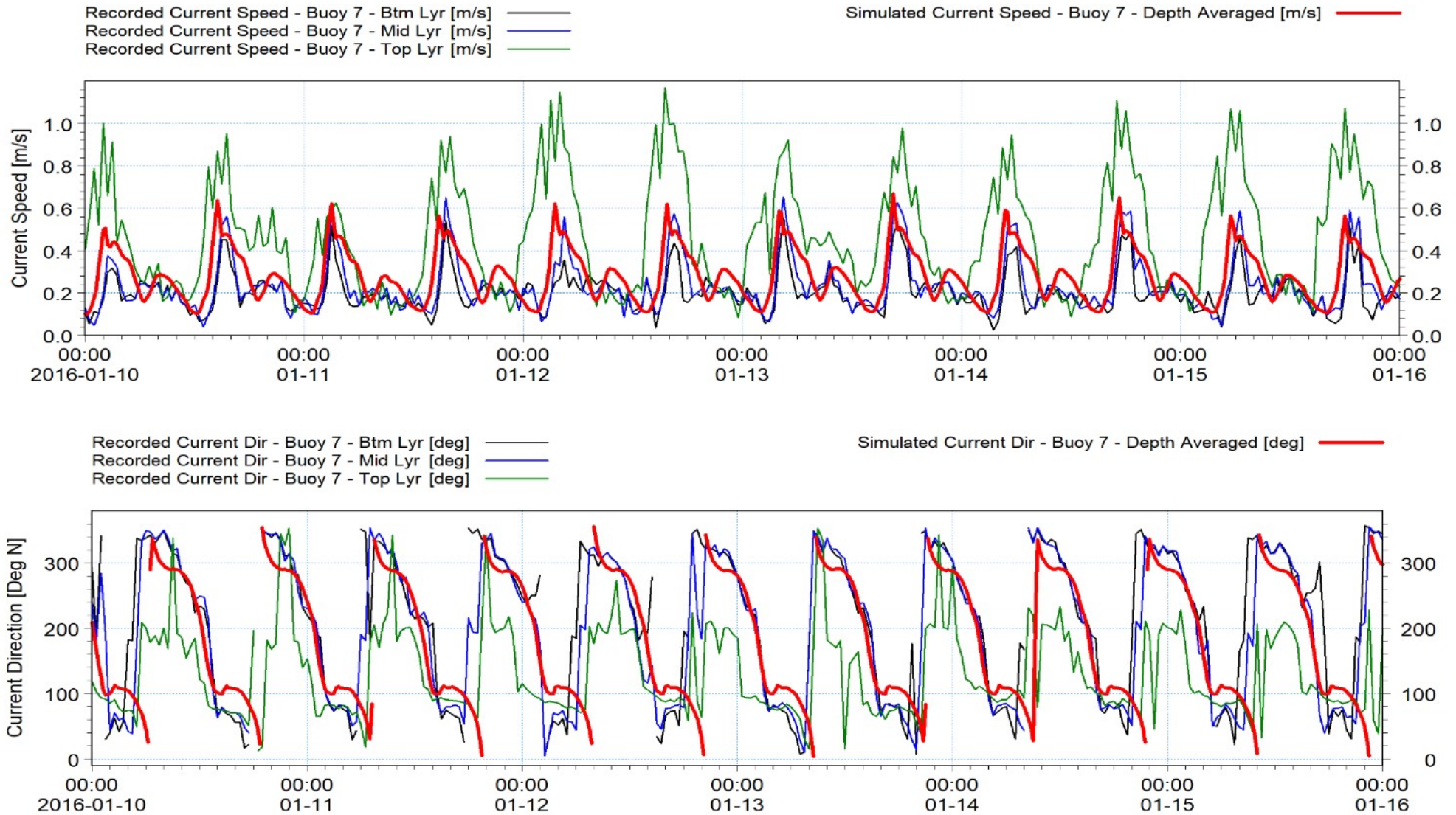


Figure 1.5: Comparison of recorded and simulated current speeds (upper) and directions (lower) at Buoy 7 -Spring Tides

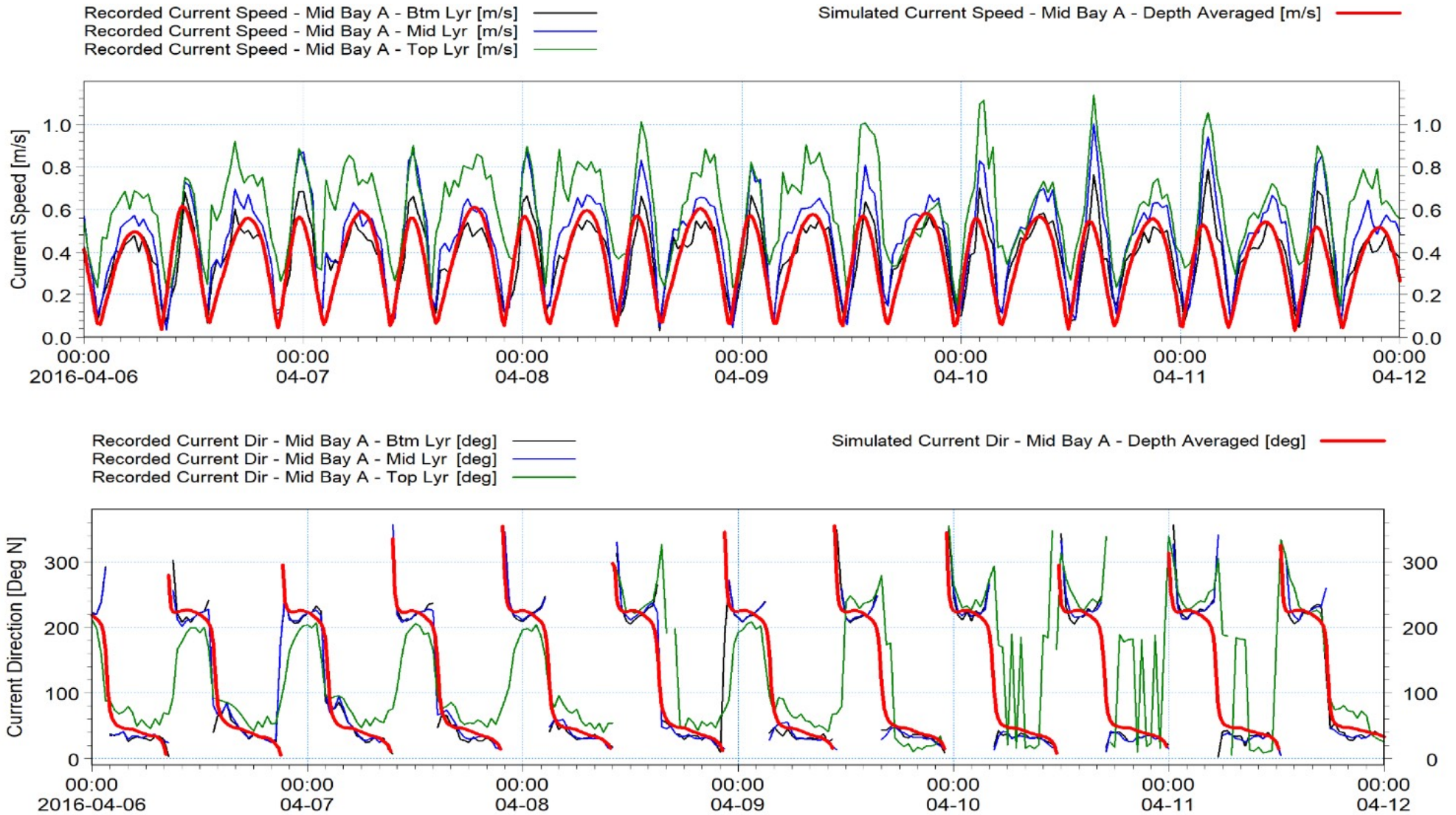


Figure 1.6: Comparison of recorded and simulated current speeds (upper) and directions (lower) at Mid Bay A - Spring Tides

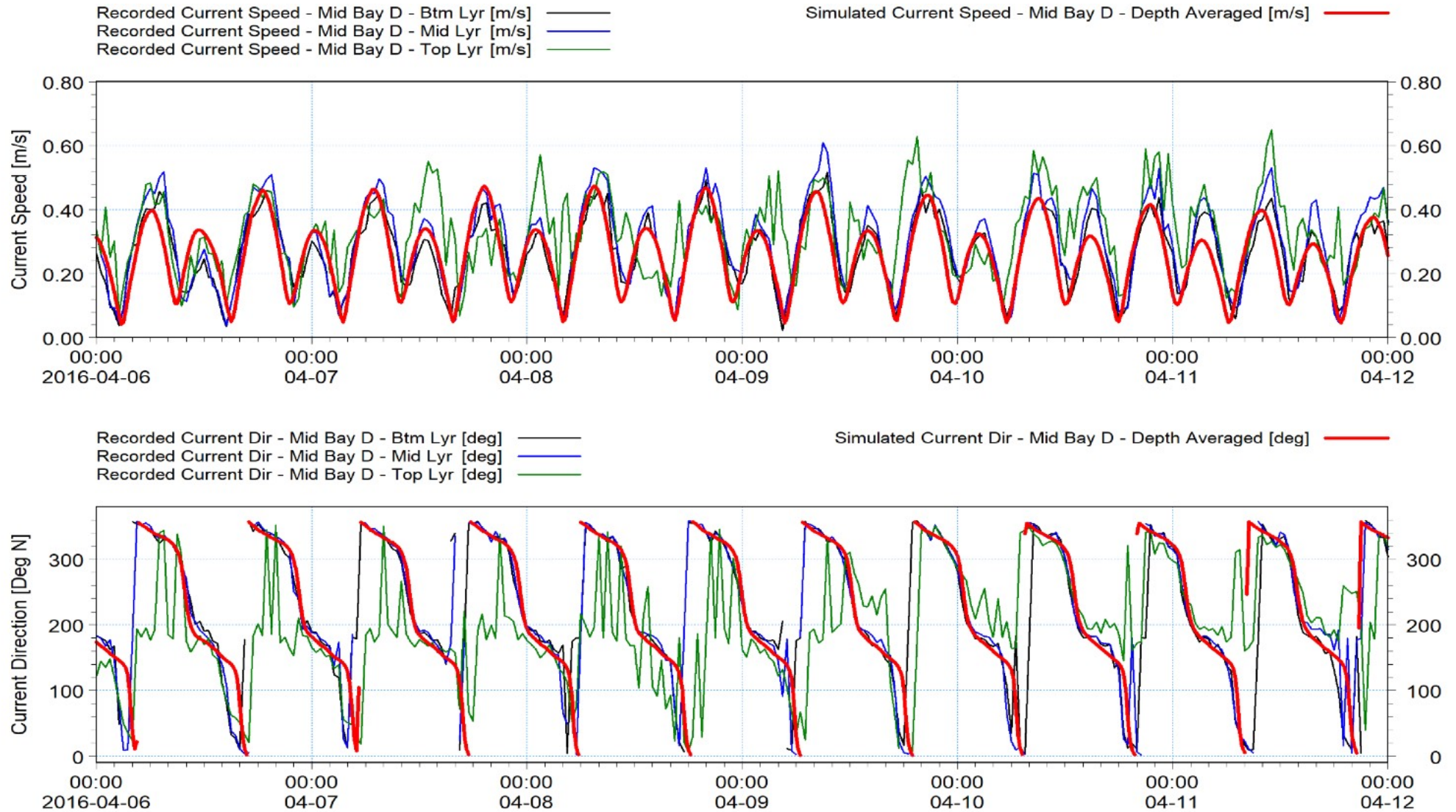


Figure 1.7: Comparison of recorded and simulated current speeds (upper) and directions (lower) at Mid Bay D - Spring Tides

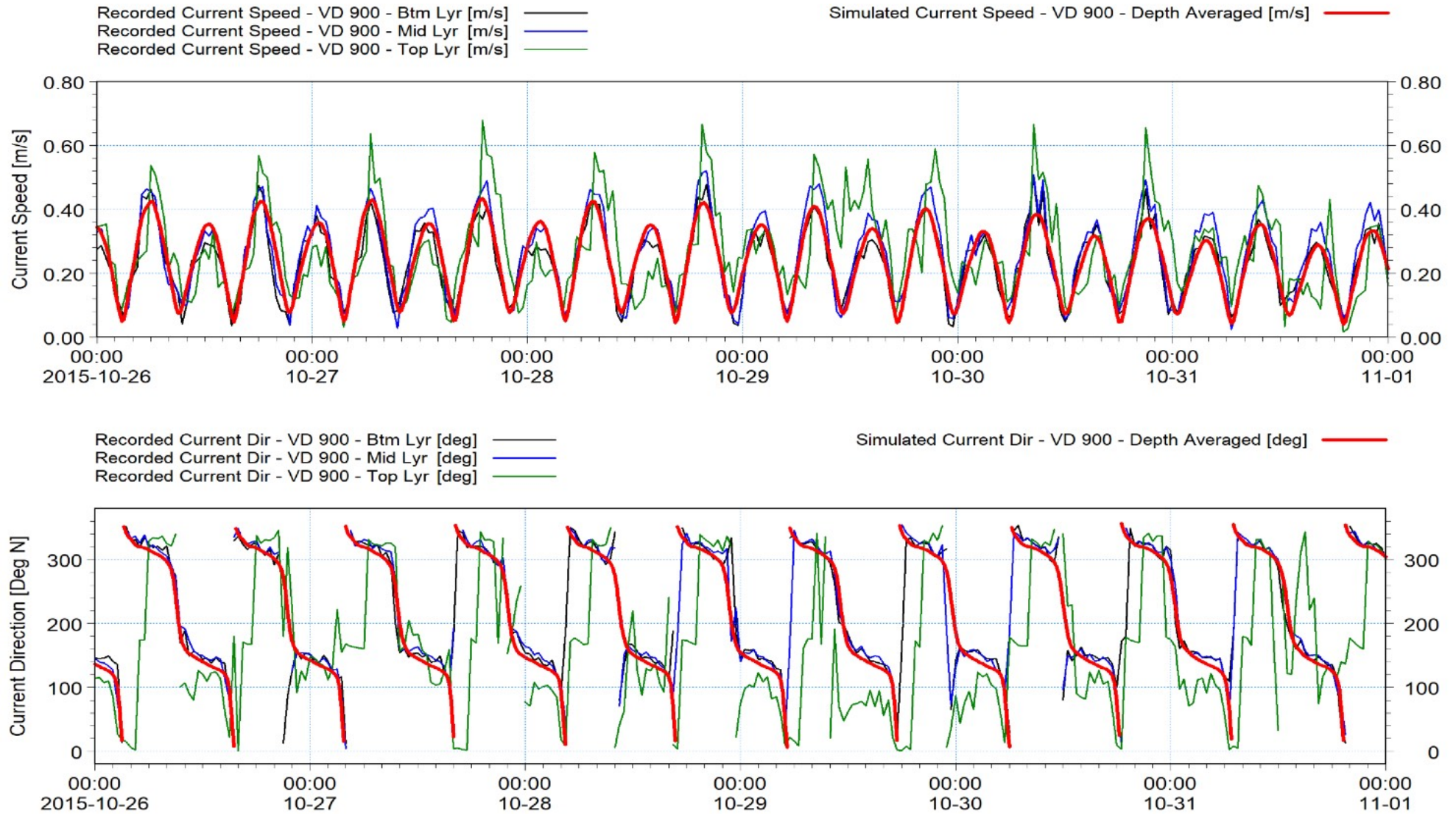


Figure 1.8: Comparison of recorded and simulated current speeds (upper) and directions (lower) at VD 900 -Spring Tides

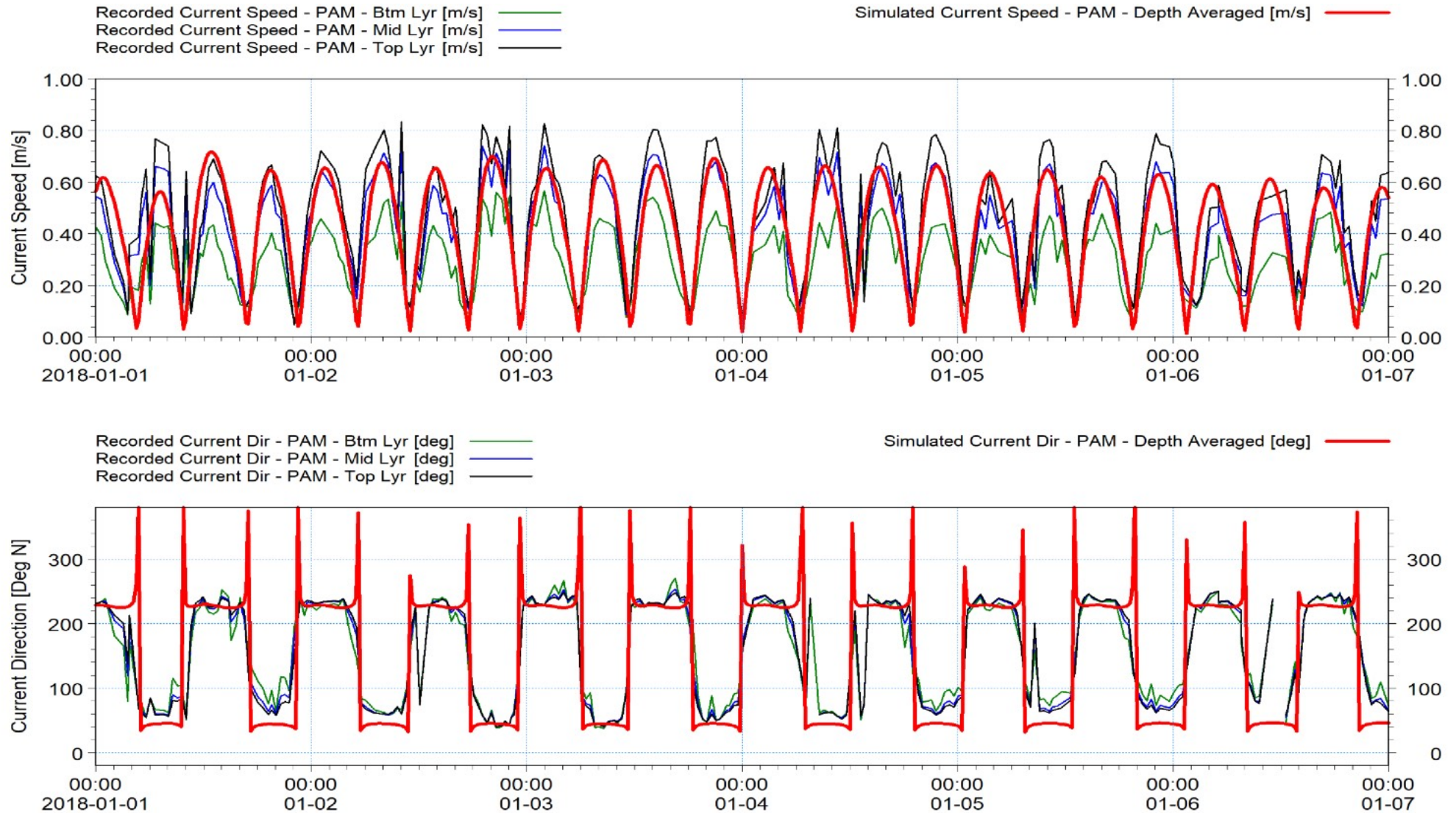


Figure 1.9: Comparison of recorded and simulated current speeds (upper) and directions (lower) at PAM Site -Spring Tides

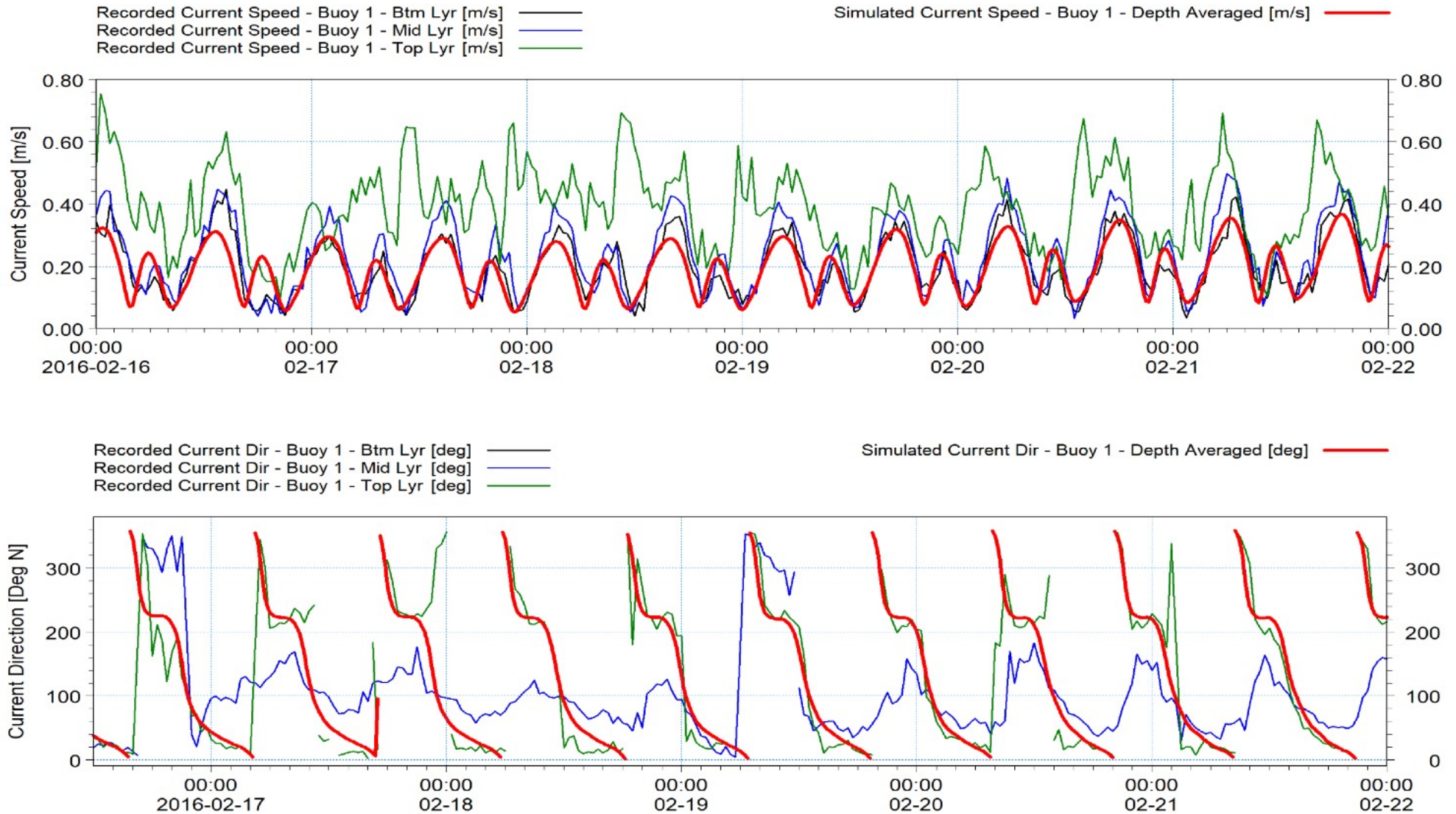


Figure 1.10: Comparison of recorded and simulated current speeds (upper) and directions (lower) at Buoy 1 -Neap Tides

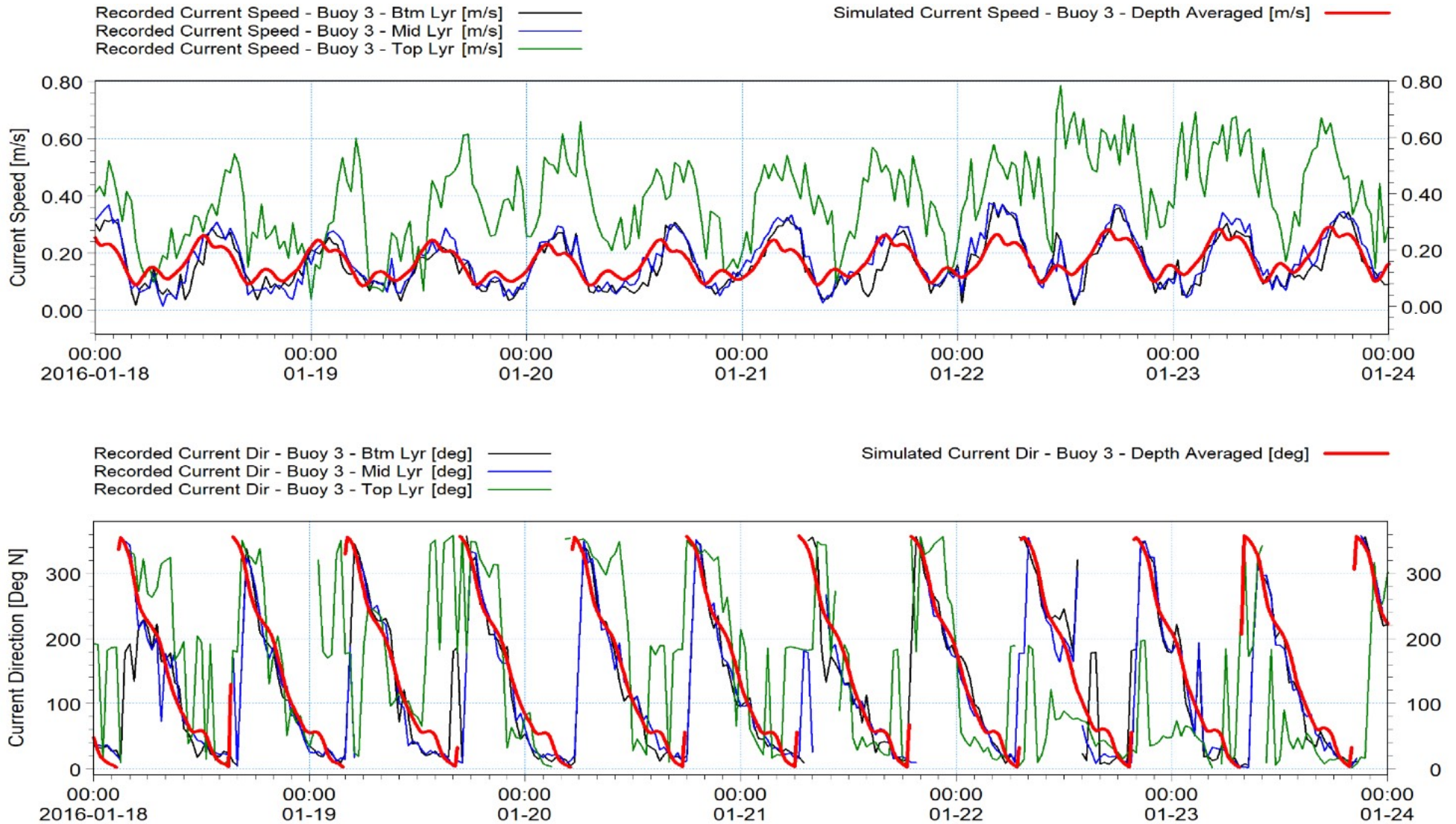


Figure 1.11: Comparison of recorded and simulated current speeds (upper) and directions (lower) at Buoy 3 -Neap Tides

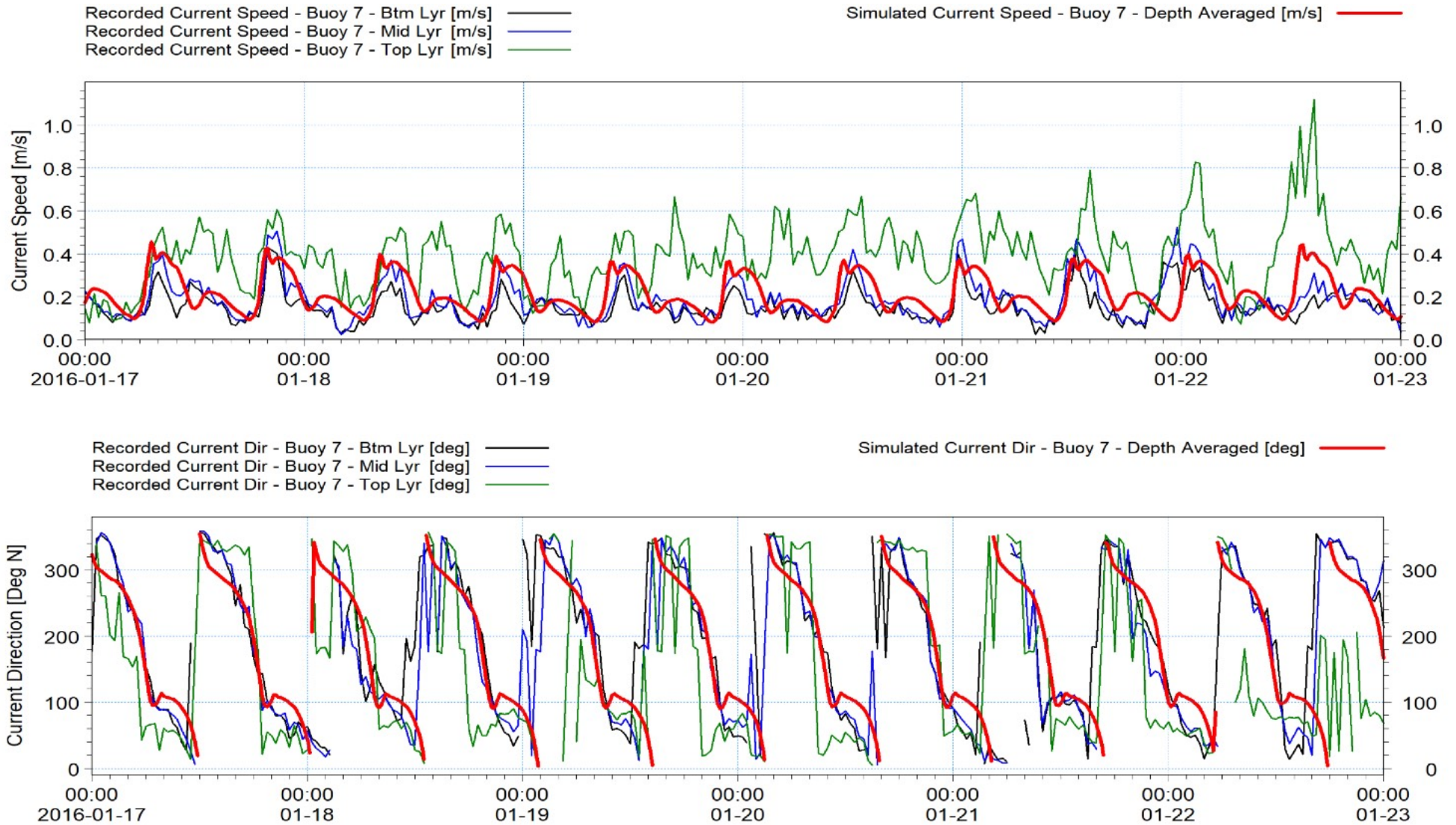


Figure 1.12: Comparison of recorded and simulated current speeds (upper) and directions (lower) at Buoy 7 - Neap Tides

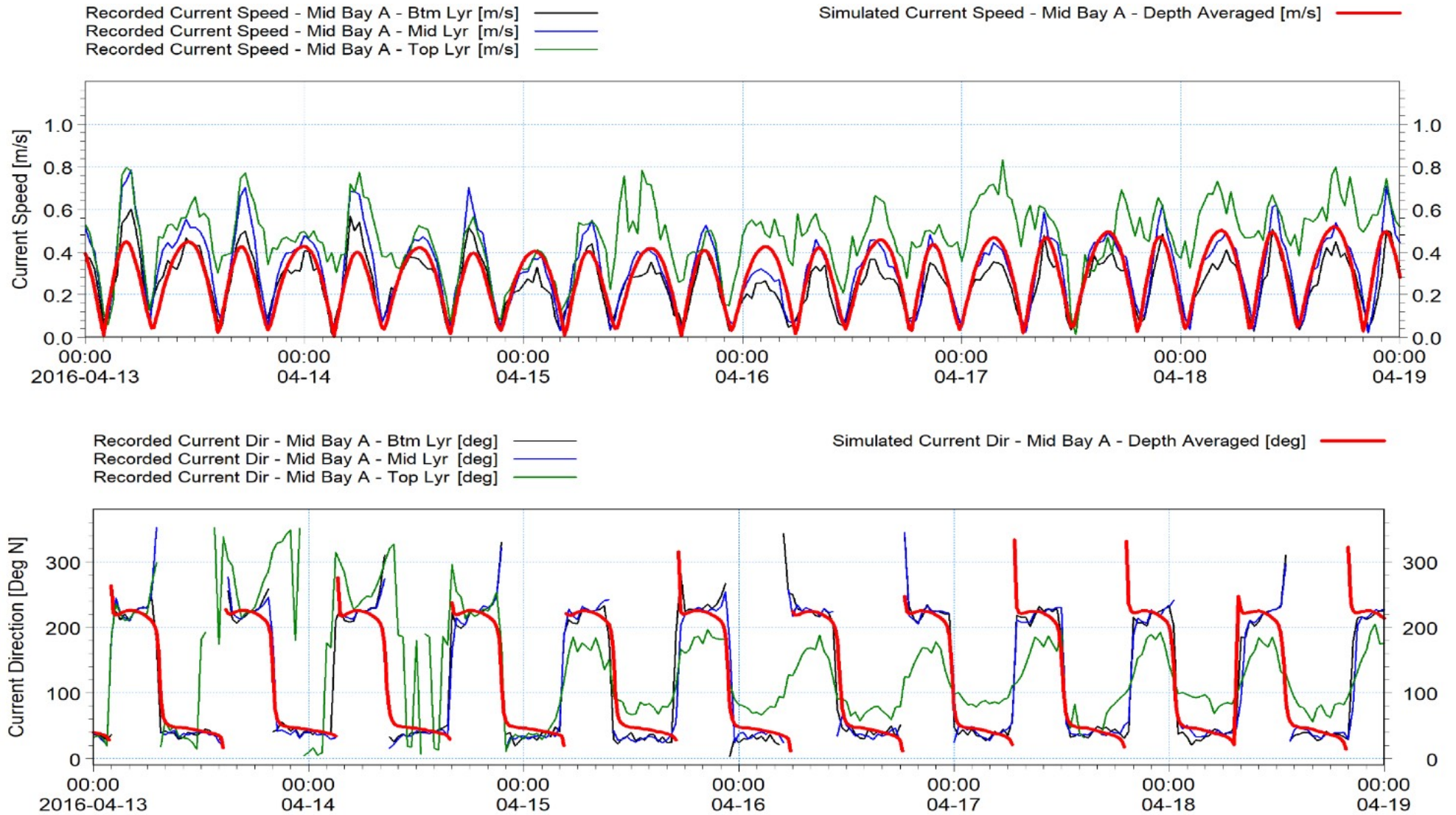


Figure 1.13: Comparison of recorded and simulated current speeds (upper) and directions (lower) at Mid Bay A -Neap Tides

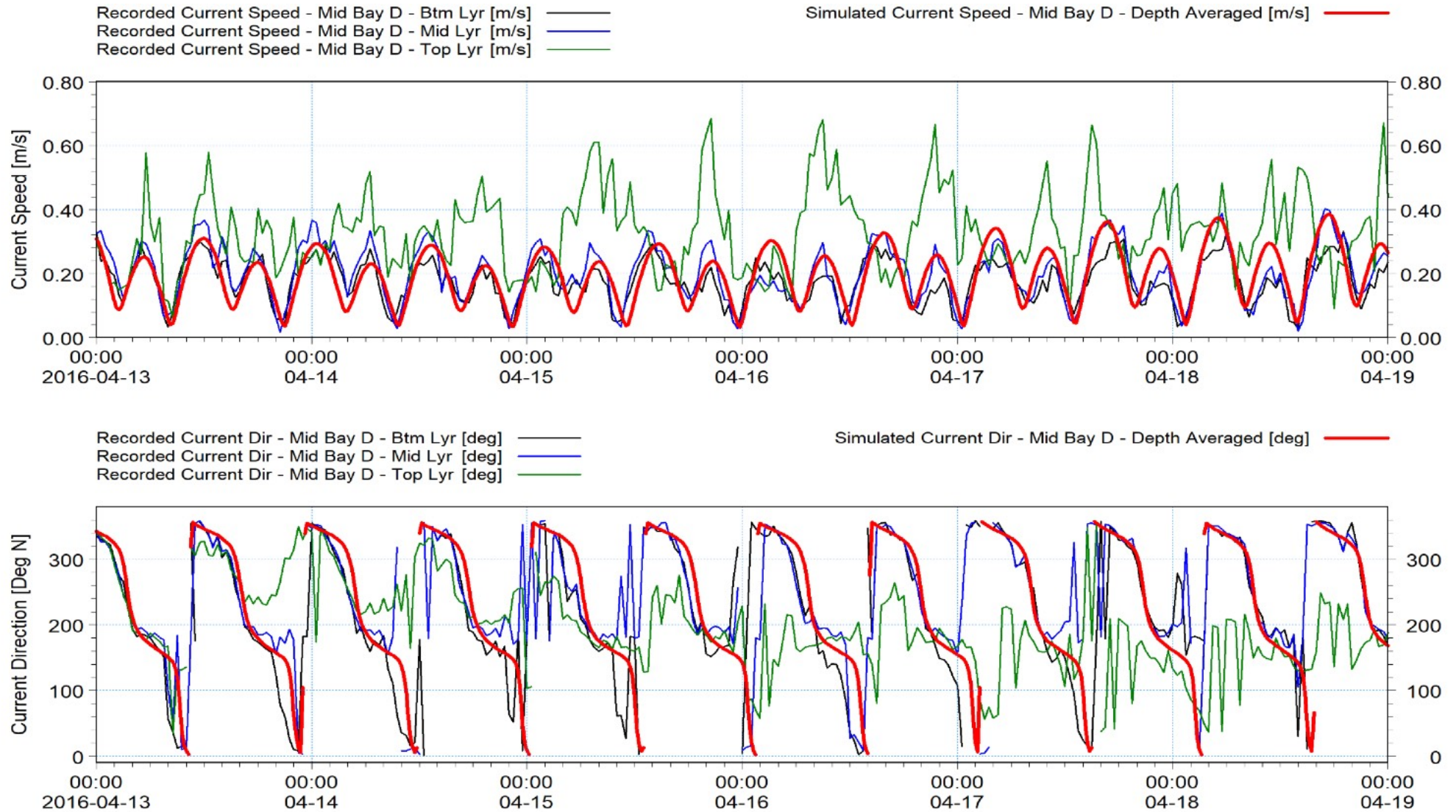


Figure 1.14: Comparison of recorded and simulated current speeds (upper) and directions (lower) at Mid Bay D -Neap Tides

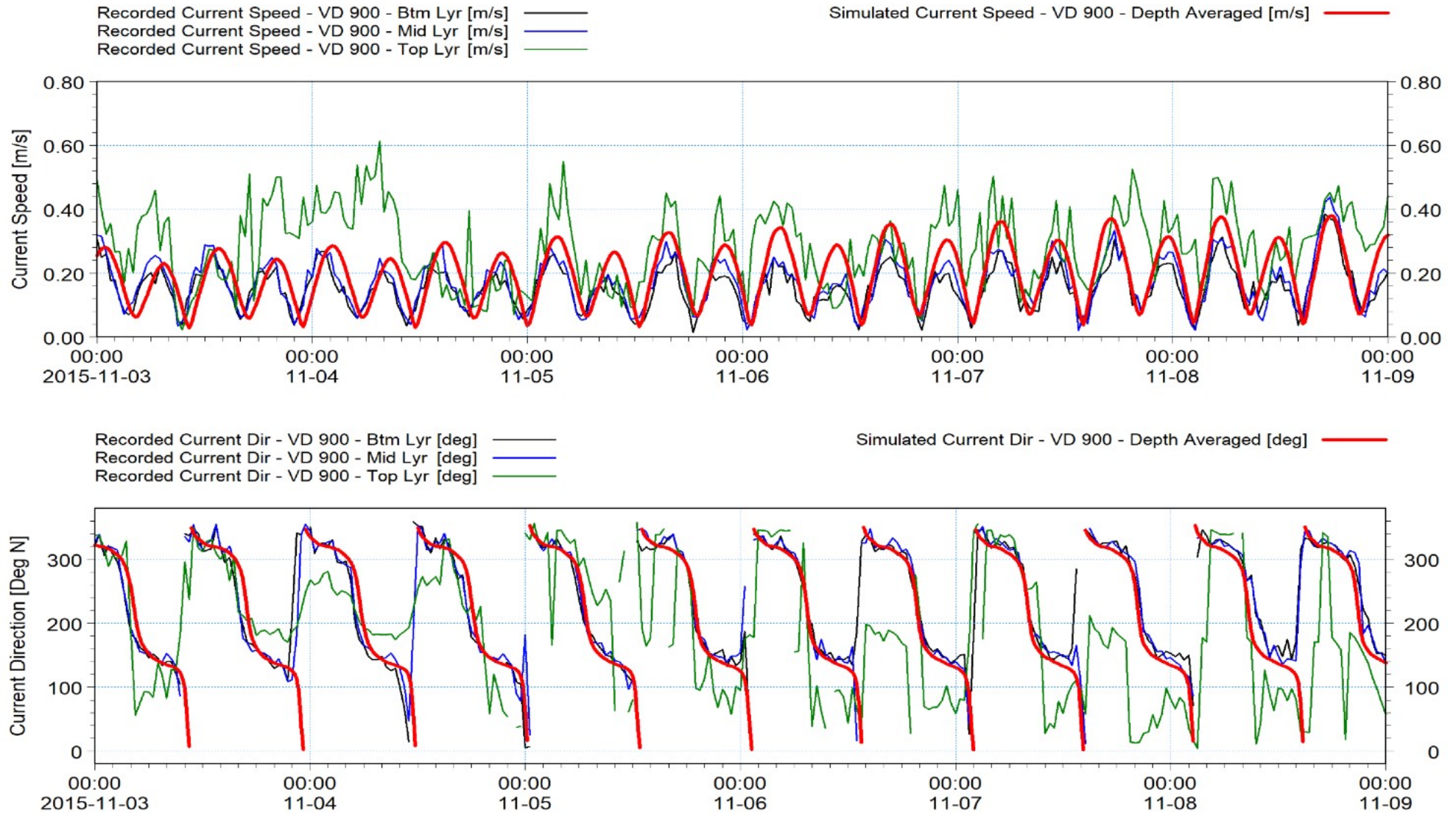


Figure 1.15: Comparison of recorded and simulated current speeds (upper) and directions (lower) at VD 900 -Neap Tides

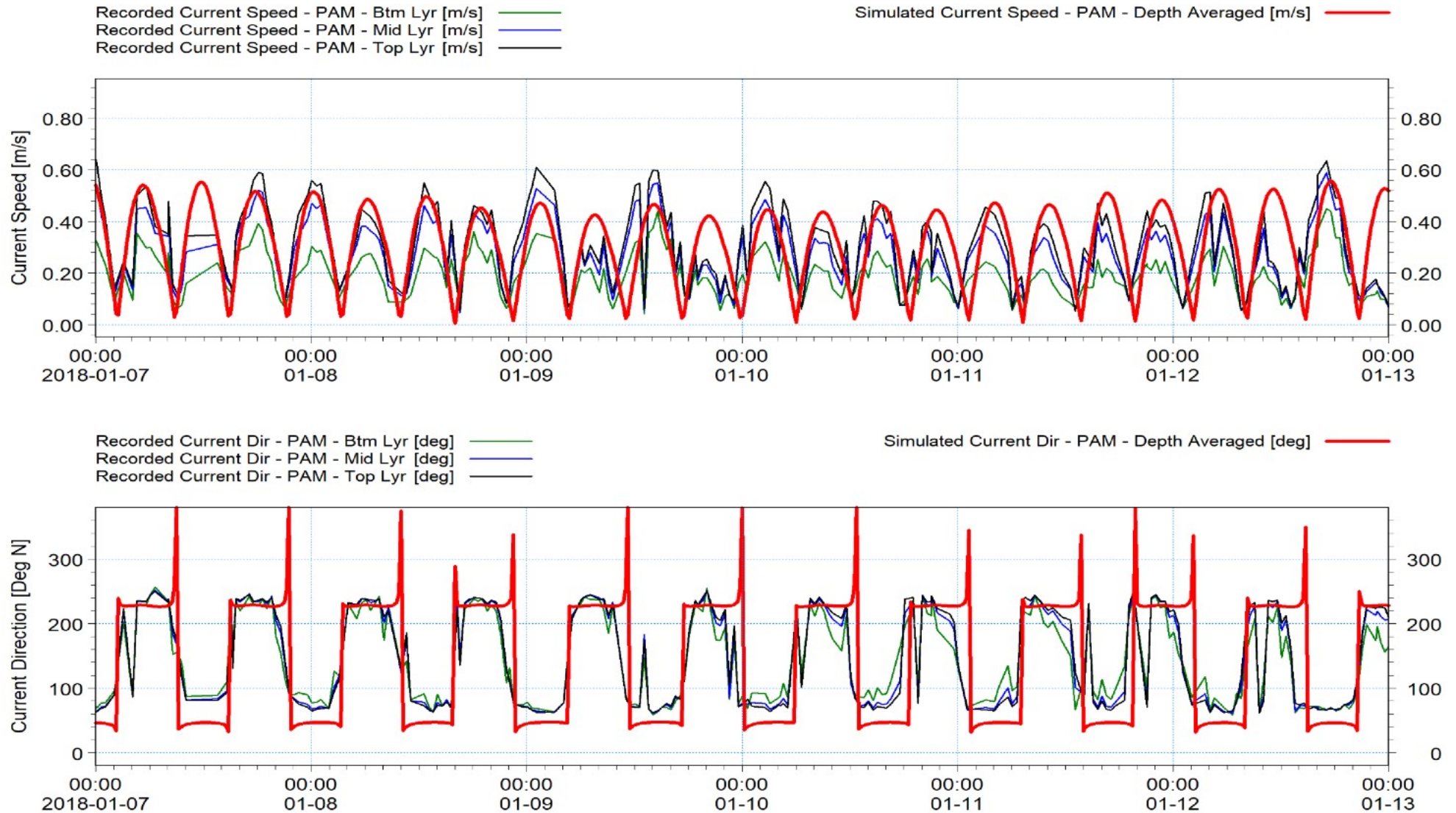


Figure 1.16: Comparison of recorded and simulated current speeds (upper) and directions (lower) at PAM Site -Neap Tides

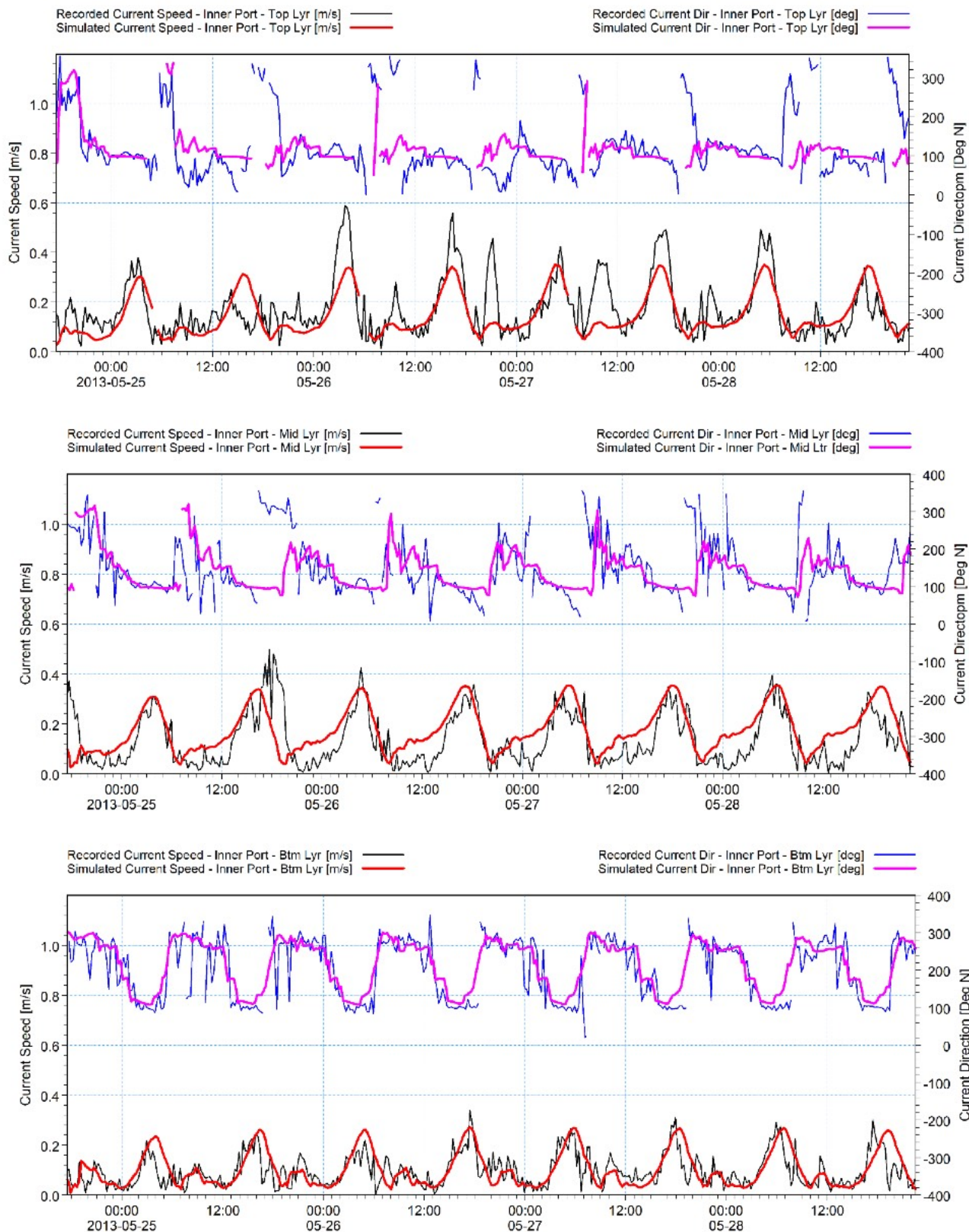


Figure 1.17: Comparison of recorded and simulated current speeds and directions throughout the top, middle and bottom layers of the water column at the Inner Port ADCP - Spring Tides

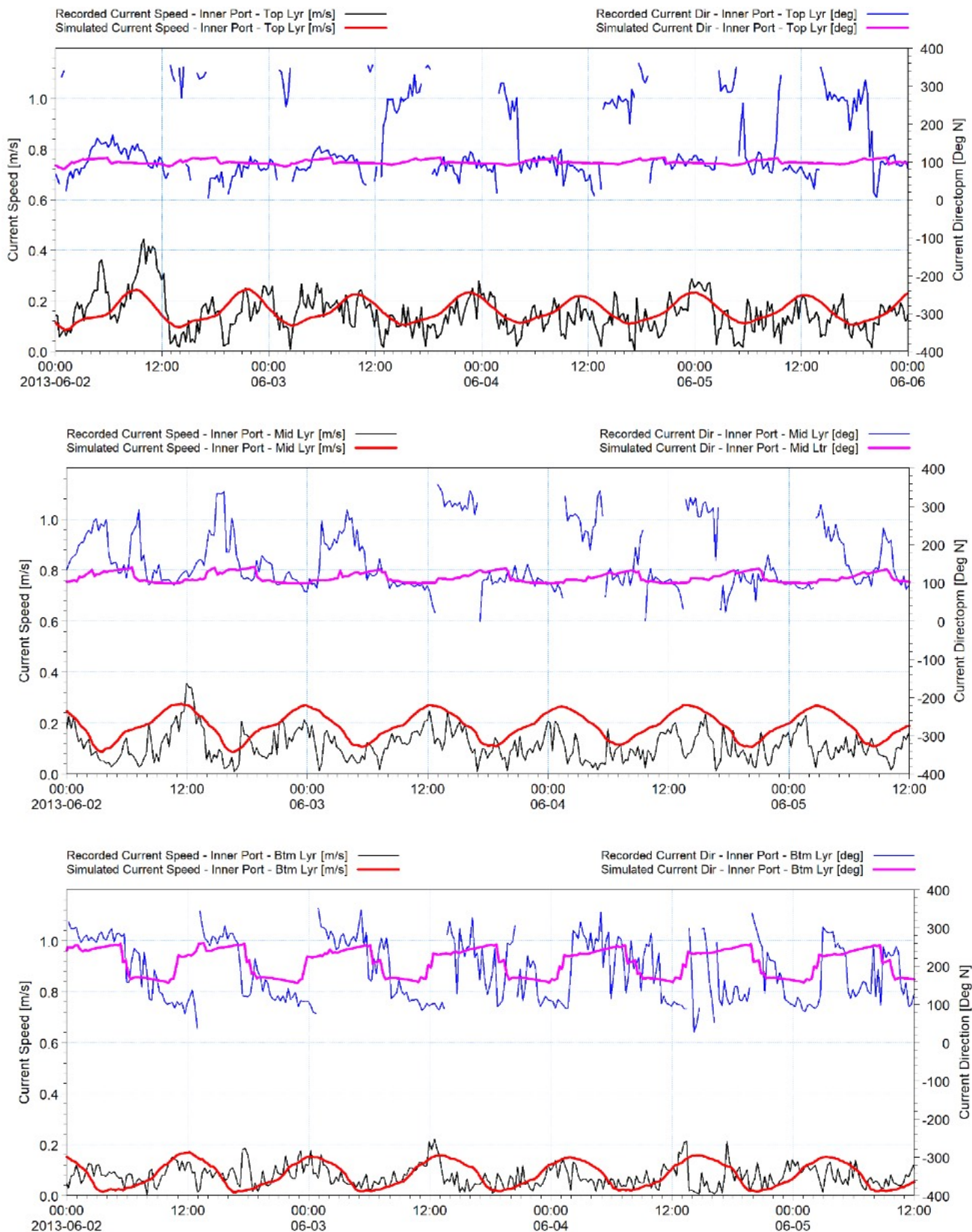


Figure 1.18: Comparison of recorded and simulated current speeds and directions throughout the top, middle and bottom layers of the water column at the Inner Port ADCP - Neap Tides

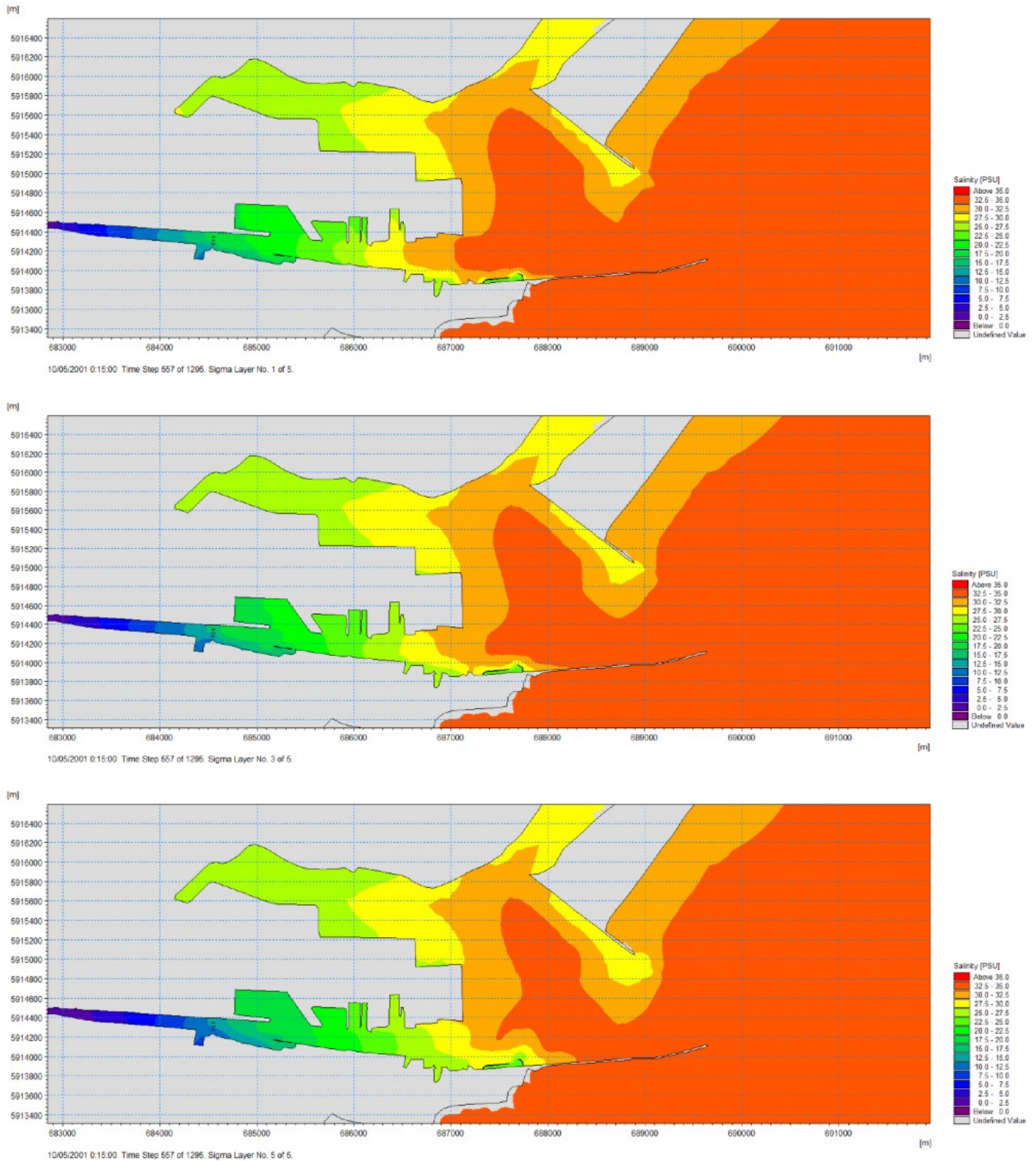


Figure 1.19: Salinity of the bottom, middle and surface layers respectively during a typical high spring tide

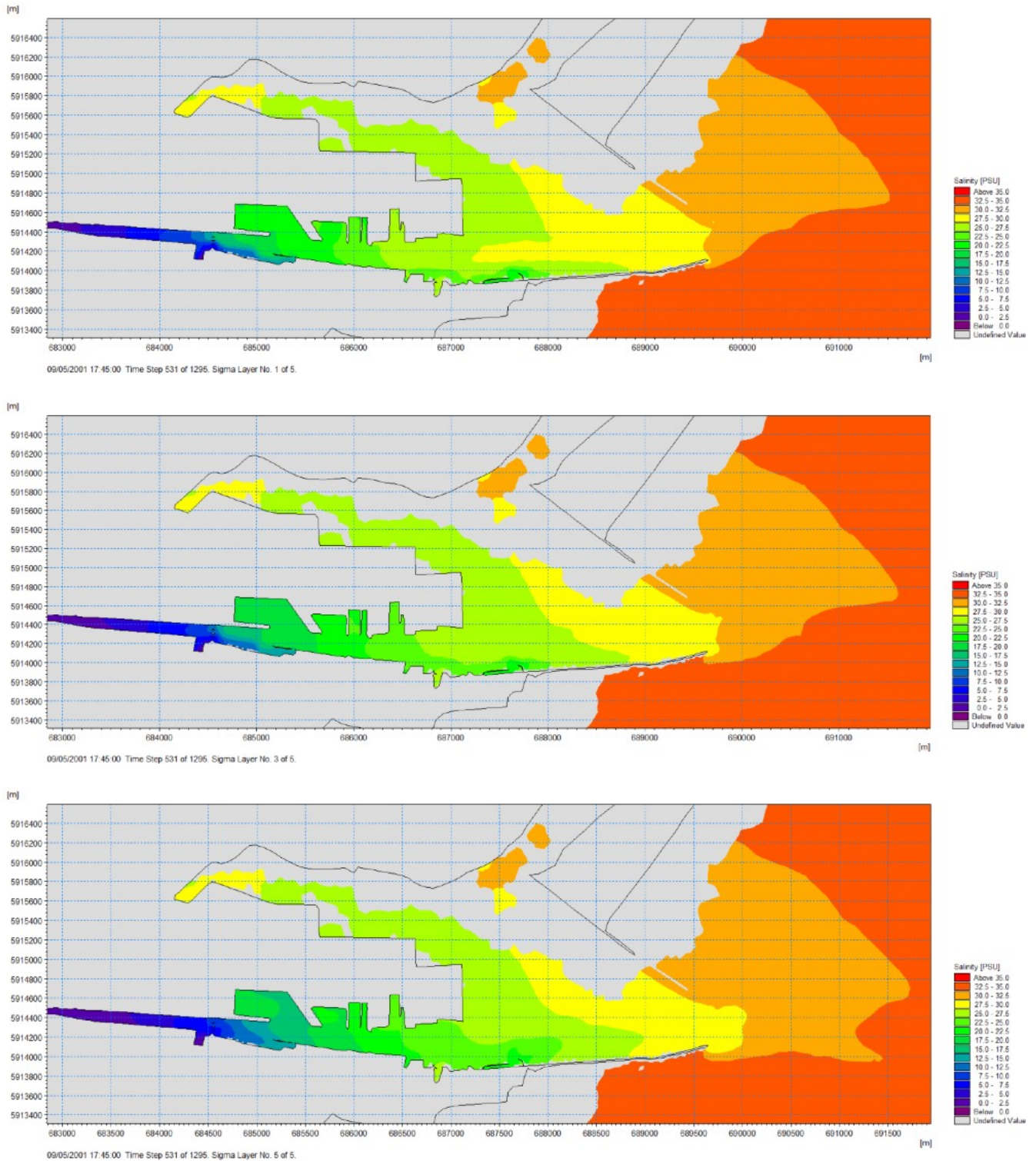


Figure 1.20: Salinity of the bottom, middle and surface layers respectively during a typical low spring tide

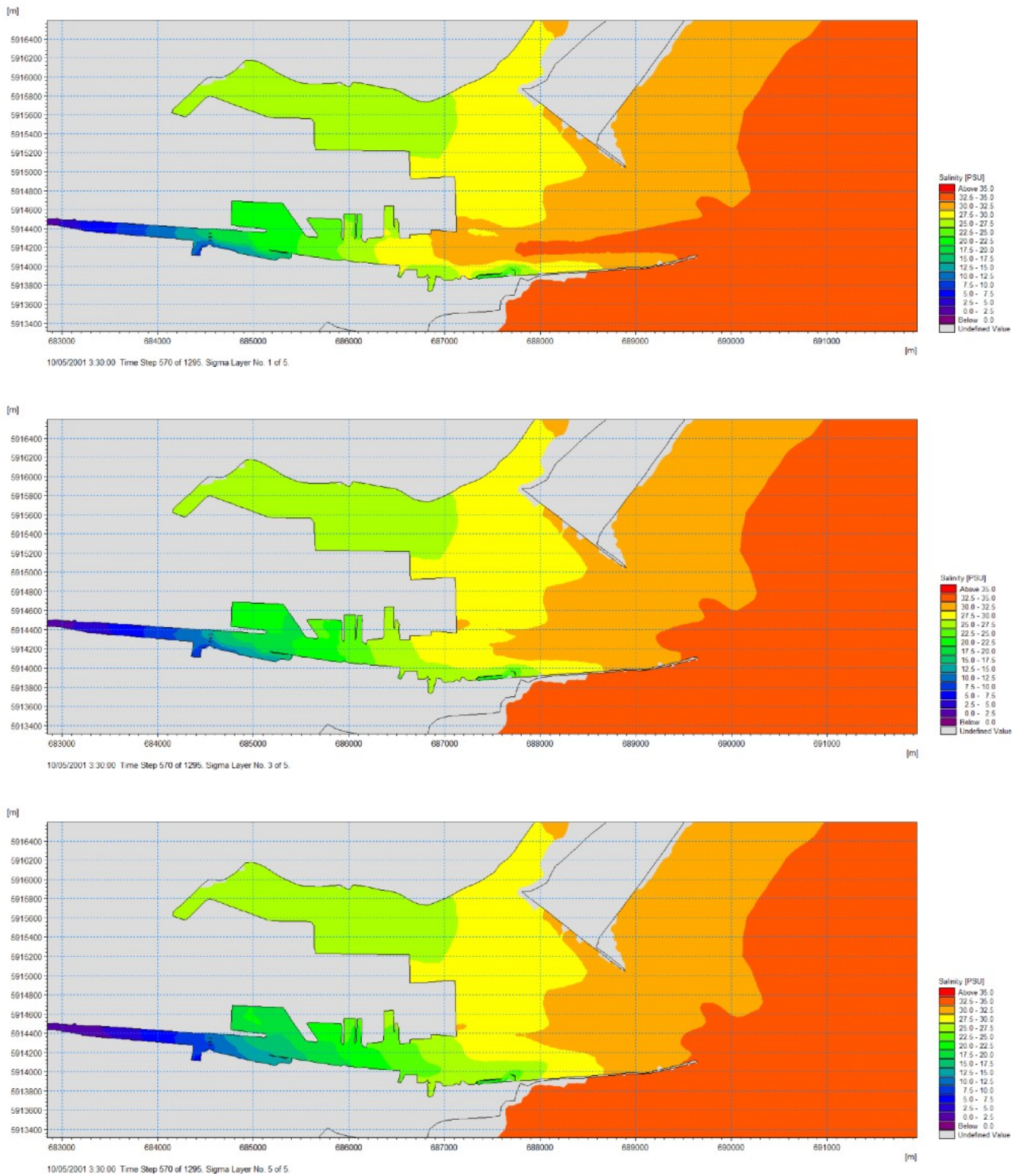


Figure 1.21: Salinity of the bottom, middle and surface layers respectively during a typical mid-ebb spring tide

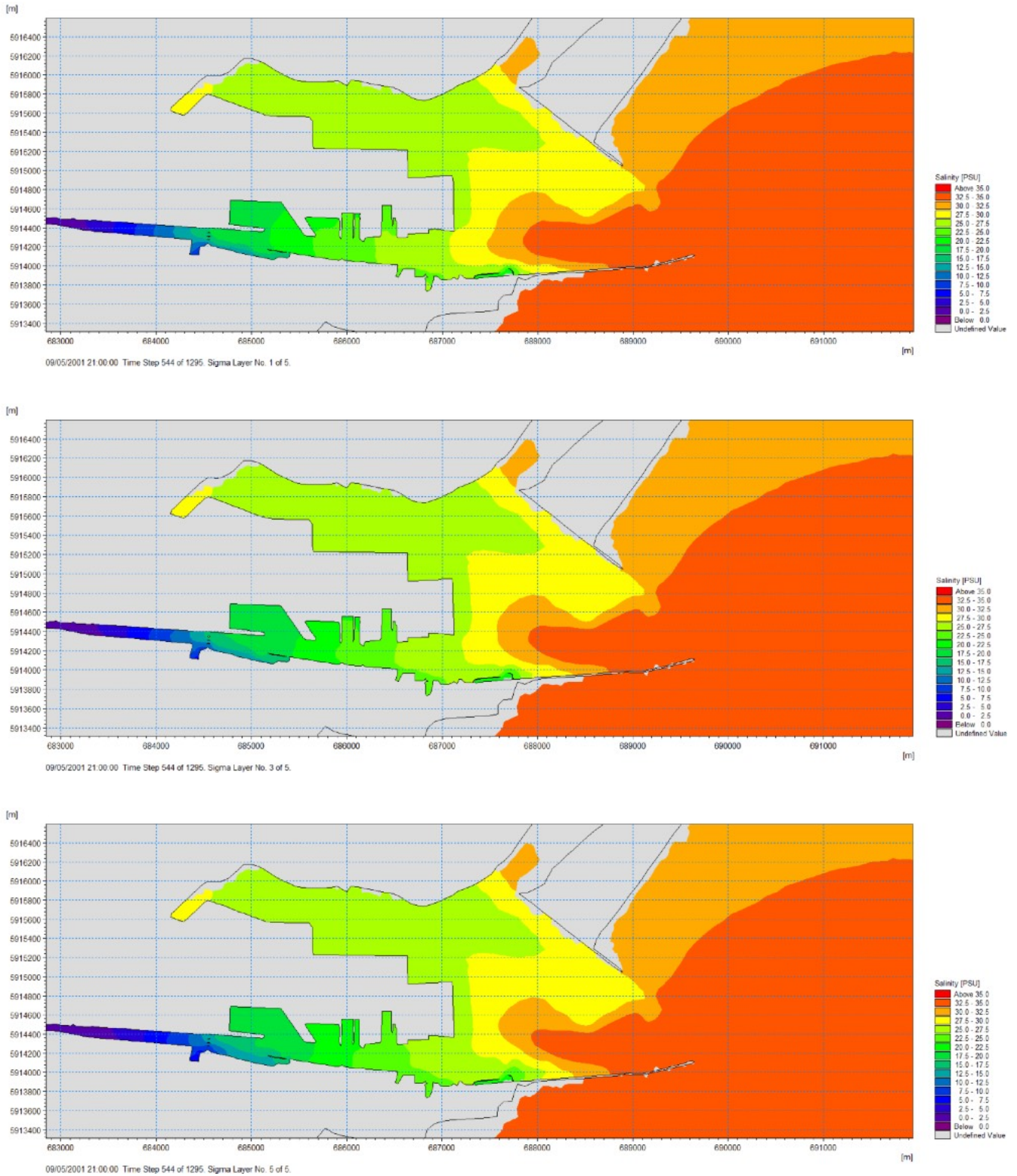


Figure 1.22: Salinity of the bottom, middle and surface layers respectively during a typical mid-flood spring tide

1.2 Modelling Software

RPS used a suite of coastal process models, based on the MIKE software developed by DHI to assess the potential impact of the proposed development on the coastal processes within Dublin Port and Bay. The MIKE 21 & MIKE 3 systems are state of the art, industry standard, modelling systems based on a flexible mesh approach. This software was developed for applications within oceanographic, coastal and estuarine environments and has been approved by numerous leading institutions and authorities including the US Federal Emergency Management Agency (FEMA).

The Hydrodynamic Module is the basic computational component of the entire MIKE 21 & 3 Flow Model FM modelling systems providing the hydrodynamic basis for the Transport Module, ECO Lab Module, Mud Transport Module and Sand Transport Module.

This Study utilised the Hydrodynamic, Sediment Transport and Spectral Wave modules each of which are described further below.

1.2.1 MIKE 21 & MIKE 3 Flexible Mesh (FM) mesh modelling system

This system is capable of simulating water level variations and flows in response to a variety of forcing functions in lakes, estuaries and coastal regions. The HD Module is the basic computational component of the MIKE 21 and MIKE 3 Flow Model systems providing the hydrodynamic basis for the Sediment Transport and Spectral Wave modules

The Hydrodynamic module solves the two/three-dimensional incompressible Reynolds averaged Navier-Stokes equations subject to the assumptions of Boussinesq and of hydrostatic pressure. Thus the module consists of continuity, momentum, temperature, salinity and density equations. When being used in three dimensions, the free surface is taken into account using a sigma coordinate transformation approach whereby the vertical layer is divided equally into a discrete number of layers. The system solves the full time-dependent non-linear equations of continuity and conservation of momentum using an implicit ADI finite difference scheme of second-order accuracy. The effects and facilities incorporated within the model include:

- Convective and cross momentum;
- Bottom shear stress;
- Wind shear stress at the surface;
- Barometric pressure gradients;
- Coriolis forces;
- Momentum dispersion (e.g. through the Smagorinsky formulation);
- Wave-induced currents;
- Sources and sinks (mass and momentum);
- Evaporation;
- Flooding and drying.

1.2.2 The MIKE 21 Spectral Wave (SW) module

The MIKE 21 Spectral Wave (SW) module is a new generation spectral wind-wave model based on unstructured meshes that simulates the growth, decay and transformation of wind-generated waves and swell in offshore and coastal areas.

The MIKE 21 SW module accounts for the following physical phenomena:

- Wave growth by wind action
- Non-linear wave-wave interaction
- Dissipation due to white-capping
- Dissipation due to bottom friction
- Dissipation due to depth-induced wave breaking
- Refraction and shoaling due to depth variations
- Diffraction
- Wave-current interaction
- Effect of time-varying depth and flooding and drying

The discretisation of the governing equation in geographical and spectral is performed using a cell-centred finite volume method. In the geographical domain, an unstructured mesh technique is used. The time integration is performed using a fractional step approach where a multi-sequence explicit method is applied for the propagation of wave action.

The MIKE 21 SW module includes two different formulations:

- Directional decoupled parametric formulation
- Fully spectral formulation

The directional decoupled parametric formulation is based on a parameterization of the wave action conservation equation. The parameterization is made in the frequency domain by introducing the zeroth and first moment of the wave action spectrum as dependent variables following Holthuijsen (1989).

1.2.3 The Sediment Transport (ST) module

The Sediment Transport Module simulates the erosion, transport, settling and deposition of cohesive sediment in marine and estuarine environments and includes key physical processes such as forcing by waves, flocculation and sliding. The module can be used to assess the impact of marine developments on erosion and sedimentation patterns by including common structures such as jetties, piles or dikes. Point sources can also be introduced to represent localised increases in current flows as a result of outfalls or ship movements etc.

1.2.4 Boundary Conditions

The tidal boundary conditions for the Dublin Bay model were taken from RPS' ICPSS tidal surge model. This model was developed using flexible mesh technology with the mesh size (model resolution) varying from circa 24km along the offshore Atlantic boundary to circa 200m around the Irish coastline. RPS also utilised their ICPSS east coast wave model to gather wave boundary data for the Dublin Bay model to ensure that the hydrodynamic influence of the offshore Kish and Codling banks were accounted for in the model.

The open sea boundaries were applied to the model as Flather boundaries in which the water level and velocities are specified along the boundary. The format of these boundaries are such that they vary temporally and also spatially along the length of the boundary. The Flather condition was chosen as it is one of the most efficient open boundary conditions as in downscaling coarse model simulations to higher resolution areas. The instabilities, which are often observed when imposing stratified density at a water level boundary, can be avoided using Flather conditions.

At the coastline where the water level intersects the bathymetry, a zero velocity condition was applied, which assumes the no slip condition is assumed to hold, that is, both the normal and tangential velocity components are zero.

For the calibration process the open sea boundaries were applied as Flather boundaries, whilst at the coastline a zero velocity boundary was applied. The open sea boundaries were taken from RPS' ICPSS tidal surge model during what was considered an average lunar month that experience a full range of spring and neap tidal conditions. For the calibration process mean annual discharge rates for the Liffey, Dodder and Tolka were used - the values of which are presented in Table 1.2.

Table 1.2: Mean annual discharge rates from the Liffey, Dodder and Tolka used in the calibration process

Source	Mean annual discharge rate (m ³ /s)
Liffey	15.6
Dodder	2.3
Tolka	1.4

1.2.5 Bed Roughness

When using the two-dimensional hydrodynamic models, the bed resistance was specified using the Manning number. According to the MIKE 21 manual, the relationship between the Manning number, M , and the Nikuradse roughness length, k_s can be estimated using

$$M = \frac{25.4}{k_s^{1/6}}$$

Using one of the several relationships recommended by Soulsby (1997), over flat beds of sediment, k_s is related to the median grain diameter (D_{50}) as approximately

$$k_s = 2.5 D_{50}$$

For the three-dimensional models, the bed resistance was specified using the bed roughness height of the sea bed which is dependent on the von Karman constant.

It was therefore possible to impose a uniform bed resistance coefficient at the seabed for both the two and three dimensional models - the value of which was determined using the simple relationships presented above and by calibrating of the Dublin Port model.

1.2.6 Turbulence module

The turbulence model used by MIKE is based on a standard k-epsilon model ($k - \epsilon$) with a buoyancy extension. The model uses transport equations for the turbulent kinetic energy (TKE), k , and the dissipation of TKE, ϵ , to describe the turbulence.

APPENDIX 12 MATERIAL ASSETS – COASTAL PROCESSES

Appendix 12-2



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Dublin Port

Tolka Estuary Sampling Survey Report

Report No. PH17017D_Rp_Rev.00

Client:



REPORT CONTROL SHEET

Client	Dublin Port Company					
Project Name	Dublin Port Tolka Estuary Sampling Survey					
Report Name	Dublin Port Tolka Estuary Sampling Survey Report					
Project Number	PH17017D					
This Report Comprises of	TOC	Text	No. of Volume	No. of Appendices	Drawings	Electronic data
	1	9	1	1	0	*.pdf,

Revision	Status	Author(s)	Approved By:	Issue Date
Rev.00	Draft	HP	JBJ	03.01.2018

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	4
1. INTRODUCTION	5
1.1 SITE LOCATION AND SURVEY DESCRIPTION	5
1.2 SURVEY OBJECTIVES	6
2. SURVEY METHODOLOGY	7
2.1 SAMPLING SURVEY	7
2.2 HORIZONTAL CONTROL.....	7
2.2.1 <i>Sample Acquisition</i>	7
3. SURVEY RESULTS	8
APPENDIX A: PSA ANALYSIS RESULTS.....	9

1. Executive Summary

Hydrographic Surveys Ltd. was requested by Dublin Port Company to undertake a sediment sampling survey at Tolka Estuary, Dublin Port.

The objectives of the survey were as follows;

- Collect samples at 18 designated location at Tolka Estuary and analyse for pre-designated criteria.

All fieldwork was undertaken on the 4th Dec 2017.

Note: no recovery was returned in some sampling locations due to the hard nature of the bottom at these locations.

Please see **APPENDIX A: PSA ANALYSIS RESULTS** for a full quantitative breakdown of the survey sampling results.

1. Introduction

1.1 Site Location and Survey Description

Hydrographic Surveys Ltd. was requested by Dublin Port Company to undertake a sediment sampling survey at Dublin Port.

The sampling locations were as listed in the drawing below.

The 18 no. surface sediment samples were taken via a stainless steel Van Veen sampler and analysed to determine Particle Size Analysis (PSA).

All fieldwork was undertaken on the 4th Dec 2017.

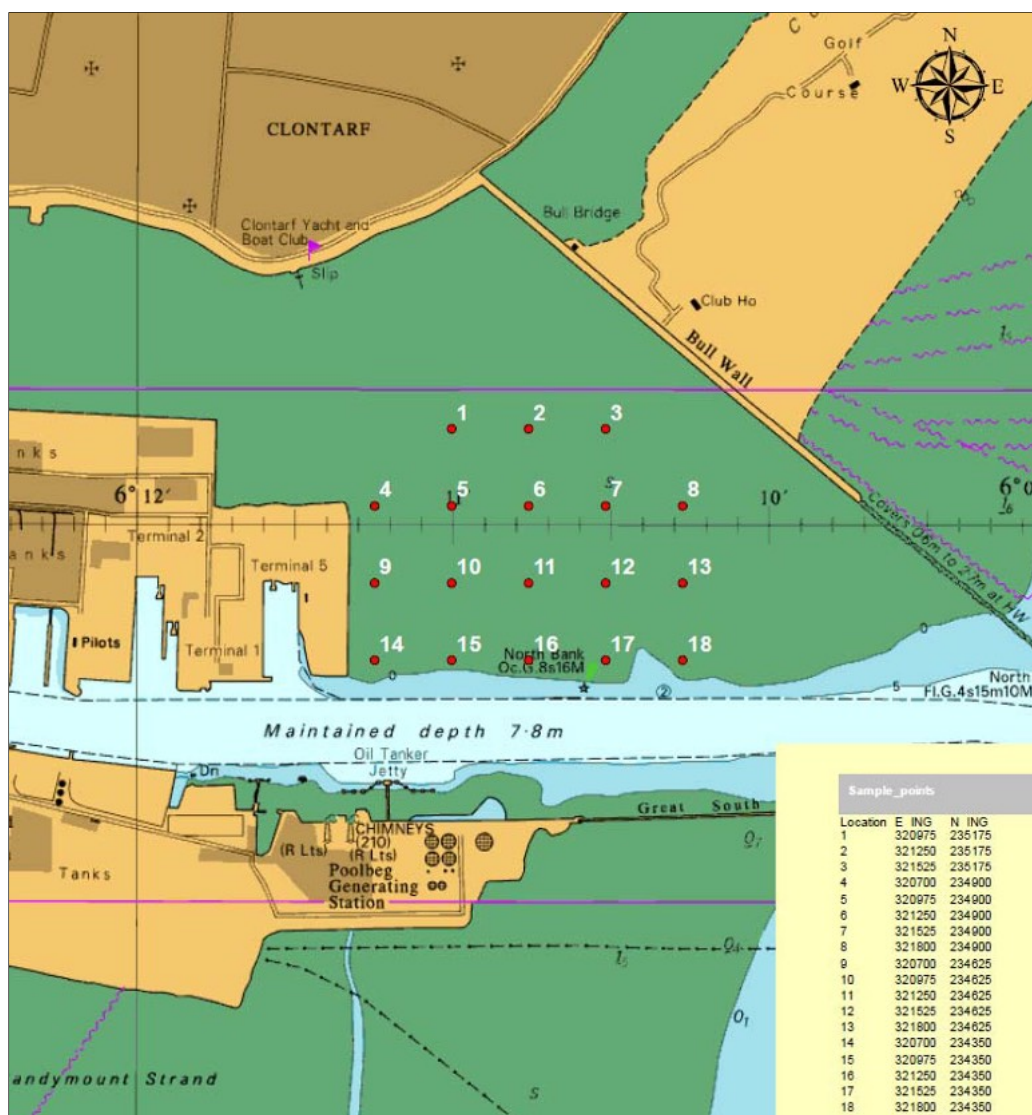


Figure 1.1: Sampling locations, image.

1.2 Survey Objectives

The objectives of the survey were as follows;

- Collect samples at 18 designated location at Tolka Estuary and analyse samples to determine Particle Size Analysis (PSA).

2. Survey Methodology

The sampling survey took place on the 4th Dec 2017. Samples were numbered as was set out in the proposed location map attached.

2.1 Sampling Survey

The locations for sampling were designated by the Alan Barr (RPS Consulting Engineers).

2.2 Horizontal Control

Horizontal control for the survey was provided by a Trimble differential GPS receiver. The differential signal was received from the Omnistar satellite. All sampling took place on the sample locations.

2.2.1 Sample Acquisition

All samples were acquired from a rib style survey vessel with a Van Veen 0.2m³ capacity stainless steel grab sampler.

All samples were placed directly into the appropriate containers and couriered in a cool box to the certified laboratories. The samples for geochemical analysis were sent to PGL Laboratories, Midleton, Co. Cork.

Note: no recovery was returned in some sampling locations due to the hard nature of the bottom at these locations.

3. Survey Results

The results for the sediment analysis are provided in full in **APPENDIX A: PSA ANALYSIS RESULTS**.

APPENDIX A: PSA ANALYSIS RESULTS



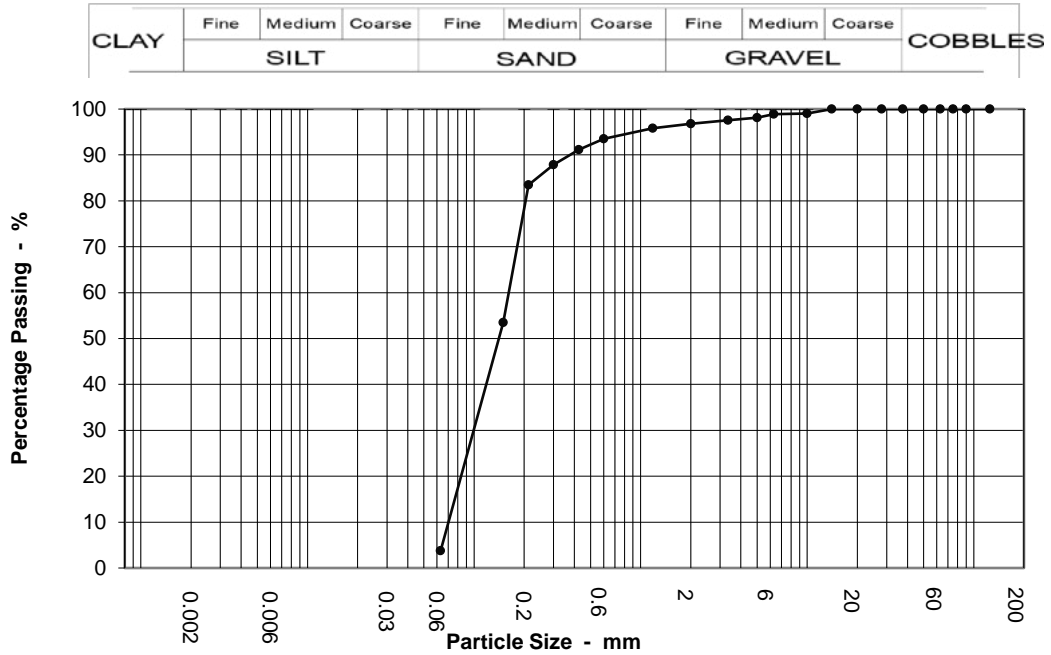
PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	PH17017D
Borehole / Pit No	D17-01
Sample No	
Depth	0.00 m
Sample type	B

Location: Tolka Estuary

Soil Description



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	96		
0.6	94		
0.425	91		
0.3	88		
0.212	83		
0.15	53		
0.063	4		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	3.0
Sand	93.0
Silt & Clay	4.0

Grading Analysis	
D100	14.00
D60	0.16
D10	0.07
Uniformity Coefficient	2.30



PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref

PH17017D

Borehole / Pit No

D17-02

Location

Tolka Estuary

Sample No

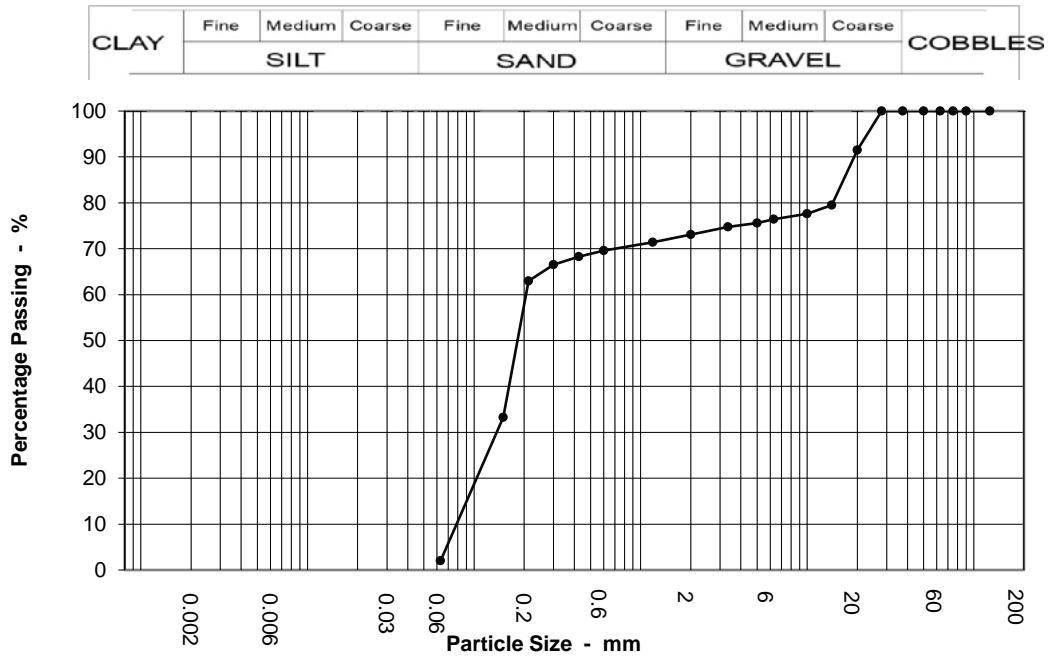
Depth

0.00 m

Soil Description

Sample type

B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	91		
14	80		
10	78		
6.3	76		
5	76		
3.35	75		
2	73		
1.18	71		
0.6	70		
0.425	68		
0.3	67		
0.212	63		
0.15	33		
0.063	2		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	27.0
Sand	71.0
Silt & Clay	2.0

Grading Analysis	
D100	28.00
D60	0.21
D10	0.08
Uniformity Coefficient	2.60



PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref

PH17017D

Borehole / Pit No

D17-03

Location

Tolka Estuary

Sample No

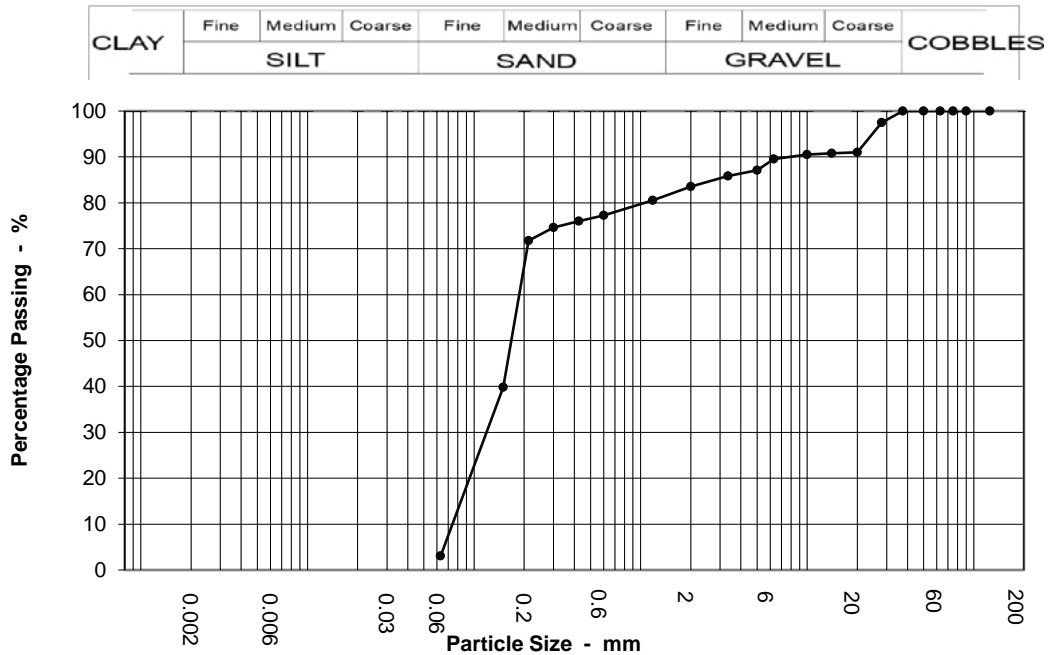
Depth

0.00 m

Soil Description

Sample type

B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	98		
20	91		
14	91		
10	91		
6.3	90		
5	87		
3.35	86		
2	84		
1.18	81		
0.6	77		
0.425	76		
0.3	75		
0.212	72		
0.15	40		
0.063	3		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	16.0
Sand	80.0
Silt & Clay	3.0

Grading Analysis	
D100	37.50
D60	0.19
D10	0.07
Uniformity Coefficient	2.50



PARTICLE SIZE DISTRIBUTION

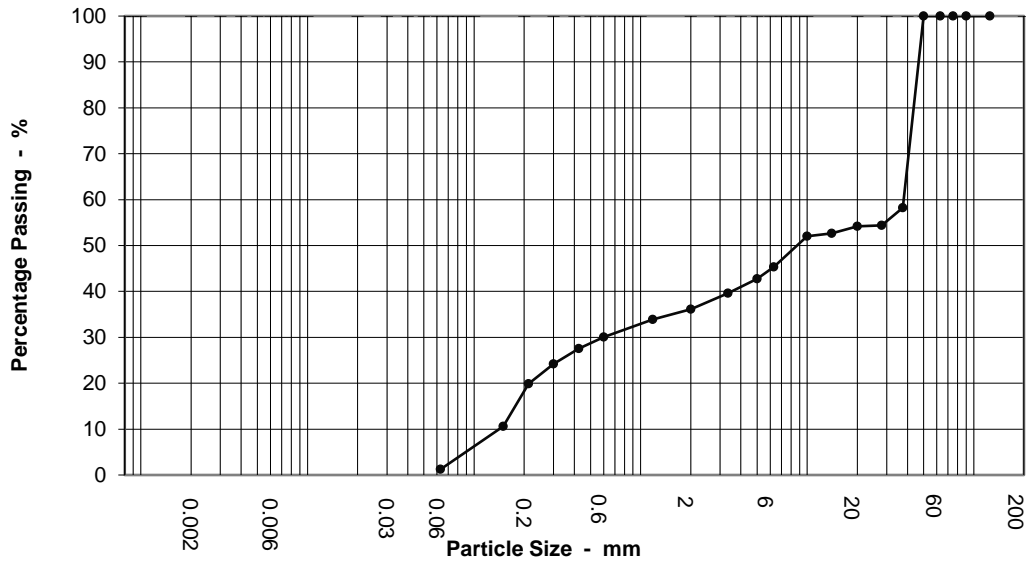
BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	PH17017D
Borehole / Pit No	D17-04
Sample No	
Depth	0.00 m
Sample type	B

Location **Tolka Estuary**

Soil Description

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	58		
28	54		
20	54		
14	53		
10	52		
6.3	45		
5	43		
3.35	40		
2	36		
1.18	34		
0.6	30		
0.425	28		
0.3	24		
0.212	20		
0.15	11		
0.063	1		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	64.0
Sand	35.0
Silt & Clay	1.0

Grading Analysis	
D100	50.00
D60	38.00
D10	0.14
Uniformity Coefficient	270.00



PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref

PH17017D

Borehole / Pit No

D17-05

Location

Tolka Estuary

Sample No

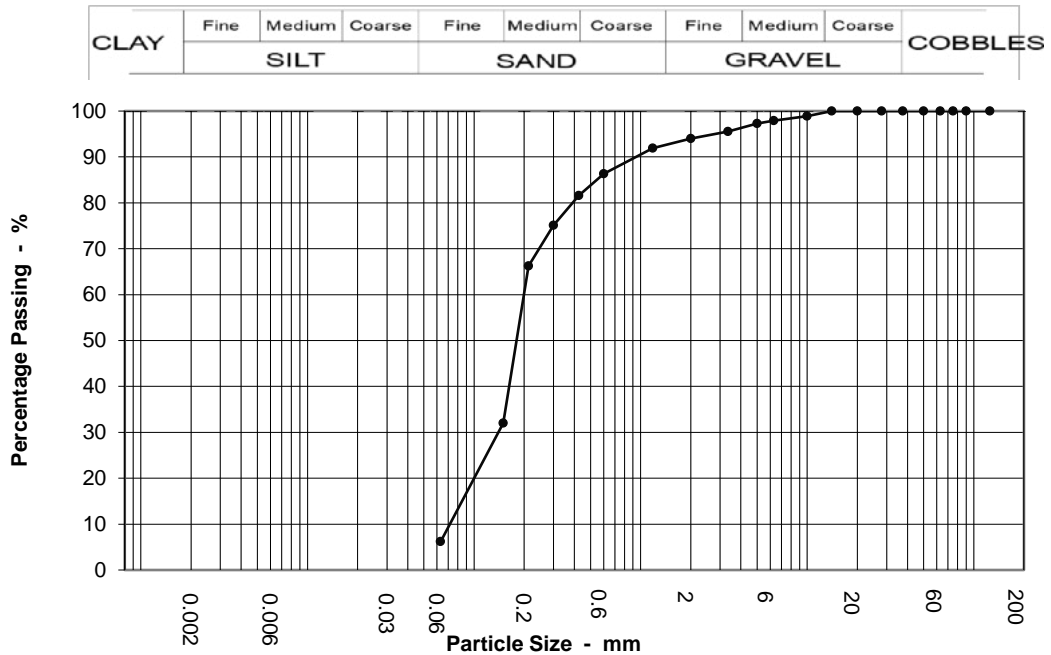
Depth

0.00 m

Soil Description

Sample type

B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	97		
3.35	96		
2	94		
1.18	92		
0.6	86		
0.425	82		
0.3	75		
0.212	66		
0.15	32		
0.063	6		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	6.0
Sand	88.0
Silt & Clay	6.0

Grading Analysis	
D100	14.00
D60	0.20
D10	0.07
Uniformity Coefficient	2.80



PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref

PH17017D

Borehole / Pit No

D17-06

Location

Tolka Estuary

Sample No

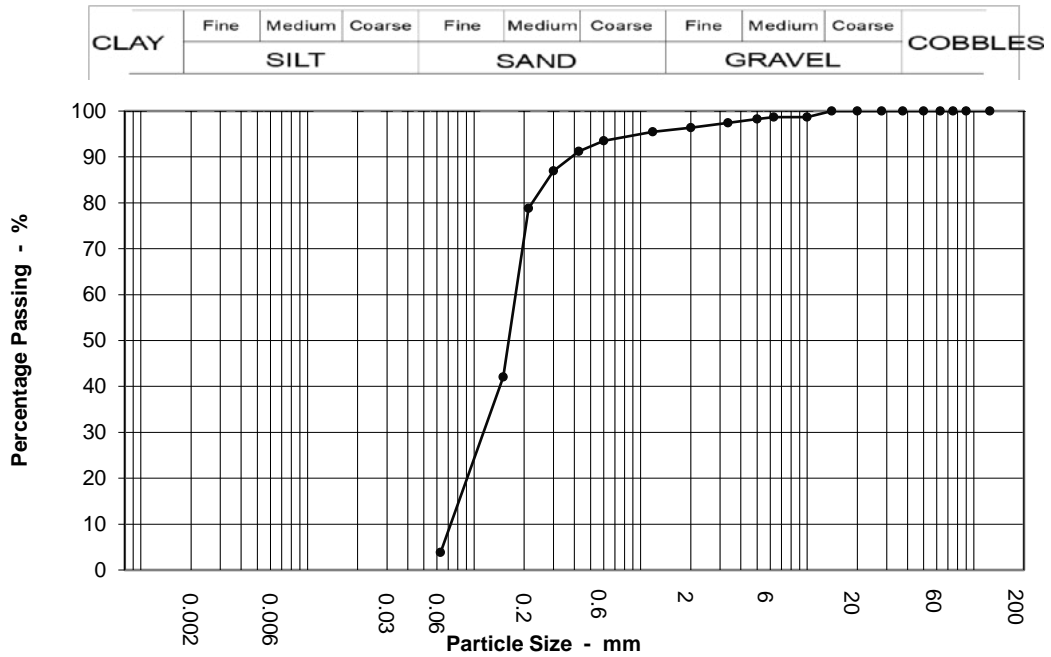
Depth

0.00 m

Soil Description

Sample type

B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	98		
3.35	97		
2	96		
1.18	95		
0.6	94		
0.425	91		
0.3	87		
0.212	79		
0.15	42		
0.063	4		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	4.0
Sand	93.0
Silt & Clay	4.0

Grading Analysis	
D100	14.00
D60	0.18
D10	0.07
Uniformity Coefficient	2.50



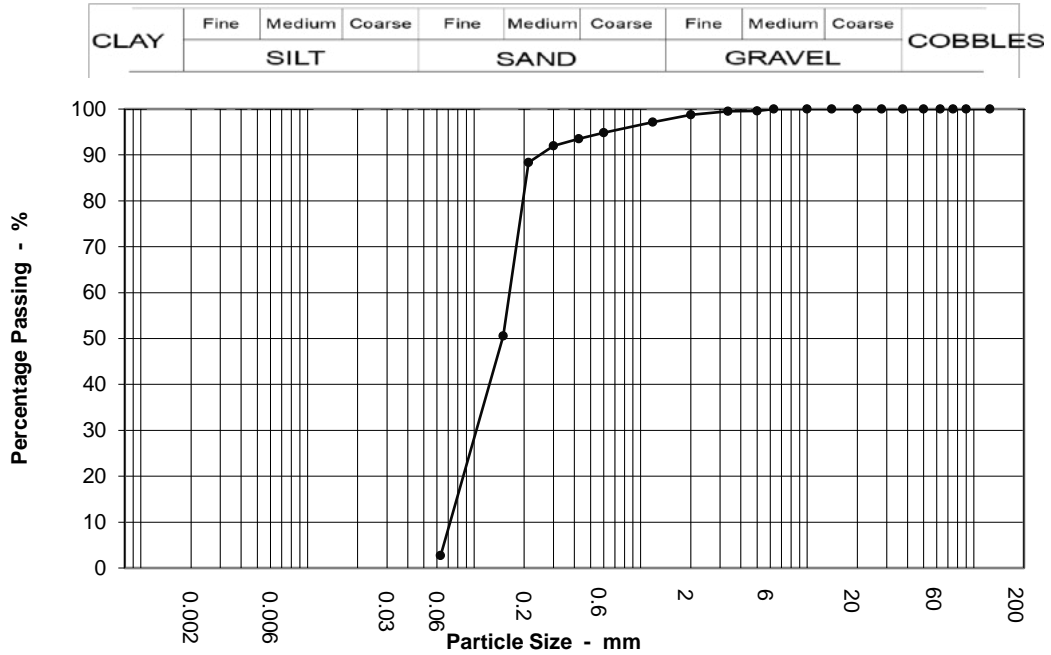
PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	PH17017D
Borehole / Pit No	D17-07
Sample No	
Depth	0.00 m
Sample type	B

Location: **Tolka Estuary**

Soil Description



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	97		
0.6	95		
0.425	94		
0.3	92		
0.212	88		
0.15	51		
0.063	3		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	1.0
Sand	96.0
Silt & Clay	3.0

Grading Analysis	
D100	6.30
D60	0.16
D10	0.07
Uniformity Coefficient	2.30



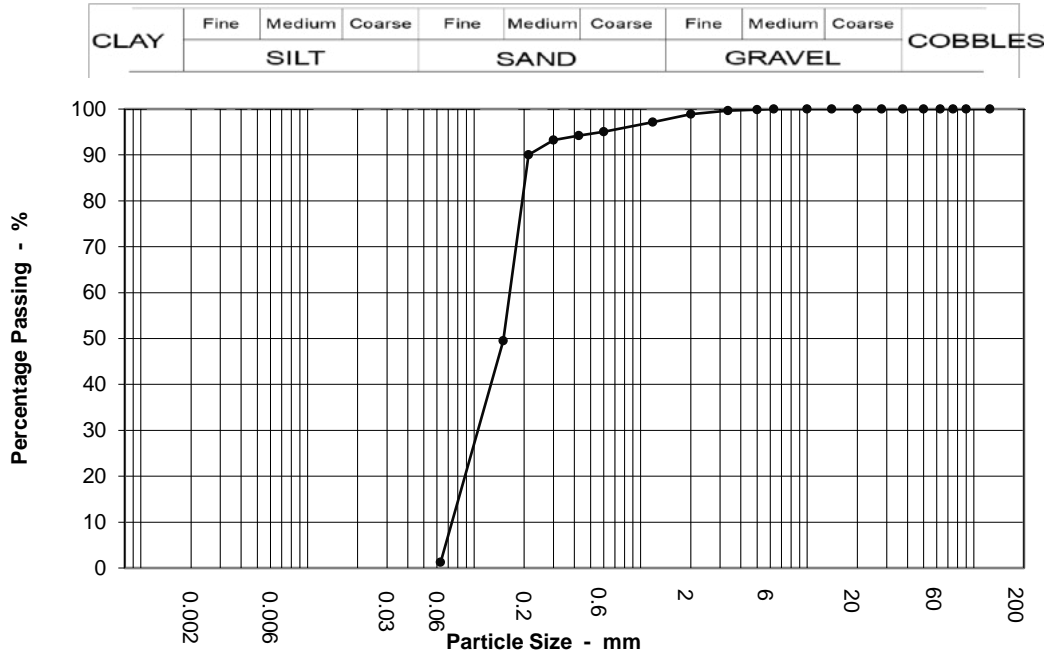
PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	PH17017D
Borehole / Pit No	D17-08
Sample No	
Depth	0.00 m
Sample type	B

Location **Tolka Estuary**

Soil Description



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	97		
0.6	95		
0.425	94		
0.3	93		
0.212	90		
0.15	50		
0.063	1		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	1.0
Sand	98.0
Silt & Clay	1.0

Grading Analysis	
D100	6.30
D60	0.16
D10	0.07
Uniformity Coefficient	2.20



PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref

PH17017D

Borehole / Pit No

D17-09

Location

Tolka Estuary

Sample No

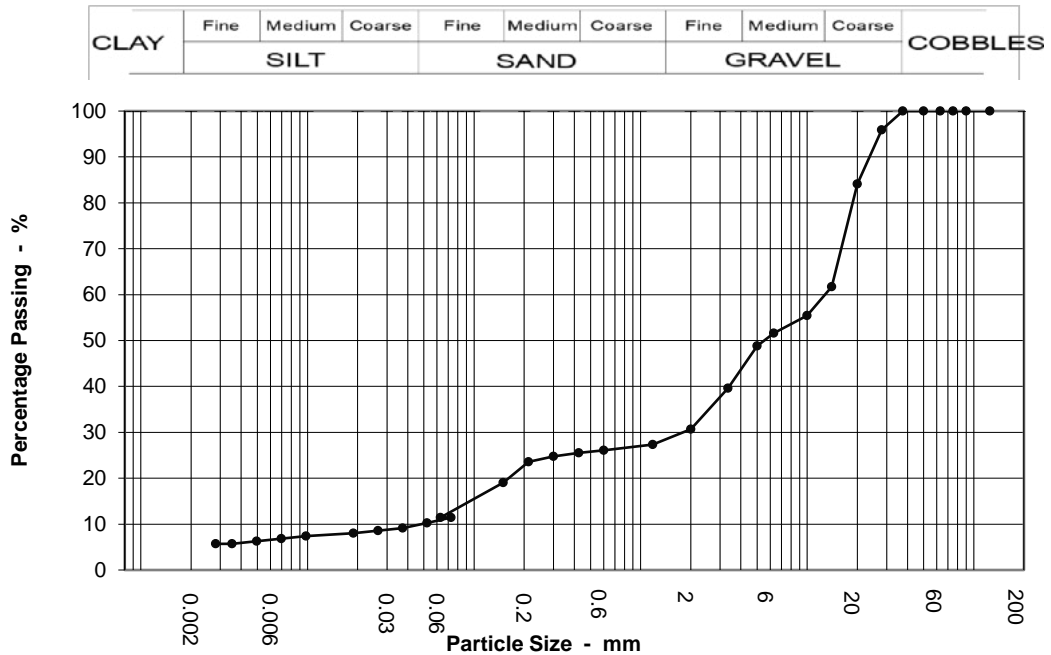
Depth

0.00 m

Soil Description

Sample type

B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.073	11
90	100	0.052	10
75	100	0.037	9
63	100	0.027	9
50	100	0.019	8
37.5	100	0.010	7
28	96	0.007	7
20	84	0.005	6
14	62	0.004	6
10	55	0.003	6
6.3	52	0.002	5
5	49		
3.35	40		
2	31		
1.18	27		
0.6	26		
0.425	26		
0.3	25		
0.212	24		
0.15	19		
0.063	11		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	Clause 9.5

Sample Proportions	
Cobbles	0.0
Gravel	69.0
Sand	19.0
Silt	6.0
Clay	5.0

Grading Analysis	
D100	37.50
D60	12.80
D10	0.05
Uniformity Coefficient	260.00



PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref

PH17017D

Borehole / Pit No

D17-10

Location

Tolka Estuary

Sample No

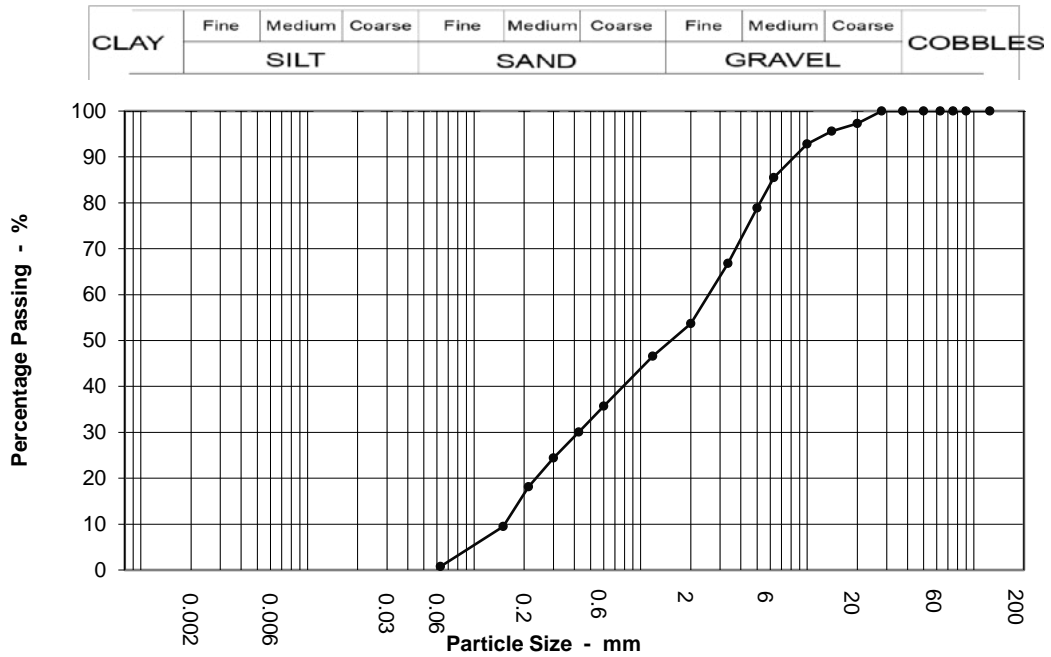
Depth

0.00 m

Soil Description

Sample type

B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	97		
14	96		
10	93		
6.3	86		
5	79		
3.35	67		
2	54		
1.18	47		
0.6	36		
0.425	30		
0.3	24		
0.212	18		
0.15	9		
0.063	1		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	46.0
Sand	53.0
Silt & Clay	1.0

Grading Analysis	
D100	28.00
D60	2.56
D10	0.15
Uniformity Coefficient	17.00



PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref

PH17017D

Borehole / Pit No

D17-11

Location

Tolka Estuary

Sample No

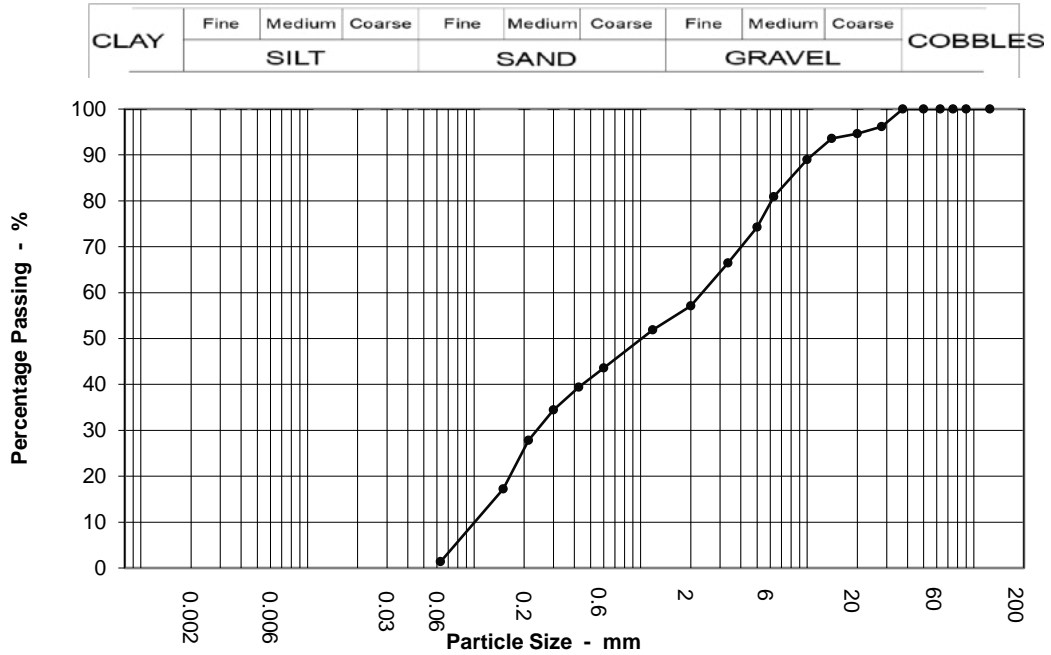
Depth

0.00 m

Soil Description

Sample type

B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	96		
20	95		
14	94		
10	89		
6.3	81		
5	74		
3.35	66		
2	57		
1.18	52		
0.6	44		
0.425	39		
0.3	34		
0.212	28		
0.15	17		
0.063	1		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	43.0
Sand	56.0
Silt & Clay	1.0

Grading Analysis	
D100	37.50
D60	2.35
D10	0.10
Uniformity Coefficient	23.00



PARTICLE SIZE DISTRIBUTION

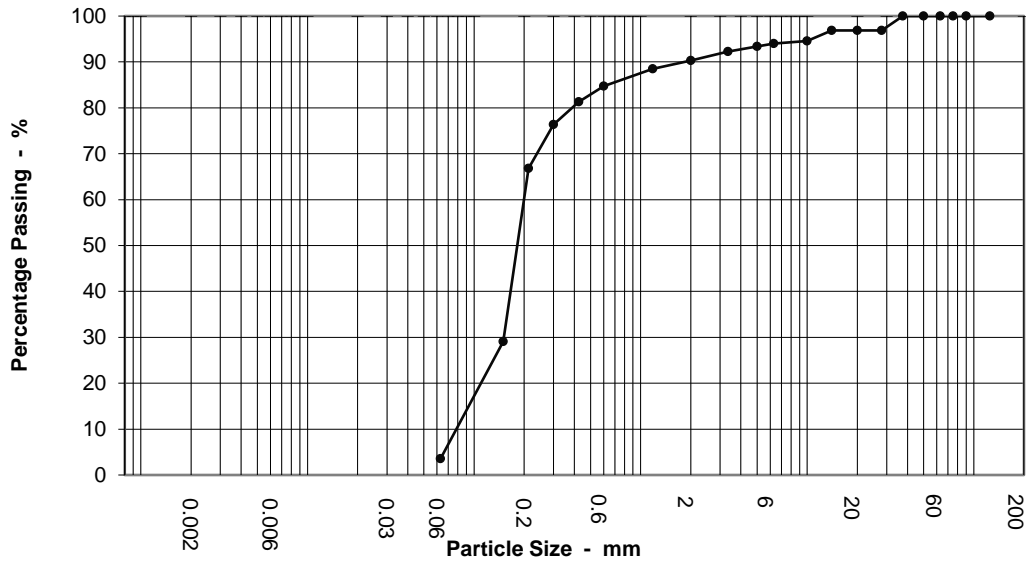
BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	PH17017D
Borehole / Pit No	D17-12
Sample No	
Depth	0.00 m
Sample type	B

Location **Tolka Estuary**

Soil Description

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	97		
20	97		
14	97		
10	95		
6.3	94		
5	93		
3.35	92		
2	90		
1.18	89		
0.6	85		
0.425	81		
0.3	76		
0.212	67		
0.15	29		
0.063	4		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	10.0
Sand	87.0
Silt & Clay	4.0

Grading Analysis	
D100	37.50
D60	0.20
D10	0.08
Uniformity Coefficient	2.50



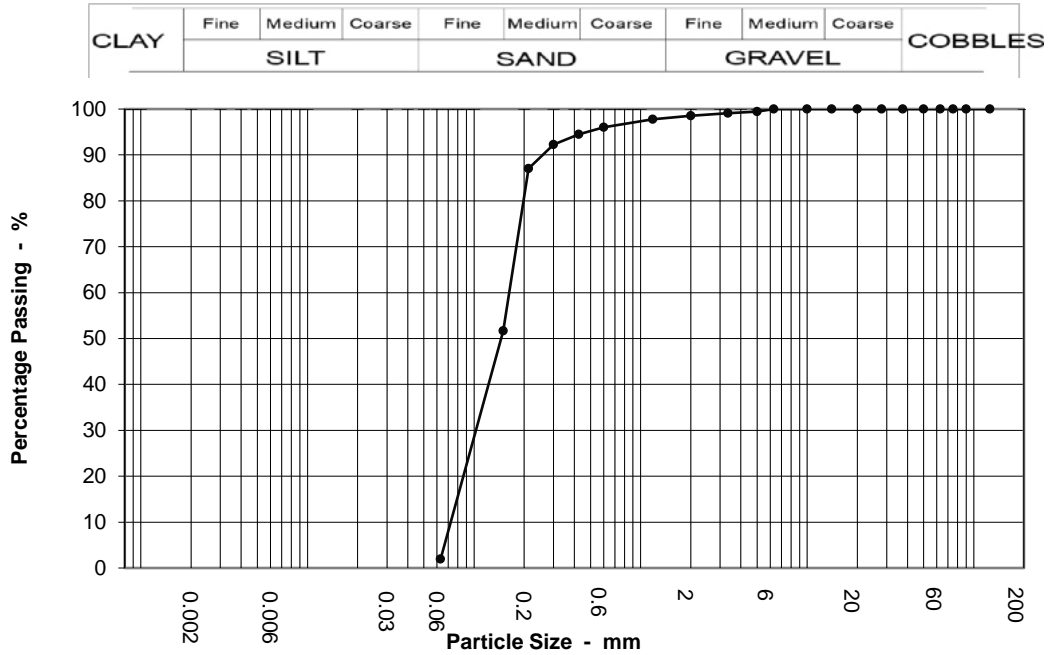
PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	PH17017D
Borehole / Pit No	D17-13
Sample No	
Depth	0.00 m
Sample type	B

Location: **Tolka Estuary**

Soil Description



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	99		
1.18	98		
0.6	96		
0.425	94		
0.3	92		
0.212	87		
0.15	52		
0.063	2		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	1.0
Sand	97.0
Silt & Clay	2.0

Grading Analysis	
D100	6.30
D60	0.16
D10	0.07
Uniformity Coefficient	2.20



PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref

PH17017D

Borehole / Pit No

D17-14

Location

Tolka Estuary

Sample No

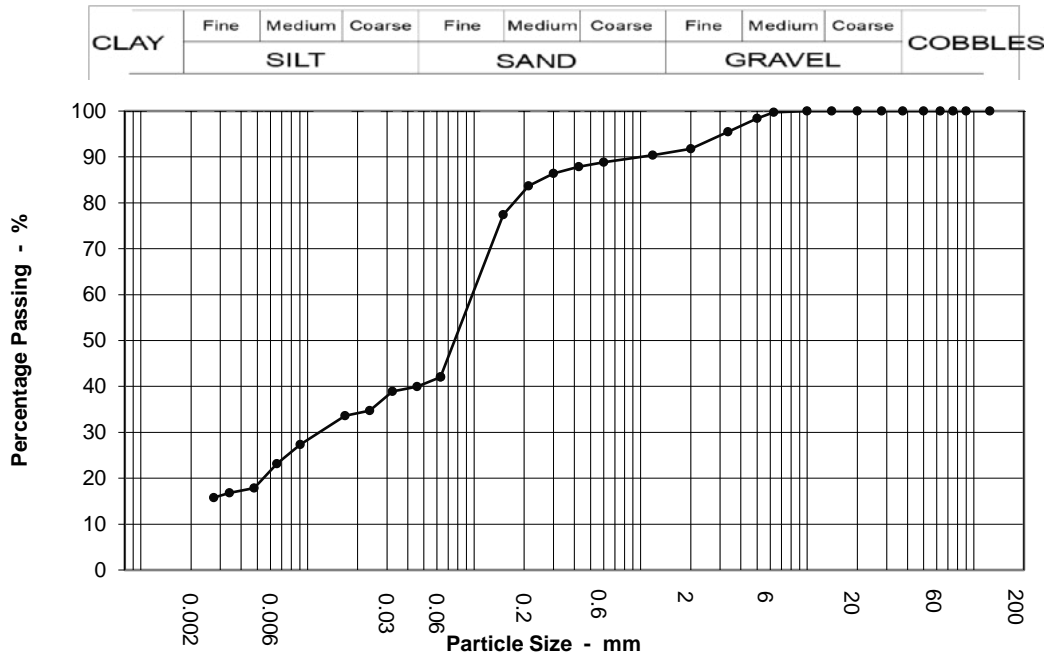
Depth

0.00 m

Soil Description

Sample type

B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.063	42
90	100	0.045	40
75	100	0.032	39
63	100	0.024	35
50	100	0.017	34
37.5	100	0.009	27
28	100	0.007	23
20	100	0.005	18
14	100	0.003	17
10	100	0.003	16
6.3	100	0.001	14
5	98		
3.35	95		
2	92		
1.18	90		
0.6	89		
0.425	88		
0.3	86		
0.212	84		
0.15	77		
0.063	42		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	Clause 9.5

Sample Proportions	
Cobbles	0.0
Gravel	8.0
Sand	50.0
Silt	27.0
Clay	15.0

Grading Analysis	
D100	10.00
D60	0.10
D10	
Uniformity Coefficient	



PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref

PH17017D

Borehole / Pit No

D17-15

Location

Tolka Estuary

Sample No

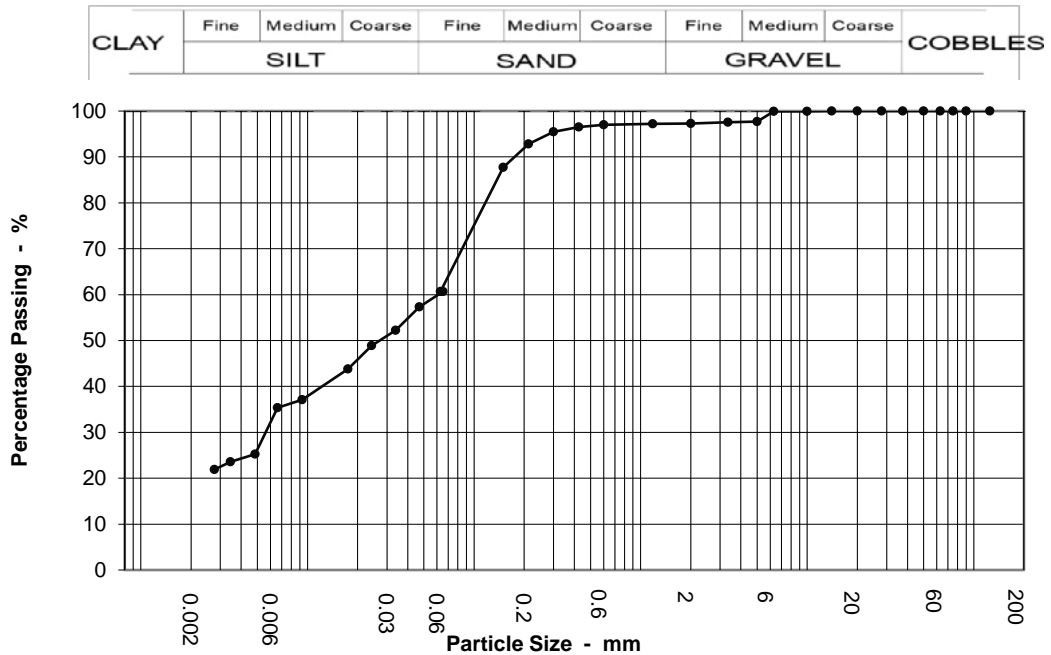
Depth

0.00 m

Soil Description

Sample type

B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.065	61
90	100	0.047	57
75	100	0.034	52
63	100	0.024	49
50	100	0.018	44
37.5	100	0.009	37
28	100	0.007	35
20	100	0.005	25
14	100	0.003	24
10	100	0.003	22
6.3	100	0.001	19
5	98		
3.35	98		
2	97		
1.18	97		
0.6	97		
0.425	97		
0.3	95		
0.212	93		
0.15	88		
0.063	61		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.5
Sedimentation	

Sample Proportions	
Cobbles	0.0
Gravel	3.0
Sand	37.0
Silt	41.0
Clay	20.0

Grading Analysis	
D100	20.00
D60	0.06
D10	
Uniformity Coefficient	



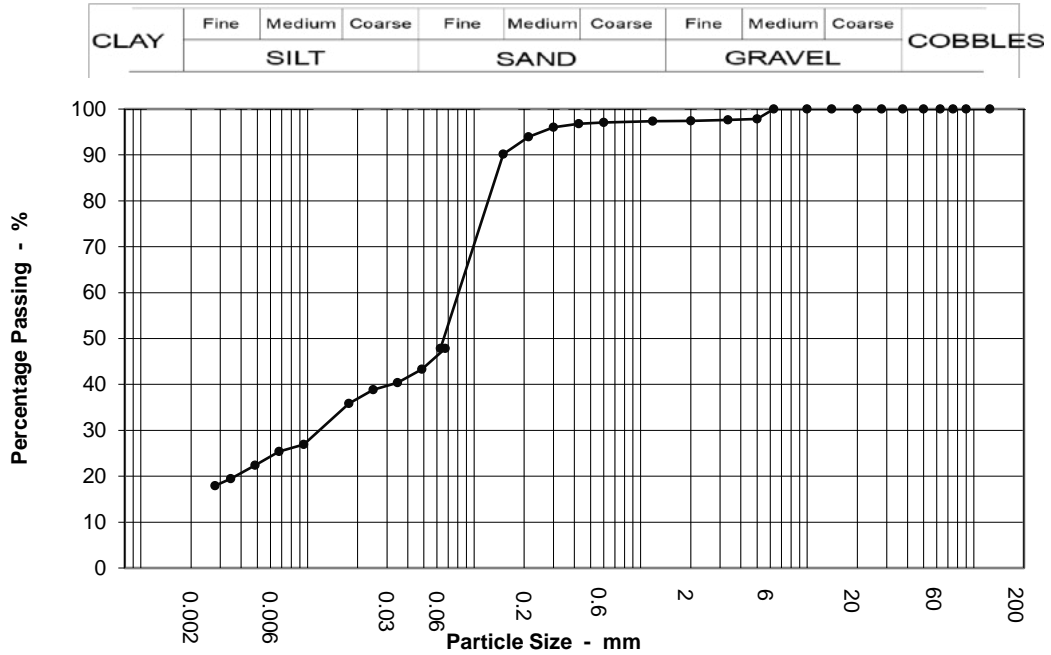
PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	PH17017D
Borehole / Pit No	D17-16
Sample No	
Depth	0.00 m
Sample type	B

Location **Tolka Estuary**

Soil Description



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.067	48
90	100	0.049	43
75	100	0.035	40
63	100	0.025	39
50	100	0.018	36
37.5	100	0.010	27
28	100	0.007	25
20	100	0.005	22
14	100	0.003	19
10	100	0.003	18
6.3	100	0.002	15
5	98		
3.35	98		
2	97		
1.18	97		
0.6	97		
0.425	97		
0.3	96		
0.212	94		
0.15	90		
0.063	48		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.5
Sedimentation	

Sample Proportions	
Cobbles	0.0
Gravel	3.0
Sand	50.0
Silt	31.0
Clay	16.0

Grading Analysis	
D100	20.00
D60	0.08
D10	
Uniformity Coefficient	



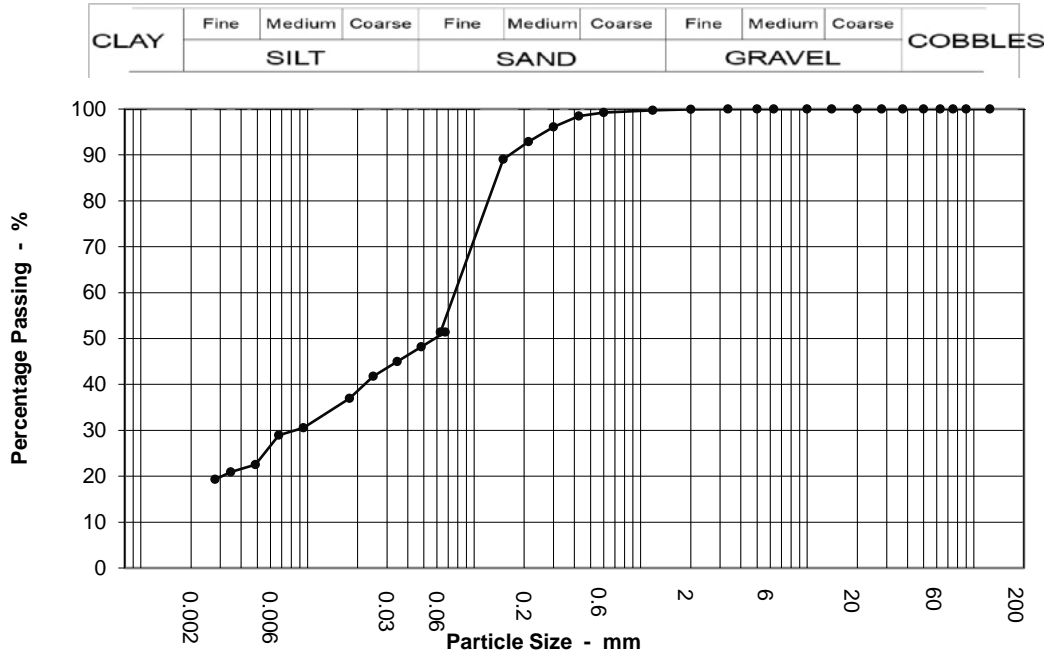
PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	PH17017D
Borehole / Pit No	D17-17
Sample No	
Depth	0.00 m
Sample type	B

Location: **Tolka Estuary**

Soil Description



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.067	51
90	100	0.048	48
75	100	0.035	45
63	100	0.025	42
50	100	0.018	37
37.5	100	0.009	31
28	100	0.007	29
20	100	0.005	22
14	100	0.003	21
10	100	0.003	19
6.3	100	0.002	16
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	98		
0.3	96		
0.212	93		
0.15	89		
0.063	51		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.5
Sedimentation	

Sample Proportions	
Cobbles	0.0
Gravel	0.0
Sand	49.0
Silt	34.0
Clay	18.0

Grading Analysis	
D100	3.35
D60	0.08
D10	
Uniformity Coefficient	



PARTICLE SIZE DISTRIBUTION

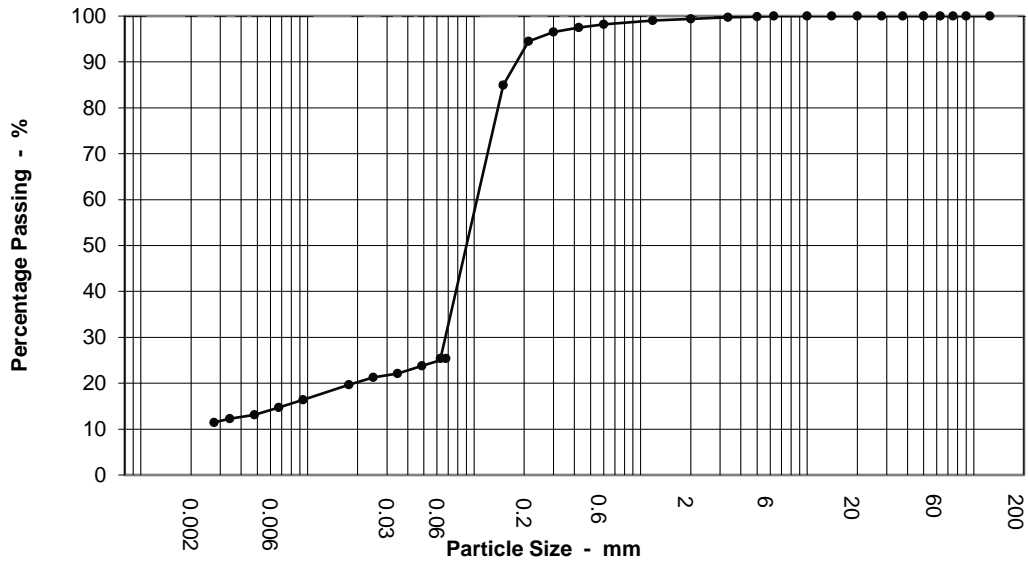
BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	PH17017D
Borehole / Pit No	D17-18
Sample No	
Depth	0.00 m
Sample type	B

Location: **Tolka Estuary**

Soil Description

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.068	25
90	100	0.049	24
75	100	0.035	22
63	100	0.025	21
50	100	0.018	20
37.5	100	0.009	16
28	100	0.007	15
20	100	0.005	13
14	100	0.003	12
10	100	0.003	11
6.3	100	0.001	10
5	100		
3.35	100		
2	99		
1.18	99		
0.6	98		
0.425	97		
0.3	96		
0.212	95		
0.15	85		
0.063	25		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	
Sedimentation	Clause 9.5

Sample Proportions	
Cobbles	0.0
Gravel	1.0
Sand	74.0
Silt	15.0
Clay	11.0

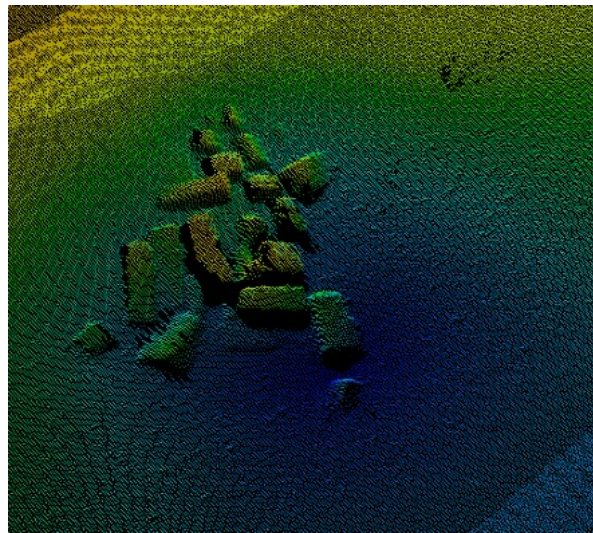
Grading Analysis	
D100	6.30
D60	0.11
D10	0.00
Uniformity Coefficient	68.00

APPENDIX 14 CULTURAL HERITAGE

Appendix 14-1



Dublin Port MP2 Archaeo-geophysical Report



NOTES

Survey date	26/06/2018
Report date	12/07/2018 - Rev1 29/08/2018 – Rev2 14/09/2018
Location	Dublin Port
Coordinate system	Geographic WGS84
Report Revision	REV2
Prepared by	CM - SC
Check by	MT - BS

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Contents

INTRODUCTION	3
1. Acoustic targets.....	4
2. Magnetic targets.....	13
3. Sub-Bottom survey	16
3.1 General Geology of Dublin.....	17
3.2 Survey data result	18
3.3 Interpretation – conclusion	22
Appendix	23
Acoustic charts	23
Magnetic charts	23
Sub-Bottom charts.....	23

INTRODUCTION

Hydromaster Ltd. were appointed by RPS to undertake a marine geophysical survey in Dublin Port to assist in detection of archaeology on the site of a proposed development.

The surveys consisted of:

- High resolution multibeam
- Shallow seismic
- Marine magnetometer

Three areas of interest have been surveyed:

- The north of the manoeuvring area
- The south of the manoeuvring area
- The berths 50A and Oil berth 3.

The three areas are highlighted in figure 1 below.

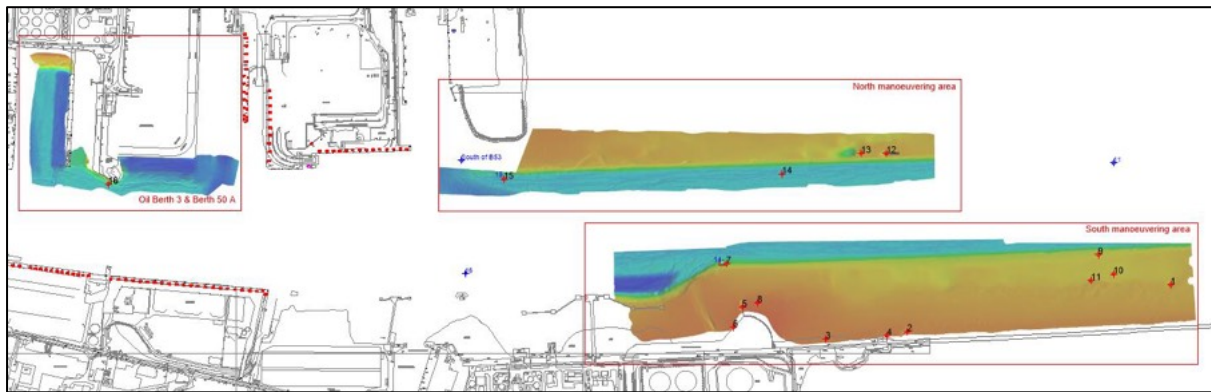


Figure 1: Areas of interest - Dublin Port

A number of targets were mapped for further investigation from the survey data. Some were identified as non-archaeological in nature (such as anchor blocks), some with archaeological potential and some un-identified. All have been included in target tables and maps with ITM co-ordinates.

1. Acoustic targets

Acoustic targets were detected using the multibeam echosounder.

In total, 16 acoustic targets have been detected by the multibeam, spread over the three areas and have been listed in the table 1 below.

LATITUDE	LONGITUDE	TARGET ID	Feature description	Location
53° 20.51916' N	6° 10.00290' W	1	Debris masonry	South manoeuvring area
53° 20.46981' N	6° 10.55209' W	2	Outflow pipe	South manoeuvring area
53° 20.46303' N	6° 10.72167' W	3	Unknown object	South manoeuvring area
53° 20.46513' N	6° 10.59457' W	4	Sheet pile	South manoeuvring area
53° 20.50502' N	6° 10.89302' W	5	Sheet pile	South manoeuvring area
53° 20.48040' N	6° 10.91289' W	6	Sheet pile	South manoeuvring area
53° 20.55960' N	6° 10.92413' W	7	Anchor block	South manoeuvring area
53° 20.50990' N	6° 10.86153' W	8	Unknown object	South manoeuvring area
53° 20.55895' N	6° 10.15149' W	9	Anchor block	South manoeuvring area
53° 20.53431' N	6° 10.12094' W	10	Presume Anchor block for nesting birds platform	South manoeuvring area
53° 20.52704' N	6° 10.16810' W	11	Presume Anchor block for nesting birds platform	South manoeuvring area
53° 20.69130' N	6° 10.58612' W	12	Foundation of North Bank Lighthouse	North manoeuvring area
53° 20.69212' N	6° 10.63858' W	13	Former structure and masonry/debris	North manoeuvring area
53° 20.66898' N	6° 10.80371' W	14	Anchor block	North manoeuvring area
53° 20.67136' N	6° 11.38151' W	15	Anchor block	North manoeuvring area
53° 20.67751' N	6° 12.20282' W	16	Tyre	Berth 50A -OB3

Table 1: Multibeam targets list

These targets have been measured and described in the section below.

1.1 South Manoeuvring area

The south area has shown 10 targets highlighted in figure 2 below. Note that target 7 corresponds to the navigation buoy 14.

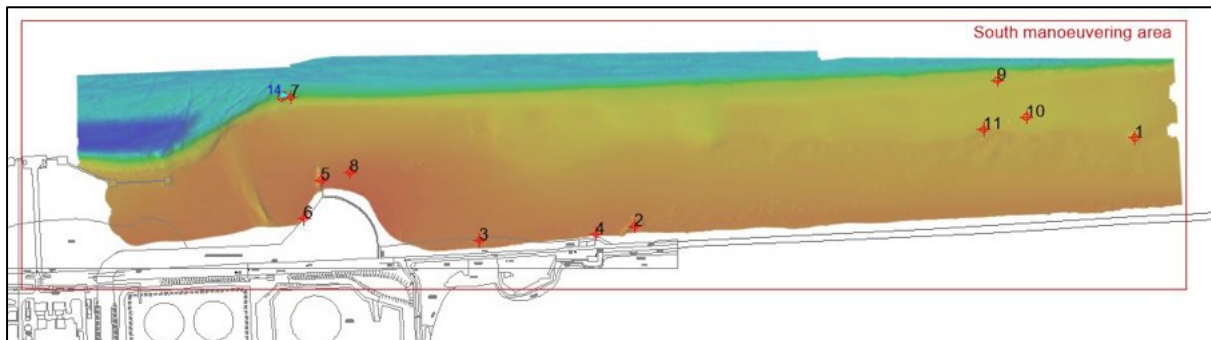


Figure 2: South side channel - Manoeuvring area

Target 1: Masonry debris spread over 9 m. The biggest block measures 2.3 m long and about 0.7 m high as shown in figure 3 below.

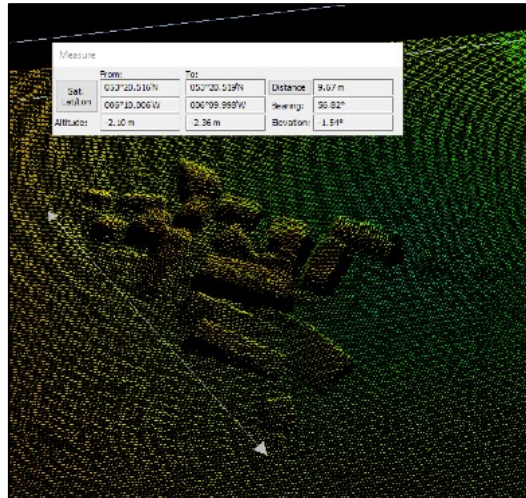


Figure 3: Target 1 - Debris masonry

Target 2: Concrete outflow pipe 20 m long.

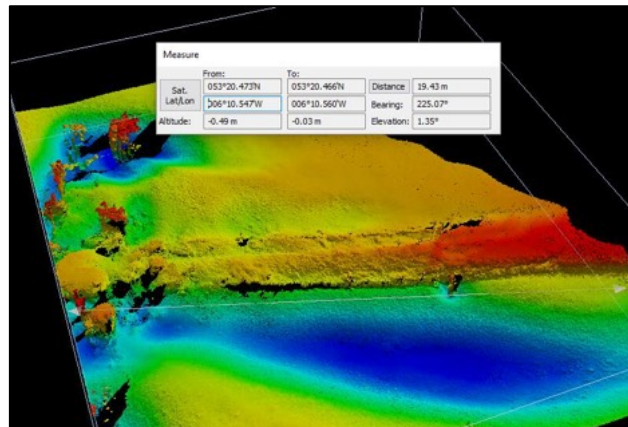


Figure 4: Target 2 - Outflow pipe

Target 3: 3 m long object. This object is visible on a low spring tide. The depth of the highest point is +0.4 m Chart Datum.

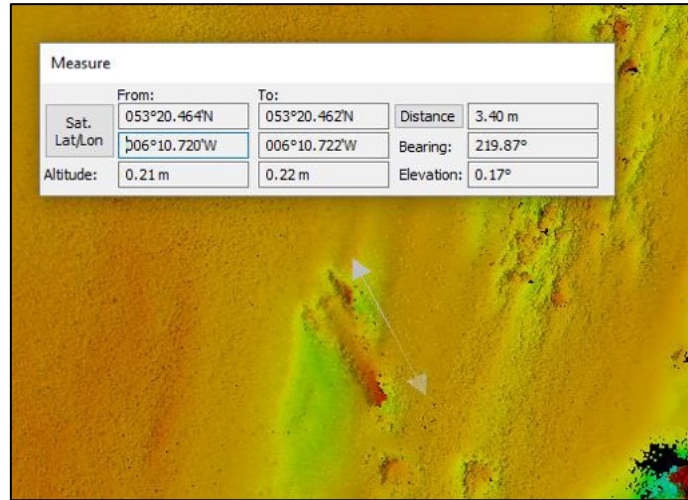


Figure 5: Target 3 - 3 m long unknown object

Target 4: sheet pile - 19 m long.

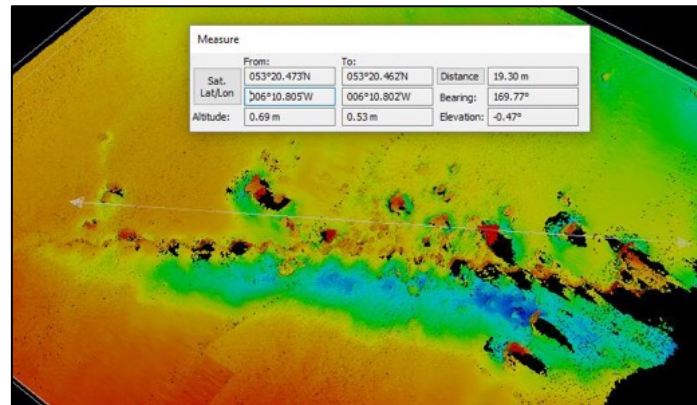


Figure 6: Target 4 - Sheet pile

Target 5: sheet piles - 28 m long. The target reaches a minimum depth of 2.5 m Chart Datum.

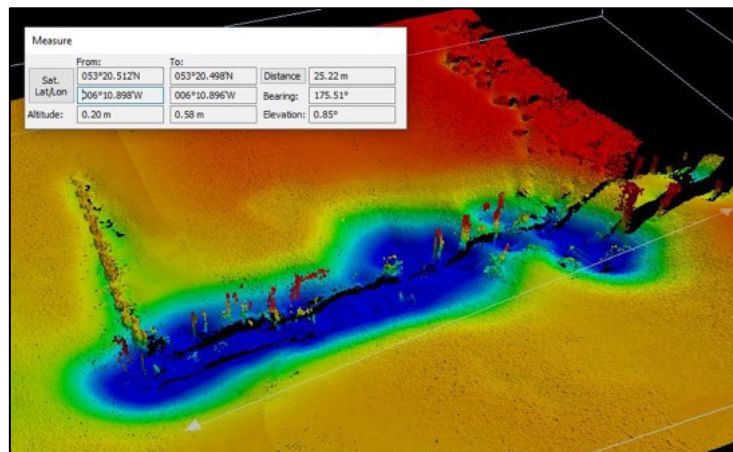


Figure 7: Target 5 - Sheet pile

Target 6: sheet pile > 22 m long.

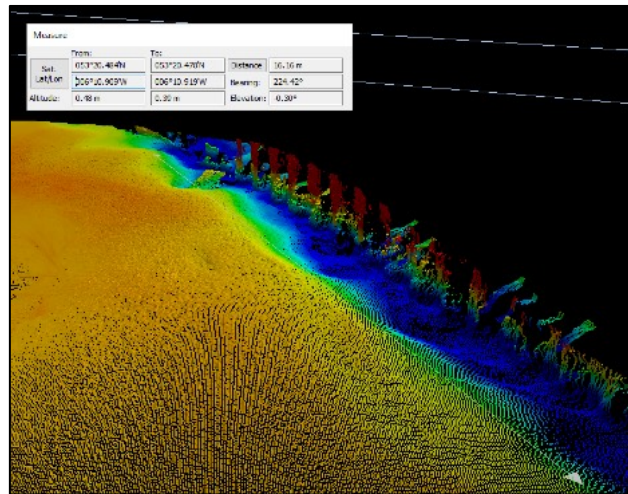


Figure 8: Target 6 - Sheet pile

Target 7 : anchor block Buoy 14, with chain attached.

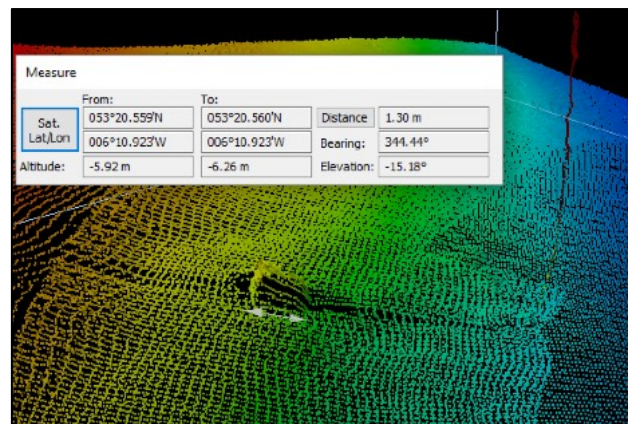


Figure 9: Target 7 - Anchor block

Target 8 : unknown object with scour. The depth is 0.8 m Chart Datum and the length is about 1 m.

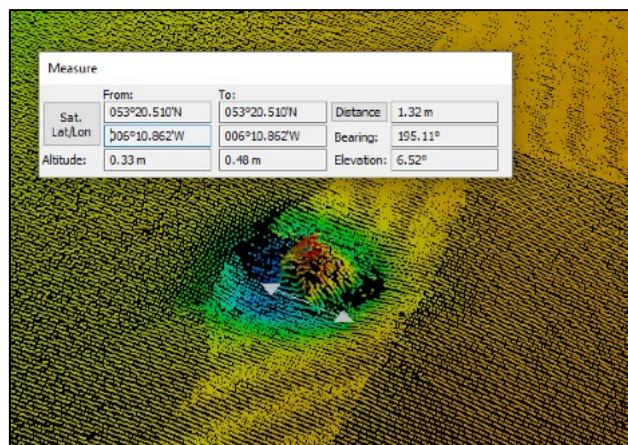


Figure 10: Target 8 - Unknown object

Target 9 : anchor block with chain attached

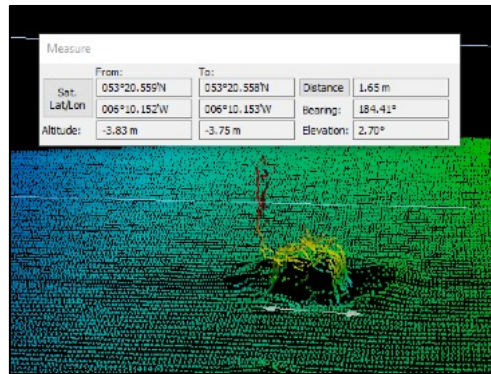


Figure 11: Target 9 - Anchor block

Target 10: object - 0.9 m long. This target is located at 15m North-East from the nesting bird platform. Target 10 is most likely one of the anchor blocks of this platform.

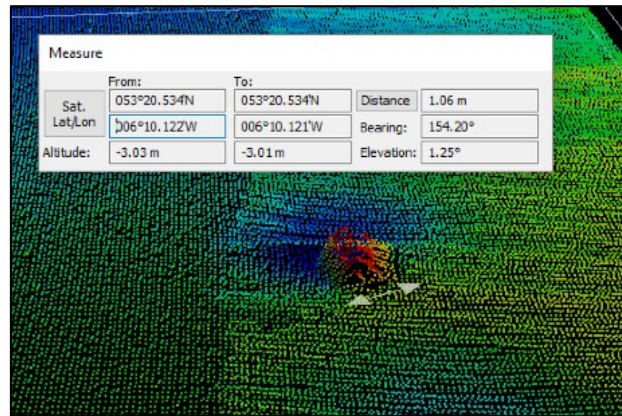


Figure 12: Target 10 - Unknown object

Target 11: anchor block, partially buried. This target is located at 20m West from the nesting bird platform. Target 10 is most likely a second anchor blocks of this platform.

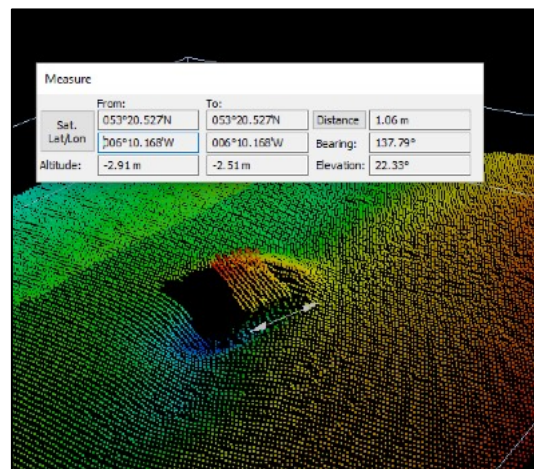


Figure 13: Target 11 - Anchor block

1.2. North Manoeuvring area

Four acoustic targets have been found in the North area of the planned manoeuvring area (Target 12 to 15). Note that target 12 corresponds to the North Bank lighthouse and target number 15 corresponds to navigation buoy 15.

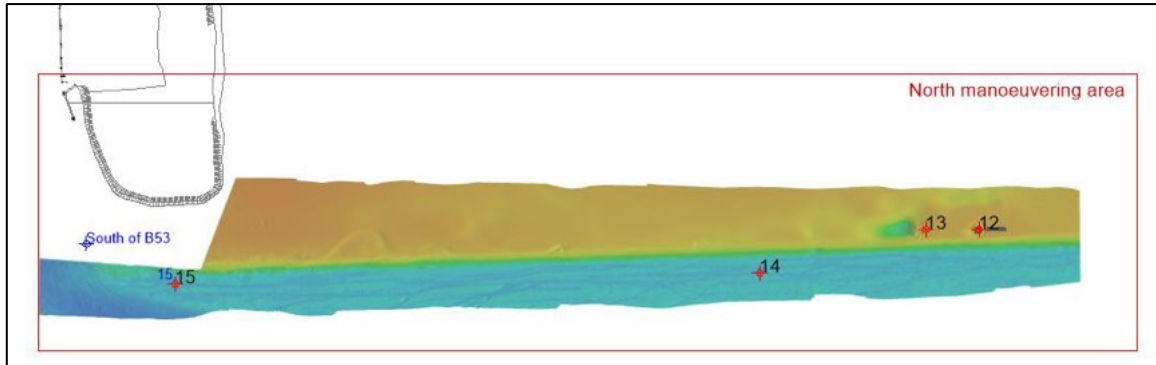


Figure 14: North side channel - Manoeuvring area

Target 12: foundation of the North Bank lighthouse, with scour.

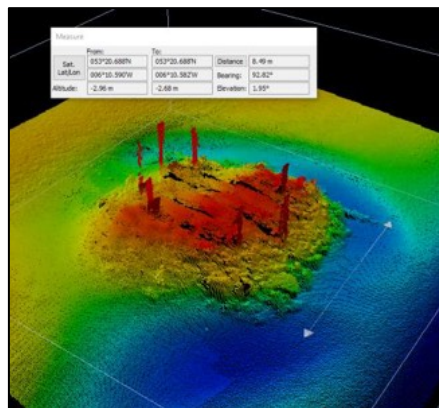


Figure 15: Target 12 - Foundation of the North bank lighthouse

Target 13: possible base of structure.

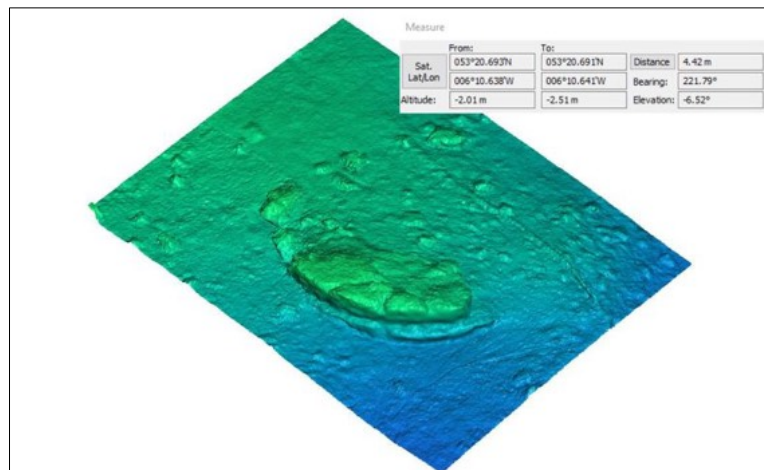


Figure 16: Target 13 - Former structure and masonry/debris

Target 14: anchor block.

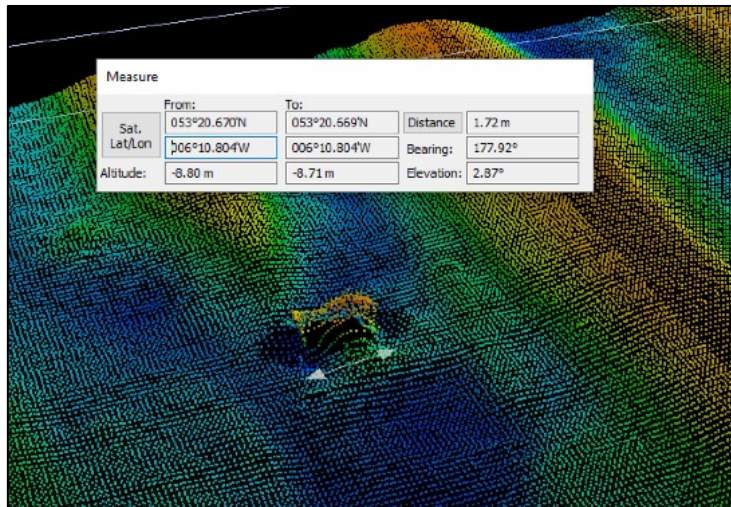


Figure 17: Target 14 - Former anchor block

Target 15: anchor block of buoy 15 with chain attached.

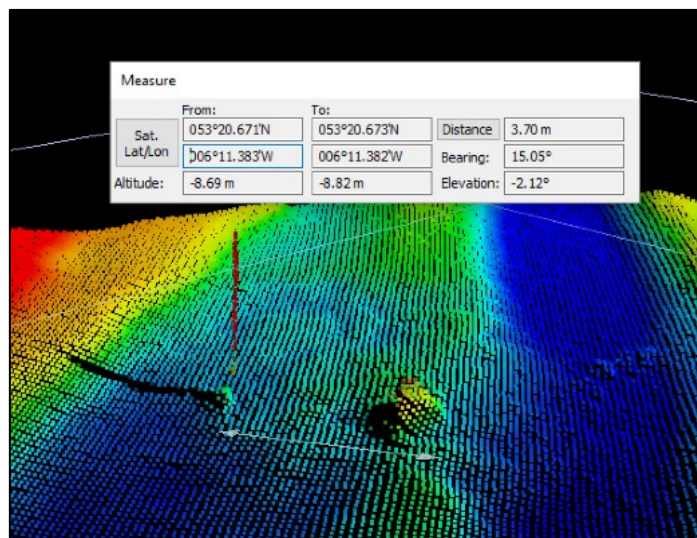


Figure 18: Target 15 - Anchor block

1.3. Berth 50A – Oil Berth 3 area

The third area surveyed corresponds to berth 50A and oil berth 3 as shown on picture 19 below. Only one acoustic target was detected in this area.

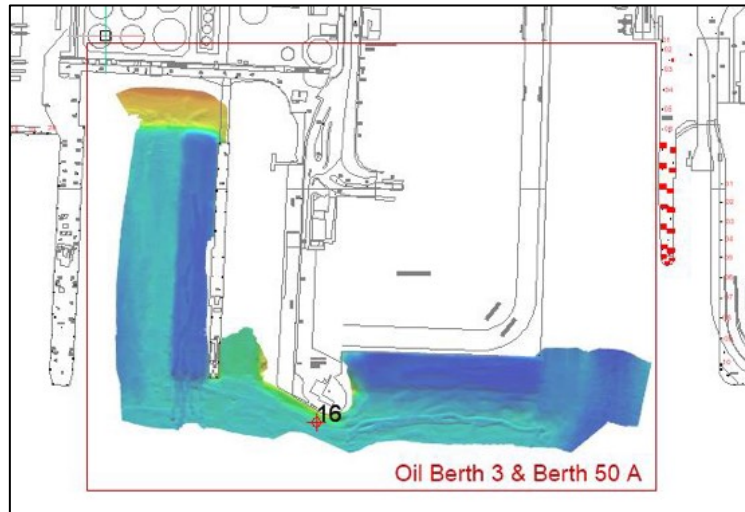


Figure 19: Oil berth 3 and berth 50A

Target 16: tyre - 1.5 m

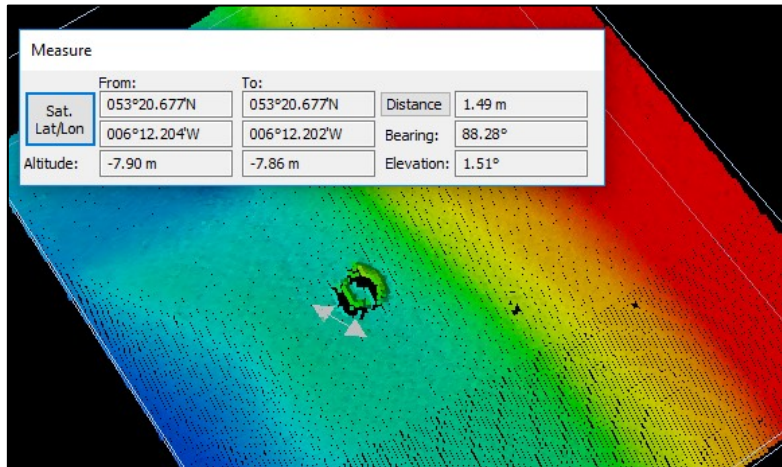
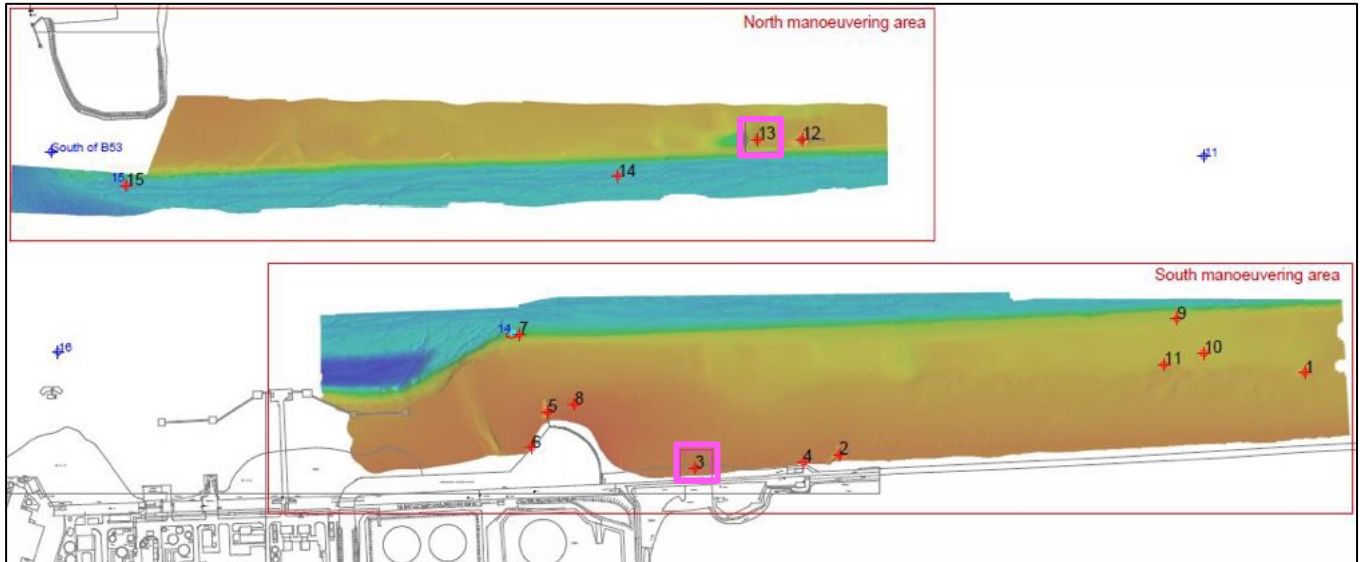


Figure 20: Target 16 - Tyre

Chart in figure 21 highlights two principal regions of interest (pink square): targets 13 and 3, located in the North and South of the manoeuvring area. These two targets could constitute an argument for further investigation.



2. Magnetic targets

A magnetic survey was conducted in the planned manoeuvring area. 132 targets have been detected, spread over the two areas of the manoeuvring zone, as shown on figure 22 below.

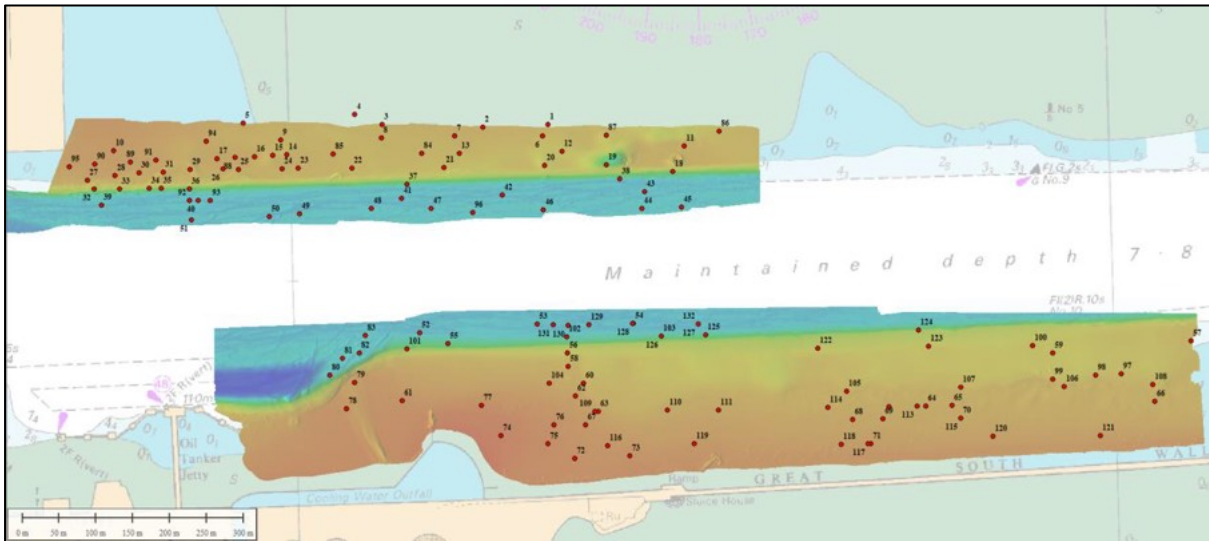


Figure 22: Magnetic targets location - Manoeuvring area

Magnetic targets detected in the manoeuvring area have been listed in the table 2 below. Amplitude more than 5 nT, only, has been selected. Figure 23 below shows the dipole of the target 6, with an amplitude of 150 nT.

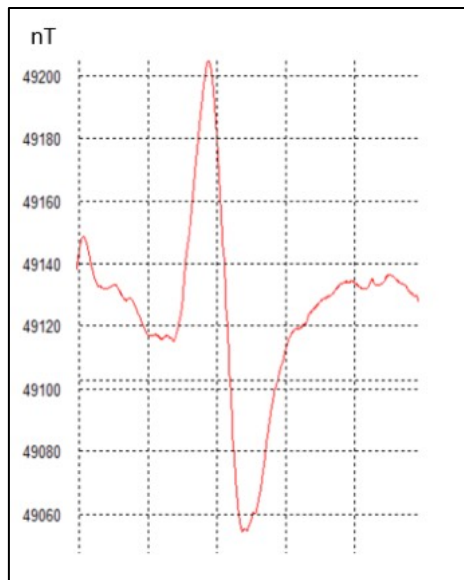


Figure 23: Observed dipole for nb. 7 magnetic target

LATITUDE	LONGITUDE	AMPLITUDE (nT)	TARGET ID	Target description	LATITUDE	LONGITUDE	AMPLITUDE (nT)	TARGET ID	Target description
53° 20.71932' N	6° 10.74282' W	181.23	1		53° 20.50644' N	6° 10.01184' W	9.46	66	
53° 20.71860' N	6° 10.82226' W	91.09	2		53° 20.49960' N	6° 10.70700' W	411.04	67	
53° 20.72250' N	6° 10.94562' W	46.41	3		53° 20.49864' N	6° 10.38024' W	181.85	68	
53° 20.73054' N	6° 10.97850' W	62.84	4		53° 20.49840' N	6° 10.34370' W	198.66	69	
53° 20.72616' N	6° 11.11488' W	70.96	5		53° 20.49774' N	6° 10.24860' W	38.33	70	
53° 20.71152' N	6° 10.75002' W	151.95	6		53° 20.48058' N	6° 10.35894' W	15.04	71	
53° 20.71290' N	6° 10.85736' W	35.35	7		53° 20.47554' N	6° 10.72092' W	119.38	72	Unknown presumed object
53° 20.71290' N	6° 10.94694' W	32.17	8		53° 20.47644' N	6° 10.65366' W	31.32	73	
53° 20.71314' N	6° 11.06958' W	24.91	9		53° 20.49360' N	6° 10.81020' W	402.16	74	Sheet pile
53° 20.70852' N	6° 11.27358' W	60.79	10		53° 20.48700' N	6° 10.75320' W	53.93	75	
53° 20.70120' N	6° 10.57728' W	434.02	11	North Bank lighthouse	53° 20.50020' N	6° 10.74540' W	44.97	76	
53° 20.69982' N	6° 10.72680' W	194.08	12		53° 20.51580' N	6° 10.83300' W	279.29	77	Sheet pile
53° 20.70030' N	6° 10.85214' W	65.43	13		53° 20.51580' N	6° 10.99800' W	221.03	78	
53° 20.70234' N	6° 11.06238' W	24.89	14		53° 20.53500' N	6° 10.98720' W	299.75	79	
53° 20.70216' N	6° 11.08008' W	35.42	15		53° 20.54100' N	6° 11.01680' W	387.93	80	
53° 20.70144' N	6° 11.10228' W	41.33	16		53° 20.55300' N	6° 11.00100' W	104.78	81	
53° 20.70078' N	6° 11.14770' W	76.98	17		53° 20.55660' N	6° 10.98060' W	17.54	82	
53° 20.68266' N	6° 10.59216' W	524.45	18	North Bank lighthouse	53° 20.56920' N	6° 10.97220' W	21.44	83	
53° 20.68908' N	6° 10.67316' W	26.35	19		53° 20.70060' N	6° 10.89780' W	181.23	84	
53° 20.68980' N	6° 10.74870' W	141.88	20		53° 20.70180' N	6° 11.00580' W	91.09	85	
53° 20.69022' N	6° 10.87164' W	74.11	21		53° 20.71140' N	6° 10.53420' W	46.41	86	
53° 20.69112' N	6° 10.98336' W	44.44	22		53° 20.71080' N	6° 10.67220' W	62.84	87	
53° 20.69250' N	6° 11.04876' W	55.3	23		53° 20.70120' N	6° 11.12580' W	151.95	88	
53° 20.69208' N	6° 11.06862' W	54.07	24		53° 20.70000' N	6° 11.25360' W	32.17	89	
53° 20.69232' N	6° 11.12172' W	30.58	25		53° 20.69880' N	6° 11.29680' W	24.91	90	
53° 20.69298' N	6° 11.14056' W	76.12	26		53° 20.70060' N	6° 11.22240' W	60.79	91	
53° 20.68746' N	6° 11.30628' W	56.2	27		53° 20.67060' N	6° 11.18280' W	595.62	92	
53° 20.69022' N	6° 11.27304' W	72.13	28		53° 20.67060' N	6° 11.15760' W	434.02	93	
53° 20.69322' N	6° 11.18082' W	43.34	29		53° 20.71380' N	6° 11.16060' W	194.08	94	
53° 20.69160' N	6° 11.24370' W	22.31	30		53° 20.69760' N	6° 11.32800' W	65.43	95	
53° 20.69208' N	6° 11.21370' W	31.95	31		53° 20.65680' N	6° 10.83720' W	24.89	96	
53° 20.68110' N	6° 11.29878' W	43.51	32		53° 20.52720' N	6° 10.05180' W	35.42	97	
53° 20.68062' N	6° 11.26752' W	132.63	33		53° 20.52660' N	6° 10.08240' W	41.33	98	
53° 20.68038' N	6° 11.23134' W	17.81	34		53° 20.52420' N	6° 10.13520' W	76.98	99	Nesting bird platform
53° 20.68014' N	6° 11.21658' W	10.22	35		53° 20.54940' N	6° 10.15920' W	524.45	100	Anchor chain
53° 20.67924' N	6° 11.18238' W	132.81	36		53° 20.55840' N	6° 10.92180' W	26.35	101	Anchor chain buoy 14
53° 20.67876' N	6° 10.91670' W	41.2	37		53° 20.56440' N	6° 10.72680' W	141.88	102	
53° 20.67834' N	6° 10.65750' W	460.94	38		53° 20.56320' N	6° 10.61160' W	74.11	103	
53° 20.66916' N	6° 11.28990' W	38.6	39		53° 20.53080' N	6° 10.74960' W	74.11	104	
53° 20.67054' N	6° 11.17176' W	13.05	40		53° 20.51940' N	6° 10.38720' W	74.11	105	
53° 20.66850' N	6° 10.92354' W	50.29	41		53° 20.51880' N	6° 10.12200' W	44.44	106	
53° 20.66874' N	6° 10.80084' W	21.24	42	Anchor chain	53° 20.52000' N	6° 10.24800' W	55.3	107	
53° 20.66892' N	6° 10.62732' W	10.57	43		53° 20.51880' N	6° 10.01340' W	54.07	108	
53° 20.65638' N	6° 10.63080' W	12.52	44		53° 20.50920' N	6° 10.69440' W	30.58	109	
53° 20.65656' N	6° 10.58274' W	11.86	45		53° 20.50920' N	6° 10.60620' W	76.12	110	
53° 20.65752' N	6° 10.75188' W	35.01	46		53° 20.50800' N	6° 10.54440' W	56.2	111	
53° 20.66022' N	6° 10.88856' W	16.39	47		53° 20.50740' N	6° 10.33620' W	72.13	112	
53° 20.66142' N	6° 10.96146' W	23.83	48		53° 20.50740' N	6° 10.30140' W	43.34	113	
53° 20.65908' N	6° 11.04876' W	42	49		53° 20.50800' N	6° 10.41060' W	31.95	114	
53° 20.65752' N	6° 11.08578' W	15.67	50		53° 20.49780' N	6° 10.24860' W	43.51	115	
53° 20.65638' N	6° 11.18070' W	16.81	51		53° 20.48400' N	6° 10.68000' W	132.63	116	
53° 20.56986' N	6° 10.90602' W	103.65	52		53° 20.48100' N	6° 10.36260' W	10.22	117	
53° 20.57418' N	6° 10.76226' W	70.21	53		53° 20.48100' N	6° 10.39500' W	132.81	118	
53° 20.57280' N	6° 10.64562' W	35.25	54		53° 20.48400' N	6° 10.57440' W	41.2	119	Outflow pipe
53° 20.56140' N	6° 10.87206' W	20.31	55		53° 20.48400' N	6° 10.20960' W	460.94	120	
53° 20.55270' N	6° 10.72608' W	78.18	56		53° 20.48220' N	6° 10.07880' W	38.6	121	
53° 20.54970' N	6° 9.96528' W	36.56	57		53° 20.55120' N	6° 10.42080' W	13.61	122	
53° 20.54262' N	6° 10.72602' W	243.73	58		53° 20.55060' N	6° 10.28580' W	14.26	123	
53° 20.54352' N	6° 10.13472' W	53.52	59	Nesting birds platform	53° 20.56260' N	6° 10.29780' W	6.37	124	
53° 20.53026' N	6° 10.70766' W	1150.7	60		53° 20.56320' N	6° 10.55760' W	14.24	125	
53° 20.52060' N	6° 10.92960' W	332.07	61	Sheet pile	53° 20.56320' N	6° 10.61160' W	13.67	126	
53° 20.52108' N	6° 10.71762' W	610.66	62		53° 20.57100' N	6° 10.56600' W	13.08	127	
53° 20.50920' N	6° 10.69026' W	85.51	63		53° 20.57280' N	6° 10.64580' W	34.04	128	
53° 20.50734' N	6° 10.29108' W	15.32	64		53° 20.57280' N	6° 10.69920' W	15.86	129	
53° 20.50734' N	6° 10.25868' W	11.97	65		53° 20.57280' N	6° 10.72440' W	13.2	130	
					53° 20.57340' N	6° 10.74240' W	9.11	131	
					53° 20.57100' N	6° 10.56600' W	13.26	132	

Table 2: Magnetic targets list

Magnetic targets have been mapped according to their positions and amplitude (nT). Chart in figure 24 below shows the amplitude of each targets.

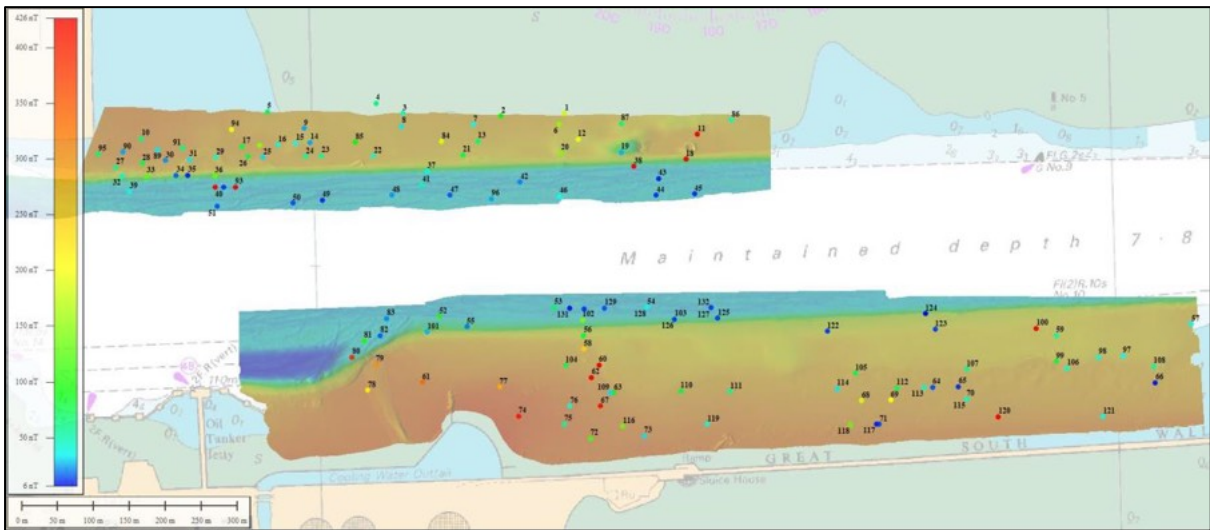


Figure 24: Magnetic target varying with amplitude (nT)

The heat map in figure 25 below, highlights areas of strong change in the magnetic field.

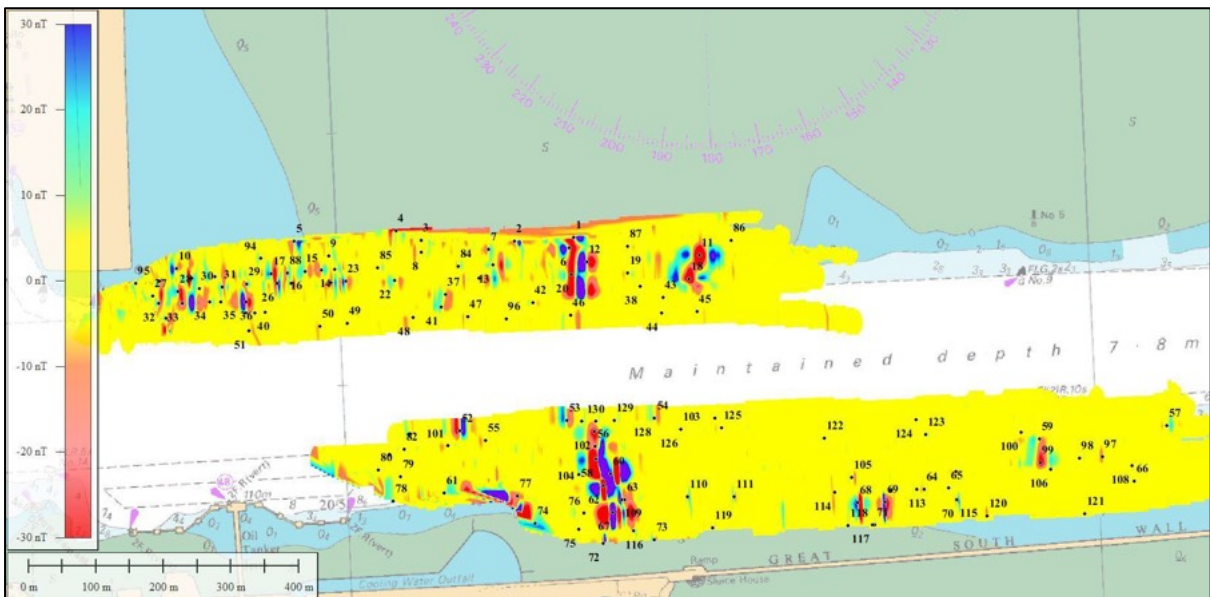


Figure 25: Magnetic field (nT)

3. Sub-Bottom survey

A sub-bottom survey was conducted in addition to the multibeam and magnetometer survey that same day. The survey tracklines are shown in picture 26 below.

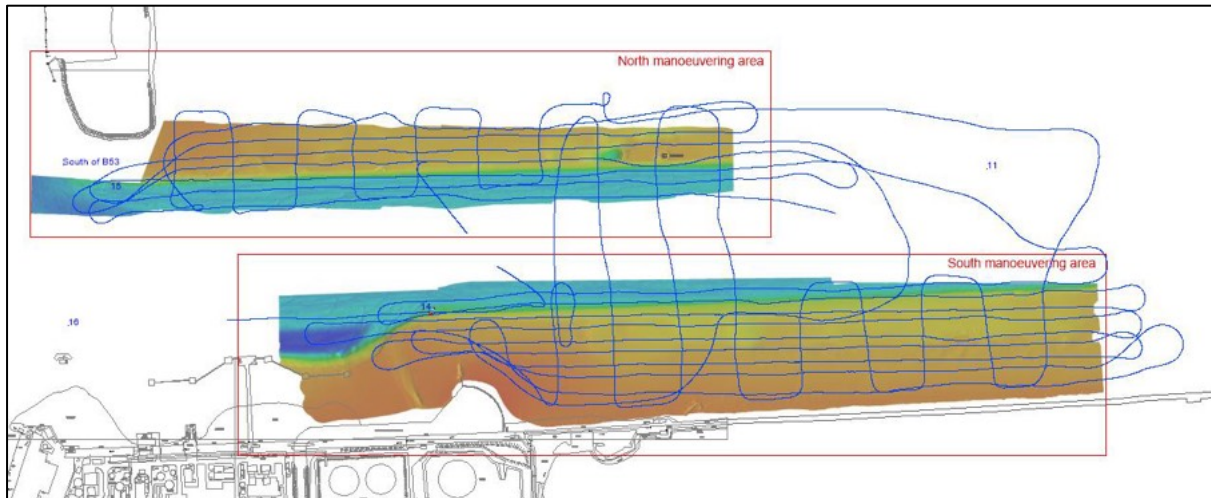


Figure 26: Sub-Bottom survey lines

3.1 General Geology of Dublin

Bedrock:

Dublin Port is largely surrounded by (Lower) Carboniferous Limestone of the Bray Group (Parkes et al., 2014). To the south, the port is also bounded by granite and in the north some small areas of Cambrian bedrock outcrop. The Lower Carboniferous limestone is composed of lithified sediment that was deposited in the Dublin Basin with thicknesses of 2-3 km (Strogen et al., 1996).

Quaternary:

The Dublin Port region was glaciated by the last British-Irish Ice Sheet (Clark et al., 2012). This glaciation deposited a till, often referred to as “Dublin boulder clay,” which is highly consolidated and has a low permeability (Skipper et al., 2005; Long & Menkiti, 2007). These characteristics produce high reflectance in geophysical investigations. The geographical coverage of this till likely extends across, and far beyond, the area of Dublin Port (e.g. Clark et al., 2012; Ó Cofaigh et al., 2012). However, local thicknesses and coverage is variable.

Many studies document eastward meltwater flows across County Dublin during and after regional deglaciation (e.g. Hoare & Hoare, 1976). These meltwater streams deposited large amounts of sand and gravel above the till and lower sea levels enabled the channelization and subsequent infilling of some till deposits (ibid).

Postglacial sea-level rise led to reworking of the glacial deposits. This reworking has winnowed the sand from some gravels and redeposited it on the Holocene-aged sea floor (Dobson et al., 1971). Thus, sand waves and ribbons are common below the southern Irish Sea (ibid) and offshore of Dublin (Wheeler et al., 2001). Indeed, Dublin Port has a history of sand waves causing issues for some ships (Dublin Port Company), which also records relatively high sedimentation rates and/or energetic currents.

Implications for archaeology:

Significant archaeological sites have been studied in the Dublin Bay area (e.g. Wheeler, 2002). Regional sediment mobility along with local biological and chemical characteristics create a spectrum of archaeological preservation possibilities (ibid). Near Dublin Port, sediment scour may have the ability to mechanically erode (ibid) or burry artefacts.

3.2 Survey data result

Archaeology in a zone such as this has the potential to generate scour in the underlying material which will, in time, be filled with sediment deposits. This type of feature can be detected with the sub-bottom profiler. No such scour features or other buried anomalies were observed in the data.

The survey produced 33 sub-bottom profiles (including crosslines). These were processed and analysed. This report is showing 4 inline profiles (3,10,11,15) and 3 Crosslines (21,27,32) from the 33 sub-bottom survey lines. The selected profiles are highlighted in yellow in the following figure. (Fig 27).

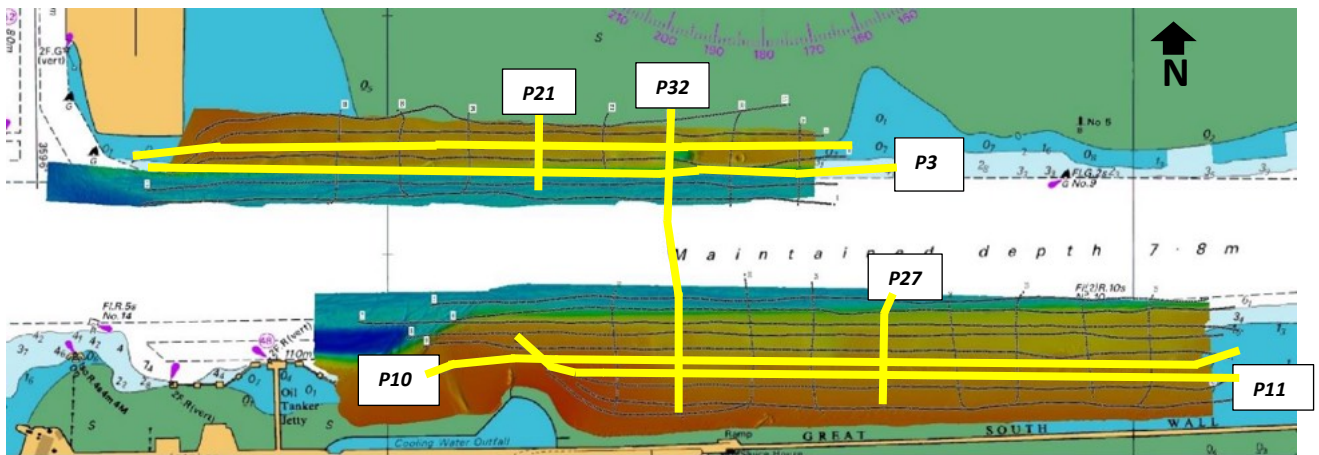


Figure 27 Profiles

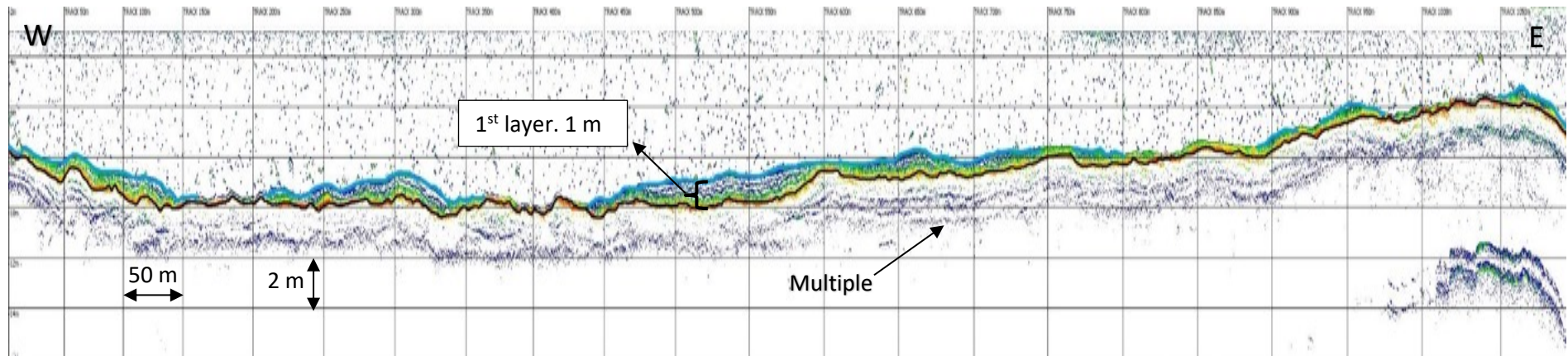


Figure 28 Profile 3 HF

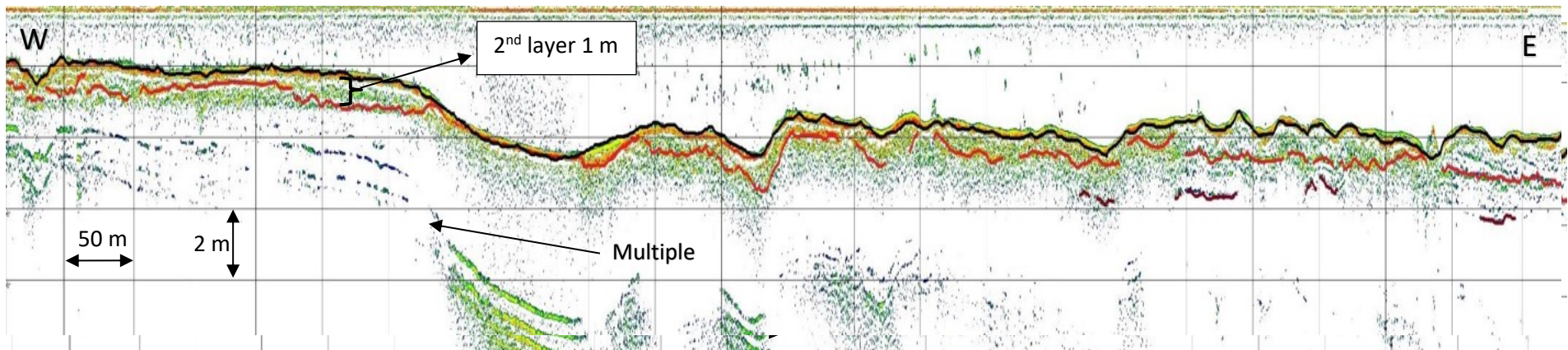


Figure 29 Profile 10 LF

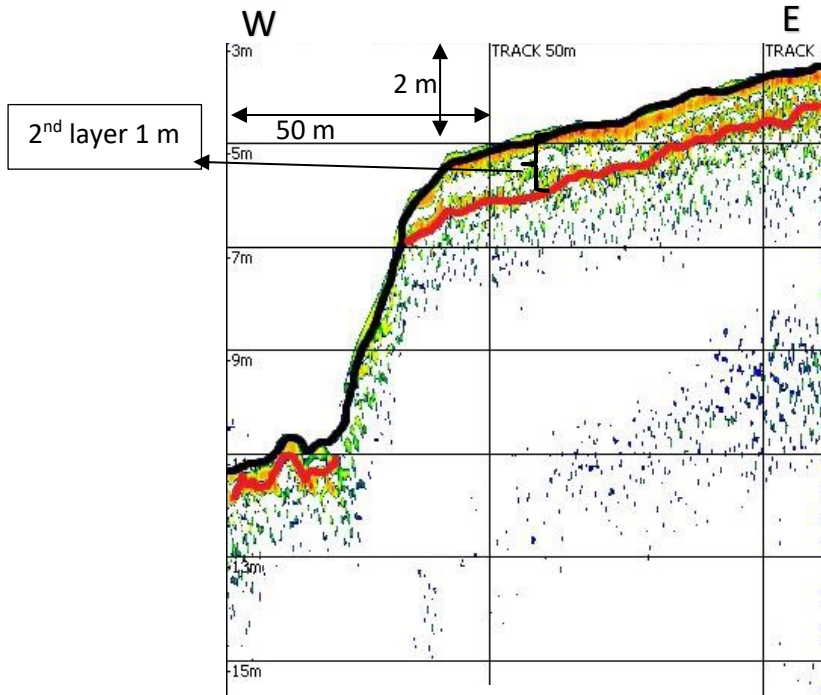


Figure 30 Profile 21 LF

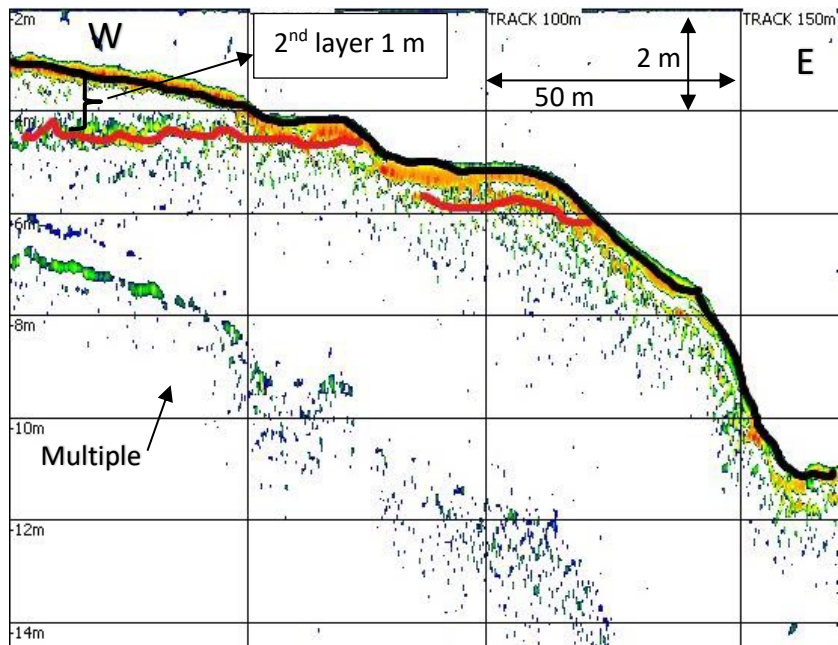


Figure 31 Profile 27 LF

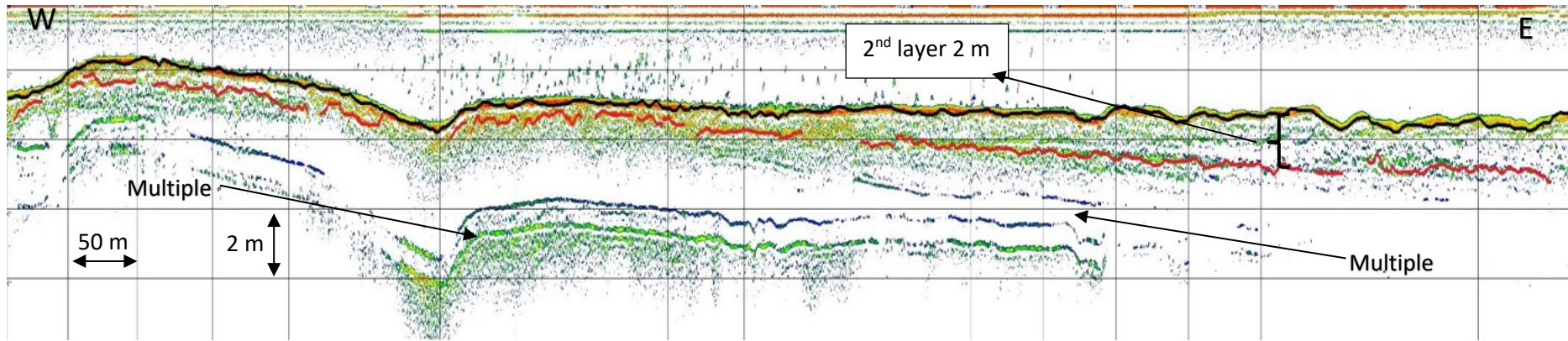


Figure 32 Profile 11 LF.

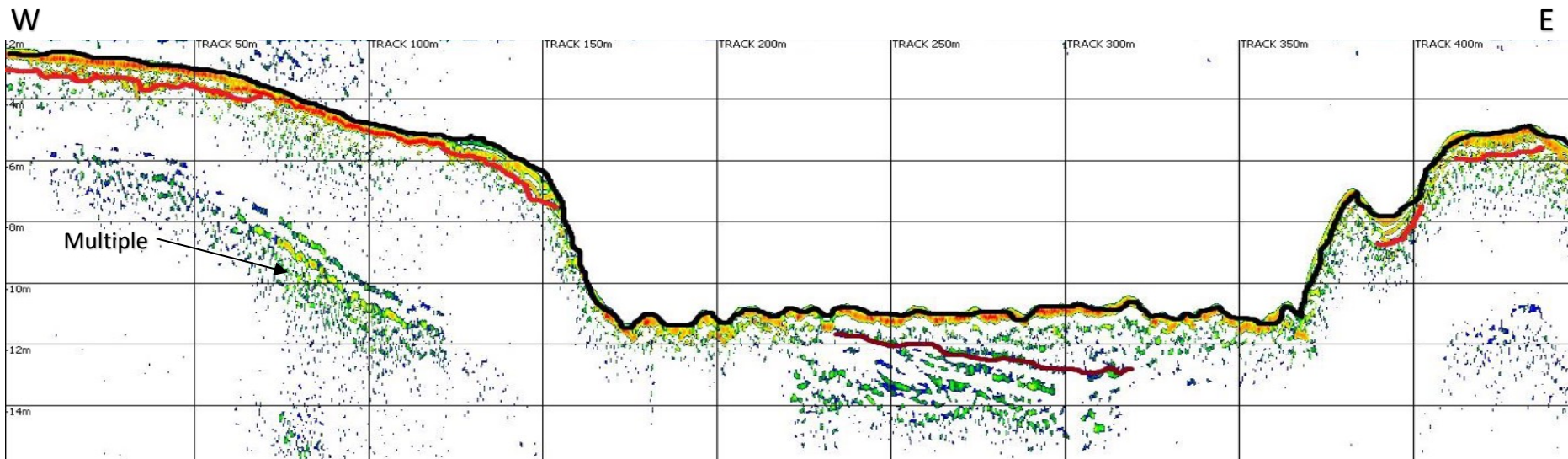


Figure 33 Profile 32 LF.

3.3 Interpretation – conclusion

The survey was conducted in the north and the south of Dublin port inside channel, each profile reveals similar stratigraphy, which consists of 3 sedimentary units. The uppermost unit (blue) was visible in the northside of the channel (fig. 28). The impedance contrast is relatively transparent, suggesting soft material (Mud). The thickness of this unit is variable and averages ~0.6 m.

This unit is underlain by a continuous reflector (Black), marks the top of a unit 2 which forms the seabed in the southside of the channel, characterised by transparent impedance contrast between unit 1 and unit 2, suggesting harder sediment. (Sandy Clay) The thickness of this layer is variable and averages ~1 m.

Below the unit 2, the strong reflector, marks the top of Unit 3 characterised by a strong surface reflection, suggesting harder sediment than Unit 2. (Sandy Gravel). To confirm this interpretation, borehole needs to be done on those 2 areas.

Appendix

Acoustic charts

- 180626_DublinPort_Manoeuvring_Area.pdf
- 180626_DublinPort_Oil_Berth3_Berth50A.pdf
- 180626_DublinPort_Acoustic_Targets_KeyPlan.pdf

Magnetic charts

- 180626_Magnetic_Targets_Location.pdf
- 180626_Magnetic_Targets_varying_with_amplitude.pdf
- 180626_Magnetic_Targets_North_Manoeuvring_area.pdf
- 180626_Magnetic_Targets_South_Manoeuvring_area.pdf
- 180626_HeatMap.pdf

Sub-Bottom charts

- 180626_Sub-Bottom_Survey_lines.pdf

APPENDIX 16 POPULATION & HUMAN HEALTH

Appendix 16-1

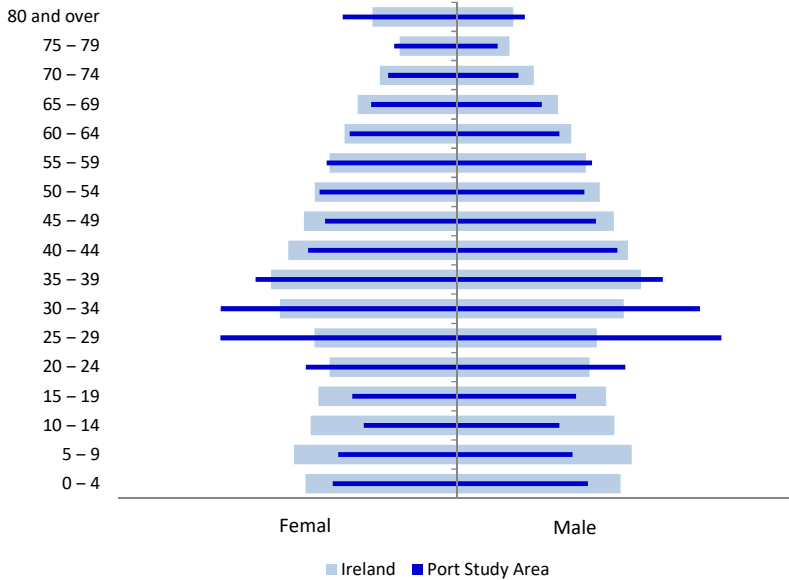
APPENDIX A: POPULATION & HUMAN HEALTH BASELINE

Introduction

Evidence suggests that different communities have varying susceptibilities to health impacts and benefits as a result of social and demographic structure, behaviour and relative economic circumstance. The purpose of the following information which makes up this population and human health baseline, is to put into context the local health circumstance of the communities surrounding Dublin Port, drawing from available statistics. Where possible, data has been collected for the Electoral Division's (ED) (North Dock B, Pembroke East A, Clontarf East B, Clontarf East C and Clontarf East D), to compare against the national average. Where ED data is not available, we have used Dublin City data to compare with the national average. For socio-economic indicators, data for Dublin City is more relevant than for individual ED's, as income and employment opportunities are likely to have a wider sphere of influence.

Demography

Age and Gender Structure



Population Change			
Area	2011	2016	Change (%)
North Dock B	6,895	7,695	10.4
Pembroke East A	4,929	5,078	2.9
Clontarf East B	6,759	7,107	4.9
Clontarf East C	3,113	3,183	2.2
Clontarf East D	2,673	2,766	3.4
Port Study Area	24,369	25,829	5.7
Dublin City	1,273,069	1,347,359	5.5
Ireland	4,588,252	4,761,865	3.6

Source: SAPMAP 2011, SAPMAP 2016

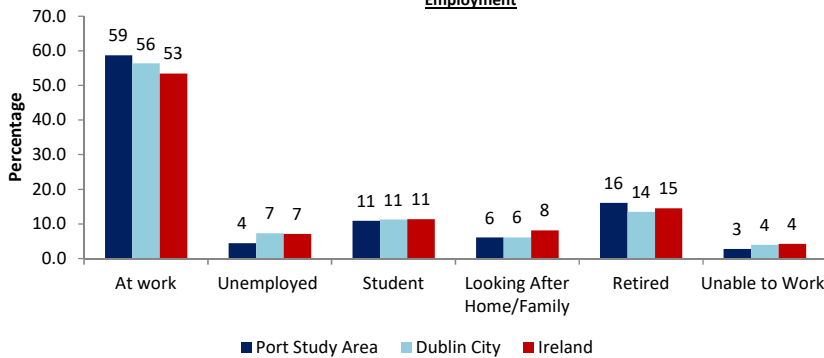
North Dock B Electoral Division shows a population increase of 10.4% between 2011 and 2016 which is nearly three times the national average, and twice the Dublin City average. On the other hand, Pembroke East A and Clontarf East C show population increases of only 2.9% and 2.2%, respectively between 2011 and 2016 which is below the national and Dublin City average.

There is no disproportionate difference between male and female population within the Port Study Area. The population within the Port Study Area is relatively youthful in comparison to the national average, where there is a higher proportion of 20 to 39 year olds.

Source: SAPMAP 2016

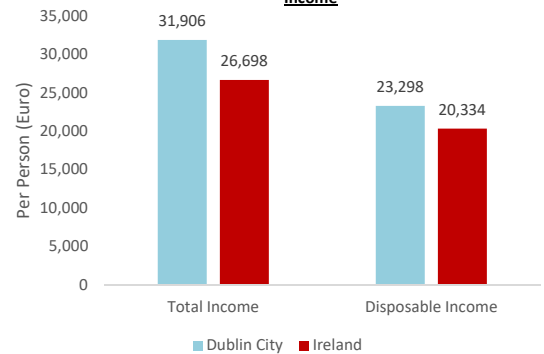
Socio-economic Factors

Employment



Source: SAPMAP 2016

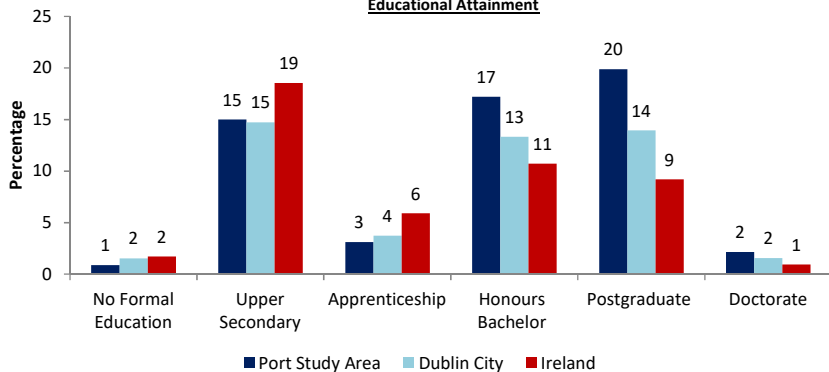
Income



Source: Statbank (CIA01)

There are higher levels of employment and lower levels of unemployment in the Port Study Area compared to Dublin City and the national average. The proportion of students is relatively similar to the Dublin City and national average, while the proportion of individuals who are retired is higher than the Dublin City and national average.

Educational Attainment



Source: SAPMAP 2011, SAPMAP 2016

There are high levels of educational attainment in the Port Study Area, with a larger proportion of the population attaining Honours Bachelor, Postgraduate and Doctorate degrees compared to Dublin City and the national average.

Total and disposable income levels in Dublin City are comparatively higher than the national average.

Housing

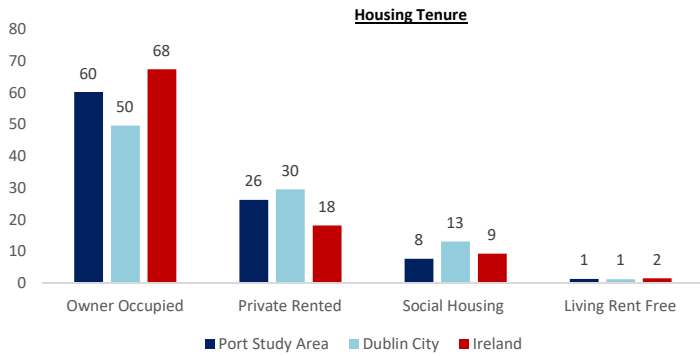
Housing Stock (Number of Private Households)			
Area	2011	2016	Change (%)
North Dock B	2,960	3,067	3.6
Pembroke East A	2,072	2,102	1.4
Clontarf East B	2,681	2,704	0.9
Clontarf East C	1,145	1,170	2.2
Clontarf East D	1,022	993	-2.8
Port Study Area	5,032	5,169	2.7
Dublin City	208,008	211,747	1.8
Ireland	1,654,208	1,702,289	2.9

Source: SAPMAP 2016

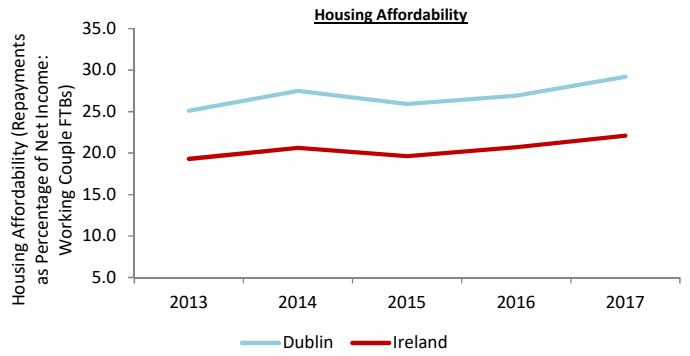
North Dock B shows a housing stock increase of 3.6% which is twice as high as in Dublin City and slightly higher than the national average. Pembroke East A and Clontarf East C have housing stock increases which are more comparable to the Dublin City average. Clontarf East D however, shows a decrease. Overall, housing stock growth in the Port study area is relatively similar to the national average.

Housing tenure statistics show a higher proportion of owner occupied housing in the Port Study Area compared to Dublin City, while there is a lower proportion of private rented and social rented housing in the Port Study Area compared to Dublin City. Compared to the national average, owner occupied and social housing in the Port Study Area is lower, while private rented housing is higher.

Generally, housing is becoming less affordable year-on-year within Dublin, following national housing affordability trends.



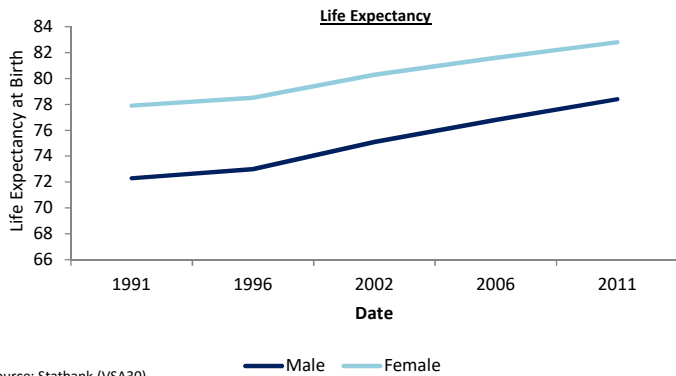
Source: SAPMAP 2016



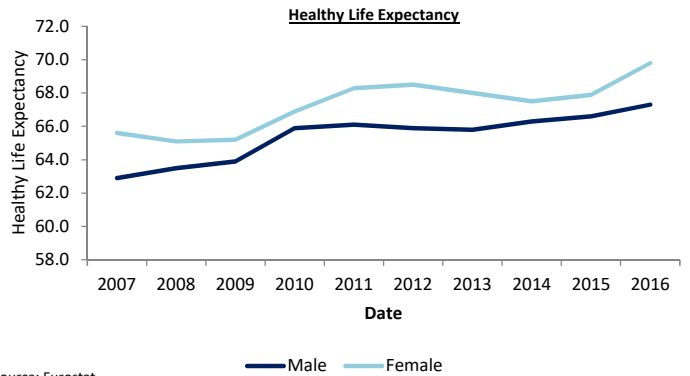
Source: EBS DKM Irish Housing Affordability Index

Life Expectancy

The most recent life expectancy statistics are available for Ireland only; both male and female life expectancy is increasing with male life expectancy consistently lower than female life expectancy. Healthy life expectancy (HLE) statistics are also only available for Ireland. HLE is the number of years a person is in good health; generally, both male and female healthy life expectancy are also increasing, with male HLE consistently lower than female HLE.



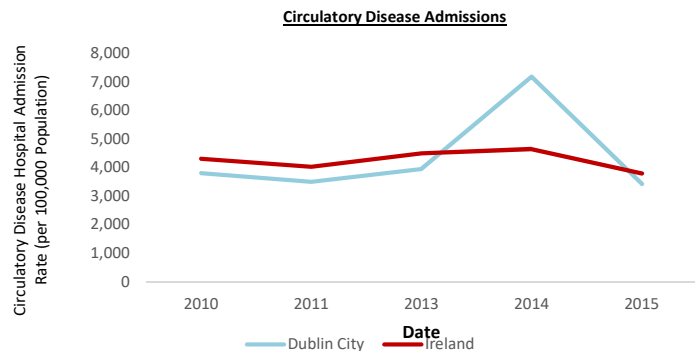
Source: Statbank (VSA30)



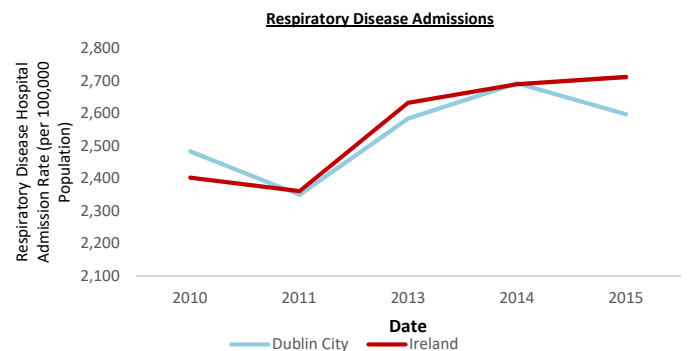
Source: Eurostat

Physical Health

Hospital admission rate for diseases of the circulatory system are lower in Dublin City compared to the national average for all years reported other than 2014. Excluding 2014 from analysis, hospital admissions for diseases of the circulatory system have remained relatively static. Hospital admissions for diseases of the respiratory system are similar to the national average and have generally increased in Dublin City over the years.

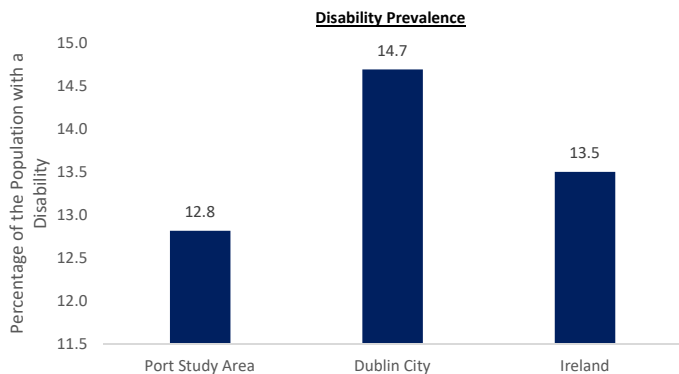


Source: Public Health Well Community Profiles

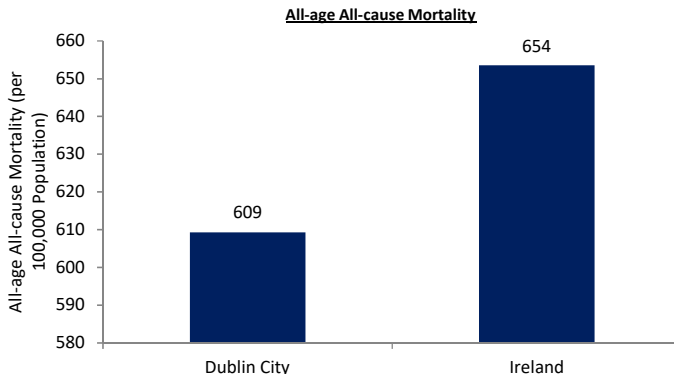


Source: Public Health Well Community Profiles

The proportion of the population within the Port Study Area with a disability is lower than the Dublin City and national average. The all-age all-cause mortality figure in Dublin City is lower than the national average.

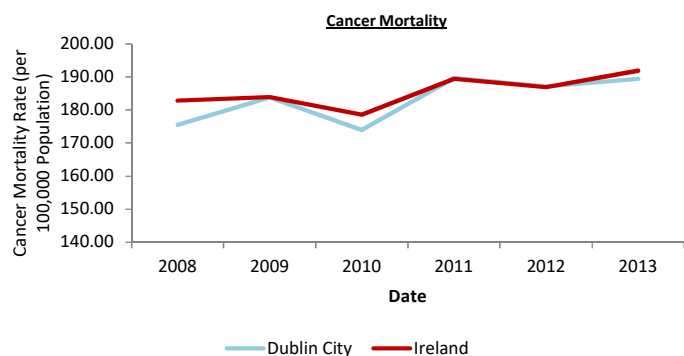


Source: SAPMAP 2016



Source: Statbank (DHA12)

Physical Health cont.

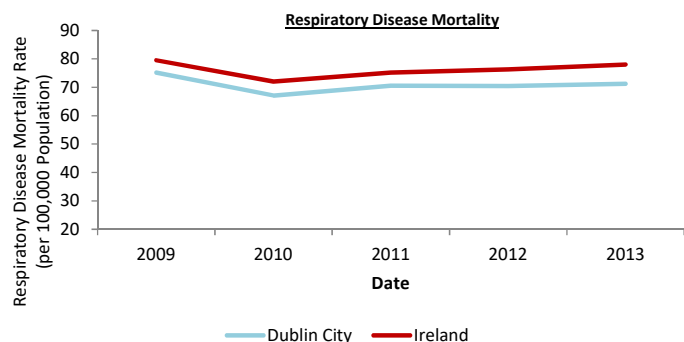


Mortality rate from cancer within Dublin City fluctuates year-on-year, following the national trend but generally has remained below the national average.

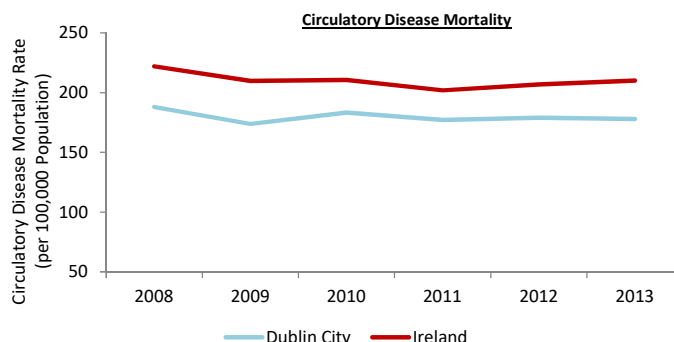
Mortality rate from respiratory diseases within Dublin City has remained relatively static over the years but is consistently lower than the national average.

Mortality rate from circulatory diseases within Dublin City shows a similar trend to mortality from respiratory disease where mortality rate has remained relatively static over the years and is consistently lower than the national average.

Source: Statbank (DHA12)



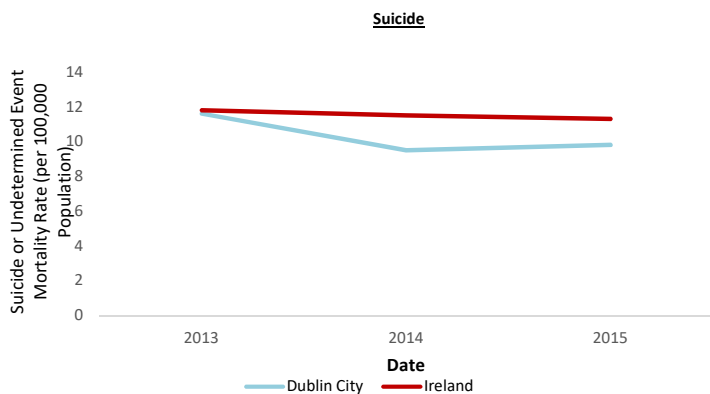
Source: Statbank (DHA12)



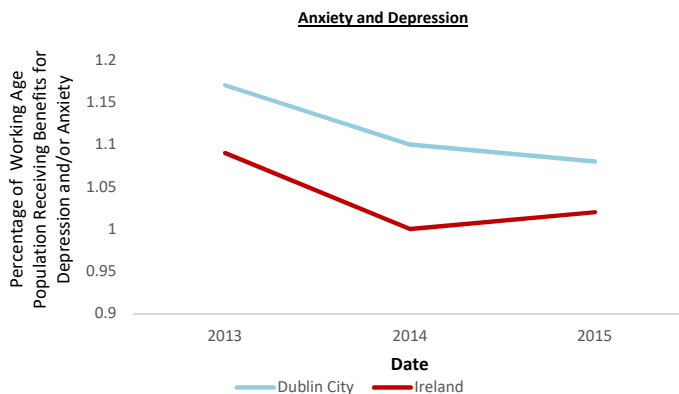
Source: Statbank (DHA12)

Mental Health

Suicide rate within Dublin City shows a general decrease and remains consistently below the national average year-on-year. The percentage of the population receiving benefits for depression and/or anxiety is decreasing following the national trend. However, the proportion of the population receiving benefits for depression and/or anxiety is consistently higher in Dublin City than the national average.



Source: Statbank (DHA12)

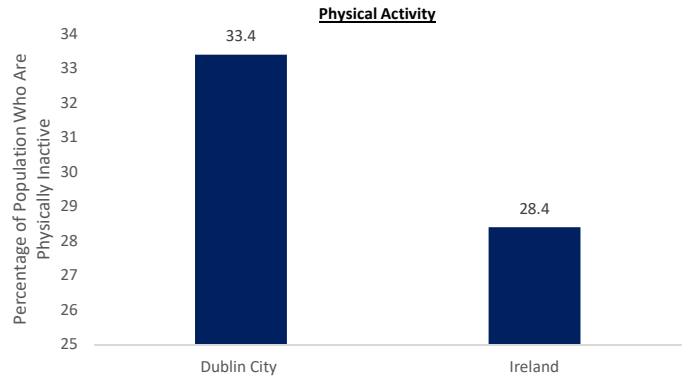


Source: Public Health Well Community Profiles

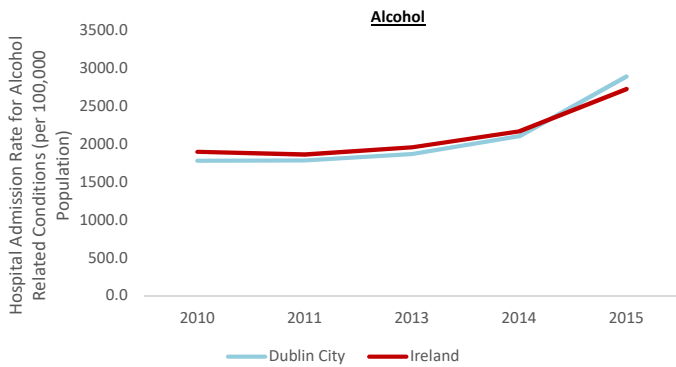
Lifestyle



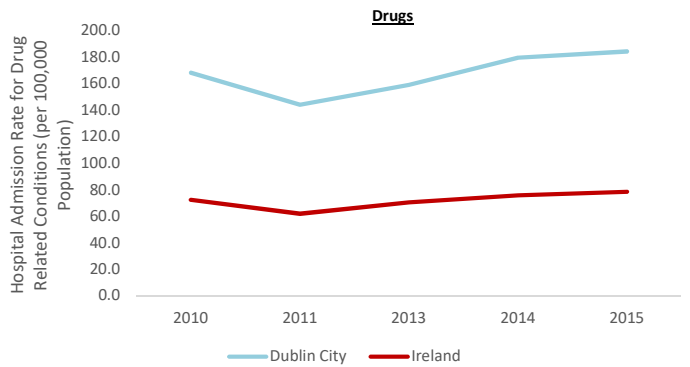
Source: Public Health Well Community Profiles



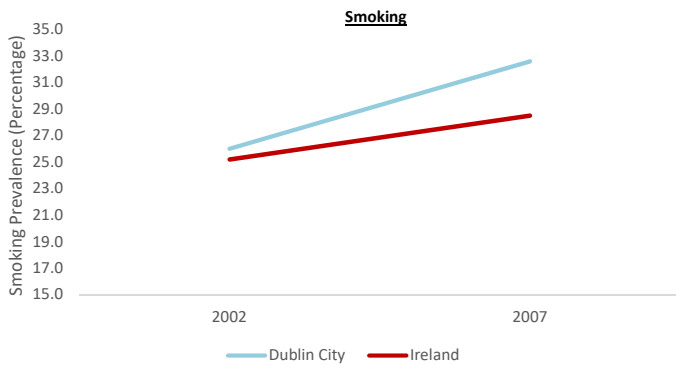
Source: Public Health Well Community Profiles



Source: Public Health Well Community Profiles



Source: Public Health Well Community Profiles



Source: Public Health Well Community Profiles

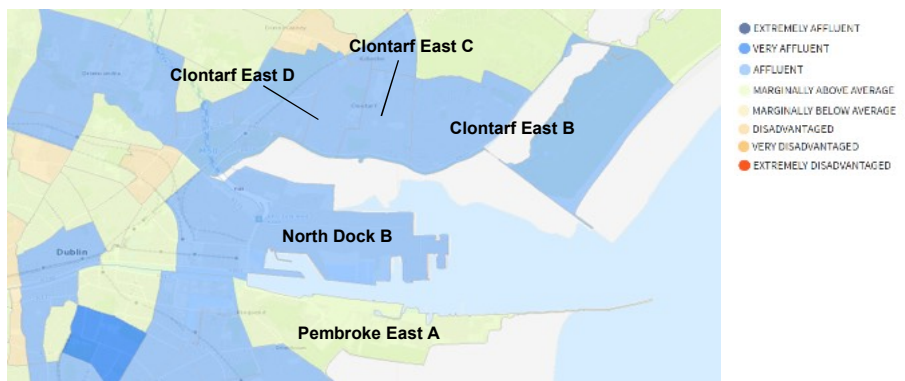
Obesity in Dublin City is consistently lower than the national average; obesity prevalence is increasing, following the national trend. There is no available trend analysis for participation in physical inactivity; however, there is a higher proportion of the population in Dublin City who are physically inactive compared to the national average.

The rate of hospital admissions for alcohol related conditions within Dublin City are similar to the national average, and is increasing following the national trend. The rate of hospital admissions for drug related conditions within Dublin City is higher than the national average and has remained relatively static over the years.

Smoking prevalence within Dublin City increased between 2002 and 2007, following the national trend. Smoking prevalence in Dublin City is higher than the national average.

Deprivation

Deprivation statistics are derived for North Dock B, Pembroke East A, Clontarf East B, Clontarf East C and Clontarf East D EDs using the Pobal All-Ireland HP Deprivation Index (2016). The most recent statistics show that the population living within Clontarf East B, Clontarf East C, Clontarf East D and North Dock B are categorised as “Affluent”, with a relative score ranging between +11 and +13 (where the minimum is -39.9 and the maximum is +40.3). The population living within Pembroke East A are categorised as “Marginally Above Average”, with a relative score of +2. The average score for the study area is +11.



Source: Pobal HP Deprivation Index

Tourism

In total, Ireland welcomed approximately 9 million overseas tourists in 2017 who spent €4.9 billion during their visit. Dublin is the most popular tourist destination within Ireland where in 2017, a total of 5.9 million overseas tourists visited Dublin (over half the nationwide figure), spending approximately €2 billion. Dublin is also Ireland's cruise capital where projections estimate that over 150 cruise ships will dock at Dublin Port during 2018. Ferry operation is also facilitated by Dublin Port. Over 1.7 million passengers travel by ferry through Dublin Port each year which is home to four ferry companies that operate up to thirteen daily sailings, connecting Dublin with Holyhead, Liverpool and Douglas.

Conclusion

Demographic and housing stock statistics show that there are high levels of growth in the North Dock B Electoral Division. There are lower levels of growth in the Pembroke East A and Clontarf East C.

Employment, educational attainment and income levels are all high as Dublin supports a large number of professional occupations. This is reflected within deprivation statistics which show 4 out of the 5 EDs which make up the Port Study Area to be classed as "Affluent". However, housing within Dublin City is unaffordable relative to the national average. Tenure statistics show that there is a high proportion of owner occupied housing and a low proportion of rented housing within the Port Study Area compared to the Dublin City average.


Hospital admissions within Dublin City are generally similar to the national average. All-age all-cause mortality rate, respiratory disease mortality rate and circulatory disease mortality rate are all lower in Dublin City compared to the national average; cancer mortality within Dublin City is more similar to the national trend.

Mental health statistics are mixed; suicide in Dublin City is lower than the national average, however, there is a higher proportion of the population in Dublin City receiving benefits for anxiety or depression.

In terms of lifestyle, while physical inactivity is higher than the national average, obesity is lower. Hospital admissions from alcohol related conditions are similar to the national average, while smoking prevalence and hospital admissions from drug-related conditions are higher than the national average.

APPENDIX 17 WASTE

Appendix 17-1

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Document Reference	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20/04/2017

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Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

PREAMBLE.....	2
1. THE PORT Overview of Port Activities.....	3
2. LEGISLATIVE SUMMARY.....	5
.	
2 a. MAP & Jurisdiction of the PORT.....	19
.	
3. Definition of Wastes.....	20.
4. Section 1 Consultation.....	21
5 ANALYSIS OF NEED FOR WASTE RECEPTION FACILITIES	22
6. THE QUESTIONNAIRE.....	23
7 ANALYSIS OF PRIMARY DATA AND RESULTS	26
8. STUDY OF WASTE HANDLING CHAIN.....	26
9. SECTION II.....	27
10. GIVING EFFECTIVE INFORMATION TO USERS	<u>29</u>
11. DUTY OF CARE/WASTE TRANSFER/WASTE DISPOSAL	<u>29</u>
12. GRIEVANCE PROCEDURE.....	31
13. AUDIT AND REVIEW	32
14. APPENDICES	33
CONTACT DIRECTORY	34
15. Amendment Record Sheet.....	36

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

PREAMBLE

AIMS AND OBJECTIVES

The overall aim of this port waste management plan for Dublin Port Company is to protect the marine environment by reducing discharges into the sea of ship generated waste and cargo residues; to improve the availability and use of reception facilities and strengthen the enforcement regime.

Its objectives are:

- To reduce illegal discharge of waste from vessels
- To fulfil legal duties with regard to waste management
- To consult with users, agents, operators, contractors and regulators in the development and implementation of waste management strategies and measures
- To minimise the production of waste wherever possible
- To re-use or recycle waste wherever possible
- To dispose of waste so as to minimise negative environmental effects

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

1. THE PORT

OVERVIEW OF PORT ACTIVITIES

1.1 Constitution

The Harbours Act 1996 reconstituted Dublin Port as a commercial harbour company operating under company law. Dublin Port Company was established on 3 March 1997 and has 12 directors. The Minister for Communications, Marine and Natural Resources nominates six directors including the Chairman; the Chief Executive is ex-officio a company director; the local authority nominates three of its members as directors; employees of the company nominate two directors.

1.2 Jurisdiction and Conservancy

Under the 1996 Act, the limits of Dublin Port comprise the waters of the River Liffey commencing from and including Matt Talbot Memorial Bridge and extending to an imaginary straight line drawn from the Baily Lighthouse on the north in the County of Dublin and extending through the North Burford Buoy, through the South Burford Buoy, and to Sorrento Point on the south including all bays, creeks, harbours and tidal docks within that area; excluding Dun Laoghaire Harbour and extending 0.3 n. miles into the bay from the pier heads.

The anchorage is exposed particularly to winds from North East through to South East.

The approach is well lighted and of easy access: vessels drawing up to 7m can enter at any state of the tide.

Verification of depths should be obtained from the Harbour Master's Department.

Dublin Port Company is the pilotage authority for the Dublin pilotage district. It also provides towage in the form of two diesel tugs of 55 tonne bollard pull, and a full contracted diving service is available. Eight private companies are licensed by Dublin Port Company to provide stevedoring services within the port.

1.3 Facilities

The lift on/ lift off (lo-lo) traffic accounts for 18% of total tonnage throughput and is handled at two dedicated terminals in the port catering for a range of services between Dublin and the United Kingdom, mainland Europe, and further afield to such locations as Egypt, Lebanon and Israel as well as worldwide trans shipment services. Dublin Ferryport Terminals and Marine Terminals Ltd operate the lo/lo terminals.

The roll on/roll off (RoRo) traffic is serviced by five ferry companies operating up to 18 sailings daily to the UK, connecting Dublin with Heysham, Holyhead, Liverpool, and Douglas (freight and tourism). The operators are Irish Ferries, I.O.M. Steam

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

Packet Company, Seatruck, Merchant Ferries, P&O Irish Sea, Sea Containers Irish Sea and Stena Line.

The port has discharging facilities for oil, bitumen, chemicals, liquid petroleum gases and molasses. A 41 hectare oil zone with storage capacity for 330k tonnes of product (including 6k tonnes LPG) is linked to four oil berths by a common user oil pipeline system, incorporating 36 pipe lines. Facilities are available at the oil jetties for obtaining bunkers from the various oil companies and bunkers may also be obtained at berths by means of road tankers.

Waste oils can be removed on the Western Oil Jetty by arrangement by means of a recently installed waste pipeline.

Dry bulk facilities are provided to cater for the loading and discharging of concentrate, peat, coal, grain, animal feedstuffs, fertilisers and sand.

Break bulk accounts for <1% of total throughput, but includes an area dedicated to the storage of imported trade cars and commercial vehicles.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

2. LEGISLATIVE SUMMARY

- EU Directive 2000/59/EC on port reception facilities for ship-generated wastes and cargo residues [[Directive 2000/59/EC](#)]

The specific requirements of the new Directive are that: -

- All EU ports are to provide adequate reception facilities and to develop waste reception and handling plans (Mandatory Provision).
- All wastes are to be delivered to reception facilities unless there is capacity on board for retention until next port of call (Mandatory Discharge).
- All ships, except recreational craft authorised to carry 12 or fewer passengers or fishing vessels, are required to notify ports in advance of intention to use facilities and quantities of waste on board (Notification Requirement).
- A fee system should be introduced to encourage use of facilities (Charging System).
- There will be a system of monitoring for compliance, plus adequate sanctions for non-compliance; non-compliance data is to be forwarded to the next port of call (Compliance and Monitoring).

- European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) Regulations 2003 [[S.I. No. 117 of 2003](#)]

These Regulations bring the provisions of EU Directive 2000/59/EC into Irish Marine law. They largely follow the formulation of the European legislation. Their interpretative provisions establish the Minister of Communications, Marine and Natural Resources [now the responsibility of the Minister for Transport] as the national competent authority, and the harbour authority in respect of each harbour as the local competent authority.

- European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) (Amendment) Regulations 2009 [[S.I. 376 of 2009](#)]

The purpose of these Regulations is to reduce the discharge of sewage into the sea, especially illegal discharges, from ships using ports in the Community, by improving the availability and use of port reception facilities, thereby enhancing the protection of the marine environment.

- Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements [[Directive 2005/35/EC](#)]

[See commentary for S.I. No. 542 of 2010 below.]

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- Directive 2009/123/EC amending Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements [[Directive 2009/123/EC](#)]

[See commentary for S.I. No. 542 of 2010 below.]

- European Communities (Ship-Source Pollution) Regulations 2010 [[S.I.No. 542 of 2010](#)]

Directive 2005/35/EC on ship-source pollution and on the introduction of penalties, including criminal penalties, for pollution offences, as amended by Directive 2009/123/EC, was transposed into national law by the European Communities (Ship-Source Pollution) Regulations 2010 (542 of 2010). These Regulations provide that any person who intentionally, recklessly or with serious negligence makes illegal discharge of oil or hazardous and noxious substances, from a ship, or who aids, abets, or incites another person to do so, is liable to be held responsible for a criminal offence.

- Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC [[Directive 2002/59/EC](#)]

[See commentary for S.I. No. 573 of 2010 below.]

- Directive 2009/17/EC amending Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system [[Directive 2009/17/EC](#)]

[See commentary for S.I. No. 573 of 2010 below.]

- European Communities (Vessel Traffic Monitoring and Information System) Regulations 2010 [[S.I. No. 573 of 2010](#)]

Directive 2002/59/EC, amended by Directives 2009/17/EC, establishes a Community vessel traffic monitoring and information system for EU shipping and is effective in national law through the European Communities (Vessel Traffic Monitoring and Information System) Regulations (S. I. No. 573 of 2010). The Regulations provide for an extensive amount of regulation of marine vessel traffic other than pollution prevention and response, including the enhancing of safety and efficiency of maritime traffic, improving the response to incidents, accidents or potentially dangerous situations at sea, including search and rescue operations. The Regulations provide additional functions concerning the accommodation of ships in need of assistance for the Director of the Irish Coast Guard.

Each Member State has implemented the VTMISS regulations and must co-operate with any other Member State when required in dealing with threatened or actual pollution.

- Commission Directive 2011/15/EU amending Directive 2002/59/EC of the European Parliament and of the Council establishing a Community vessel traffic monitoring and information system [[Commission Directive 2011/15/EU](#)]

[See commentary for S.I. No. 71 of 2012 below.]

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- European Communities (Vessel Traffic Monitoring and Information System) (Amendment) Regulations 2012 [\[S.I. No. 71 of 2012\]](#)

These Regulations give effect to Commission Directive 2011/15/EU which amends Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system, as well as some other related matters, by amending the European Communities (Vessel Traffic Monitoring and Information System) Regulations 2010 [S.I. No. 573 of 2010].

They provide for the necessary amendments by updating the safety criteria regarding certain oil-tanker products; by substituting a new format in Schedule 3 which deals with voyage data recorder systems; by providing for an extension of the powers of intervention to include assistance, salvage or towage companies in the event of incidents or accidents at sea; by removing an obligation on any company to use *Safe Seas Ireland* or specified electronic means when placing itself at the disposal of the Irish Coast Guard in the event of an incident or accident at sea; and by amending certain minor references in Regulation 16.

- Sea Pollution Act 1991 [\[No. 27 of 1991\]](#)

This Act gives effect to the *International Convention for the Prevention of Pollution from Ships*, adopted on 2 November, 1973, and as amended by its *Protocol* adopted on 17 February, 1978, relating thereto (MARPOL).

MARPOL, to which Ireland is a party, is the International Maritime Organization's (IMO) main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.

IMO is a specialised agency of the United Nations, which has responsibility for the safety and security of shipping and the prevention of marine pollution by ships.

MARPOL has six individual Annexes, each of which contains regulations covering the various sources of ship-generated pollution, i.e., oil (Annex I), noxious liquid substances in bulk (Annex II), harmful substances carried by sea in packaged form (Annex III), sewage (Annex IV), garbage (Annex V), and air pollution from ships (Annex VI).

The 1991 Act also gives effect in the State to the Protocol relating to Intervention on the High Seas in cases of Pollution by Substances other than Oil and enables the Minister to prohibit or regulate the operational discharge of oil or oily mixtures from Irish registered ships anywhere at sea or from other ships in the territorial waters of the State.

It further enables the Minister to require Irish registered ships to be constructed, fitted or operated in such a way as to prevent, control or reduce discharges into the sea or to intervene on a vessel if considered appropriate following a casualty.

- Sea Pollution (Amendment) Act 1999 [\[No. 18 of 1999\]](#)

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

This Act gives effect to the International Convention on Oil Pollution Preparedness Response and Cooperation in the Republic of Ireland. It is concerned with the prevention of pollution and the establishment by harbour authorities of oil pollution emergency plans. In addition it outlines Ministerial responsibilities for preparing contingency plans and acquiring resources to respond to an incident of pollution.

- Sea Pollution (Miscellaneous Provisions) Act, 2006 [[No. 29 of 2006](#)]

This Act amends the two previous Sea Pollution Acts by making provision for, inter alia, hazardous and noxious substances pollution emergency plans to be in place as well as for the making of regulations to give effect to a number of international instruments relating to the protection of the marine environment, agreed at the International Maritime Organization, to be brought into effect, viz:

- The Protocol to the International Convention on Oil Pollution Preparedness, response and Co-Operation 1990 (OPRC);
- The International Convention on the Control of Harmful Anti-Fouling Systems 2001 (AFS Convention);
- The International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (BWM Convention);
- Annex VI as added to MARPOL 73/78 by the Protocol of 1997;
- The International Convention on Civil Liability for Bunker Oil Pollution Damage 2001 (Bunkers Convention), the text of which is attached as a schedule to the Act.

Statutory Instrument(s) giving effect to Annex I of MARPOL

- Sea Pollution (Prevention of Oil Pollution) Regulations 2007 [[S.I. No. 788 of 2007](#)]

The Regulations prohibit and control discharge into the sea of oil and oily mixtures. The Regulations require ships to follow specified procedures when washing cargo tanks. Ballasting arrangements and the discharge of ballast water are also controlled. The Regulations also provide for adequate facilities at ports and terminals for the reception of oil and oily mixtures.

Ships are required to be surveyed for the purposes of the Regulations and to carry an International Pollution Prevention Certificate. Ships are also required to carry an 'Operations and Equipment Manual', an 'Oil Record Book' and a shipboard oil pollution emergency plan approved by the Minister or recognised organisation.

The Regulations apply to all Irish ships wherever they may be and to all other ships when they are in the territorial waters of the State.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2008 [\[S.I. No. 282 of 2008\]](#)

These Regulations provide for amendments to the Sea Pollution (Prevention of Oil Pollution) Regulations 2007 ([S.I. No. 788 of 2007](#)), which give effect to Annex I of MARPOL 73/78. Essentially, they concern an amendment to the definition for 'special area' in S.I 788 of 2007.

- Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2010 [\[S.I. No. 664 of 2010\]](#)

These Regulations give effect to two amendments to Annex I of the MARPOL Convention, on the prevention of pollution by oil from ships, and come into effect on 1 January 2011. Firstly, for ship-to-ship (STS) transfer operations for cargo oil, the Regulations apply to oil tankers of 150 gross tonnage and above and require such ships to maintain an STS Operations Plan and to provide notification of planned and actual STS operations. Secondly, long-standing existing requirements are clarified to facilitate compliance by ships' crews for on board management of oil residue (sludge).

- Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2011 [\[S.I. No. 365 of 2011\]](#)

These Regulations amend the Sea Pollution (Prevention of Oil Pollution) Regulations 2007 ([S.I. No. 788 of 2007](#)) on the prevention of oil pollution from ships.

The purpose of the Regulations is to lay down special requirements with regard to both use and carriage of heavy, and therefore highly polluting, oils for Irish ships while in the Antarctic area, south of latitude 60°S, a designated special area for oil pollution prevention.

Statutory Instrument(s) giving effect to Annex II of MARPOL

- Sea Pollution (Control of Pollution by Noxious Liquid Substances in Bulk) Regulations 2008 [\[S.I. No. 217 of 2008\]](#)

These Regulations apply to all Irish ships wherever they may be and to all other ships when they are in Irish waters.

These Regulations give effect to Annex II of MARPOL 73/78, which concerns the control of pollution by noxious liquid substances in bulk.

Noxious liquid substances are divided into four categories, X, Y, Z, and *Other Substances*, according to the severity of the hazard which they present to human health and the marine environment, Category X presenting the worst hazard and Category *Other Substances* the least. Under the Regulations, discharges into the sea of these substances or mixtures of them are prohibited except when the discharges are made under specified conditions.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

These conditions vary according to the degree of hazard posed to the marine environment. Discharges are prohibited in the Antarctic area.

The Regulations require ships to follow specified procedures when washing cargo tanks in accordance with the category of the substance. They also provide for adequate facilities at ports, terminals or repair ports for the reception of residues or mixtures of noxious liquid substances.

Under the Regulations, ships are required to be surveyed, to carry an International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk, and to be maintained in accordance with that Certificate. Ships are also required to carry a Cargo Record Book in which to record operations involving cargoes of noxious liquid substances.

Statutory Instrument(s) giving effect to Annex III of MARPOL

- Sea Pollution (Harmful Substances in Packaged Form) Regulations 2009 [S.I. No. 491 of 2009]

These Regulations apply to all Irish ships wherever they may be and to all other ships when they are in Irish waters.

These Regulations give effect to Annex III of MARPOL 73/78, which contains general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications for preventing pollution by harmful substances carried by sea in packaged form.

Statutory Instrument(s) giving effect to Annex IV of MARPOL

- Sea Pollution (Prevention of Pollution by Sewage from Ships) Regulations 2006 [S.I. No. 269 of 2006]

The Regulations apply to all Irish ships, wherever they may be, and to all other ships when they are in the territorial seas and inland waters of the State.

The Regulations give effect to Annex IV of MARPOL 73/78, which prohibits and control the disposal of sewage into the sea in accordance with the type of sewage for disposal and the geographical location of the ship. They also provide for the availability of adequate facilities at ports and terminals for the reception of sewage.

- Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) Regulations 2008 [S.I. No. 281 of 2008]

These Regulations further amend S.I. 269 of 2006 by providing for control of sewage originating from spaces on ships containing living animals and for inspection and control of non-Irish MARPOL 73/78 Annex IV ships in Irish ports, which do not have adequate sewage regulation facilities or practice.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) (No.2) Regulations 2008 [[S.I. No. 372 of 2008](#)]

These Regulations amend the Sea Pollution (Prevention of Pollution by Sewage from Ships) Regulations 2006 by providing that existing ships engaged in international voyages must comply, by 27 September, 2008, with the provisions of Annex IV of MARPOL 73/78.

- Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) Regulations 2012 [[S.I. No.492 of 2012](#)]

These Regulations amend the Sea Pollution (Prevention of Pollution by Sewage from Ships) Regulations 2006 ([S.I. No. 269 of 2006](#)) on the prevention of pollution by sewage from ships. The broad purpose of these Regulations is:

- to provide for the establishment of special areas where more stringent criteria apply with regard to the discharge of sewage by passenger ships while in those areas;
- to oblige a harbour authority whose area of remit falls within a special area to provide adequate facilities for the reception of sewage from passenger ships; and
- to establish the Baltic Sea area as a special area with regard to the discharge of sewage from passenger ships.

Statutory Instrument(s) giving effect to Annex V of MARPOL

- Sea Pollution (Prevention of Pollution by Garbage from Ships) Regulations 2012 [[S.I. No. 372 of 2012](#)]

These Regulations give effect to Annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL Convention), adopted by the International Maritime Organisation on 2 November, 1973 and as amended by its Protocol adopted on 17 February, 1978, and as further amended by the Marine Environment Protection Committee (MEPC) of the International Maritime Organisation.

These regulations revoke the Sea Pollution (Prevention of Pollution by Garbage from Ships) Regulations 1994 ([S.I. No. 45 of 1994](#)); the Sea Pollution (Prevention of Pollution by Garbage from Ships) (Amendment) Regulations 1997 ([S.I. No. 516 of 1997](#)); and the Sea Pollution (Prevention of Pollution by Garbage from Ships) (Amendment) Regulations 2006 ([S.I. No. 239 of 2006](#)).

The Regulations apply to all Irish ships wherever they may be and to all other ships when they are in the territorial seas and inland waters of the State.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

The purpose of the Regulations is to prohibit and control the disposal of garbage into the sea in accordance with the type of garbage for disposal and the geographical location of the ship.

They also provide for the availability of adequate facilities at ports and terminals for the reception of garbage.

In addition the Regulations include requirements for certain ships to have Garbage Management Plans and to carry Garbage Record Books.

Statutory Instrument(s) giving effect to Annex VI of MARPOL

- Sea Pollution (Prevention of Air Pollution from Ships) Regulations 2010 [S.I. No. 313 of 2010]

These Regulations give effect to the 2008 revision of Annex VI as added to the International Convention for the Prevention of Pollution from Ships (MARPOL Convention) by its Protocol adopted by the International Maritime Organization on 26 September 1997.

The Regulations, which apply to Irish ships everywhere and to other ships when they are in the inland waters and territorial seas of the State, control emissions from ships with a view to protecting human health and preventing air pollution.

The Regulations provide for improved specification of marine diesel engines in order to reduce the emission of nitrogen oxides; reduction of sulphur content of marine fuels in order to reduce sulphur oxide emissions; and a mechanism for the setting up of Emission Control Areas where shipping is particularly busy or where population may be concentrated near a maritime area, and in which higher standards of emission control are to apply. The Regulations also provide for improved regulation of ozone-depleting substances, volatile organic compounds, shipboard incineration of wastes and cargo residues, and port reception facilities.

Section 29 of the Sea Pollution Act 1991 provides for penalties for breaches of these Regulations.

- Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) Regulations 2011 [S.I. No. 383 of 2011]

These Regulations amend the Sea Pollution (Prevention of Air Pollution from Ships) Regulations 2010 (S.I. No. 313 of 2010) on the prevention of air pollution from ships.

The purpose of these Regulations is to provide for the insertion of the North American Emission Control Area in Regulations 12 and 13 of S.I. 313 of 2011, which deal with emissions of Nitrogen Oxides and Sulphur Oxides respectively.

- Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) (No. 2) Regulations 2011 [S.I. No. 596 of 2011]

These Regulations amend the Sea Pollution (Prevention of Air Pollution from Ships) Regulations 2010 (S.I. No. 313 of 2010) on the prevention of air pollution from ships.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

The purpose of these Regulations is to provide for an amendment to paragraph 2.3 of the form of Supplement to the International Air Pollution Prevention Certificate.

- Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) Regulations 2013 [[S.I. No. 35 of 2013](#)]

These Regulations amend the Sea Pollution (Prevention of Air Pollution from Ships) Regulations 2010 (S.I. No.313 of 2010) on the prevention of air pollution from ships, the broad purpose of which was to give effect to MARPOL Annex VI in Irish law.

The broad purpose of these Regulations is to provide for amendments to MARPOL Annex VI including:

— the addition of a new chapter 4 to MARPOL Annex VI to make mandatory the Energy Efficiency Design Index (EEDI) for new applicable ships, and the Ship Energy Efficiency Management Plan (SEEMP) for all applicable ships;

— the provision of a format for the International Energy Efficiency Certificate (IEE Certificate) which is provided in the new Appendix VIII to MARPOL Annex VI; and

— the designation of certain waters adjacent to the coasts of Puerto Rico (United States) and the Virgin Islands (United States) as Emission Control Areas (ECA) under MARPOL Annex VI Regulation 13 concerning nitrogen oxides (NO_x) and under MARPOL Annex VI Regulation 14 concerning sulphur oxides (SO_x) and particulate matter.

Statutory Instruments giving effect to other relevant IMO legislation

- Sea Pollution (Control of Harmful Anti-fouling Systems on Ships) Regulations 2008 [[S.I. No. 82 of 2008](#)]

These Regulations give effect to the AFS Convention, which prohibits the use of harmful [substances](#) in anti-fouling paints used on ships and establishes a mechanism to prevent the potential future use of other harmful substances in anti-fouling systems

Other relevant legislation

- Waste Management Act 1996 [[No. 10 of 1996](#)]

The Act provides for the prevention, management and control of waste, including the necessity for local authorities to produce waste management plans, the prevention, minimisation, recovery, collection, movement and disposal of hazardous waste, measures to reduce production and promote recovery of waste, and all aspects of licensing.

- Waste Management (Amendment) Act 2001 [[No. 36 of 2001](#)]

This Act was enacted on 17 July 2001 and its primary purpose is to provide a legal mechanism by which the first Regional Waste Management Plans could be made.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

Section 4 of the Act provides that the making of a waste management plan will become an executive (management) function, a change from the Waste Management Act 1996, where the power was a reserved (elected member) function.

The Act also provides for a levy on the landfill of waste, at an initial rate of not more than €19 per tonne.

- Protection of the Environment Act 2003 [\[No. 27 of 2003\]](#)

This Act made a number of amendments to the Waste Management Act 1996, but in relation to the primary purpose of the 2001 Amendment Act (re waste management plans), Section 26 provides that the review, variation or replacement of a waste management plan shall be an executive function.

These three waste management acts are the legislative basis for all waste management issues.

- Diseases of Animals Act 1966 [\[No. 6 of 1966\]](#)

This Act consolidates with amendments the previous enactments relating to diseases of animals and also provides for certain other matters relating to animals.

- Diseases of Animals (Feeding and Use of Swill) Order 1985 [\[S.I. No. 153 of 1985\]](#)

This Order provides for comprehensive control of swill as a protective measure against the introduction or spread of animal disease and to comply with certain provisions of EEC Directive 80/217 on the control of classical swine fever. It provides, in particular, for the registration of swill processing premises, for hygiene and construction standards in processing premises, the hygienic transport of swill and for the prohibition on feeding of unprocessed swill to animals and poultry.

- Diseases of Animals (Feeding and Use of Swill) (Amendment) Order 1987 [\[S.I. No. 133 of 1987\]](#)

This Order strengthened the existing Regulations controlling the movement and use of swill for feeding to livestock. It provided for a more precise definition of "swill" and made it an offence to possess swill if it was not required for legitimate purposes.

- Diseases of Animals Act, 1966 (Prohibition on the Use of Swill) Order, 2001 [\[S.I. No. 597 of 2001\]](#)

This Order prohibits the collection and feeding of swill to certain animals but permits the feeding of certain non-animals products and milk products to animals. It also revokes the Foot-and-Mouth Disease (Prohibition on the Use of Swill) Order, 2001 (S.I. No. 104 of 2001) and the Foot-and-Mouth Disease (Prohibition on the Use of Swill) (Amendment) Order, 2001 (S.I. No. 227 of 2001).

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

The effect of the legislation prohibiting the feeding and use of animal swill is to make the Department of Agriculture, Fisheries & Food (DAFF) responsible for the issue of licences for the disposal of swill/food waste derived from catering waste from ships, etc. The feeding of such waste has always been prohibited. A licence is required to move such swill, and only a licensed operator may remove the swill. Licences are valid for one calendar year and copies are sent to the relevant Portal Veterinary Officer. Licences specify the name of the licensee, the harbour from where the swill is to be removed, and the conditions under which the swill must be removed and disposed of. Deep burial at Environmental Protection Agency-licensed landfill sites is the ONLY disposal route accepted by DAFF.

- Regulation (EC) No 1774/2002 of the European Parliament and of the Council of 3 October 2002 laying down health rules concerning animal by-products not intended for human consumption

This EC Regulation lays down public and animal health rules for the collection, transport, storage, handling, processing and use or disposal of Animal By-Products (ABP) to prevent these products presenting a risk to Animal or Public Health.

- European Communities (Transmissible Spongiform Encephalopathies and Animal By-Products) Regulations 2008 [S.I. No. 252 of 2008]

This S.I. enforces EC Regulation 1774/2002 in Ireland.

- Diseases of Animals Act 1966 (Prohibition On the Use of Swill) (Amendment) Order 2009 [S.I. No. 12 of 2009]

This Order amends Statutory Instrument No. 597/2001 by permitting the collection, assembly, processing and storage of swill at approved composting and biogas plants.

- Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation)

Regulation (EC) No. 1069/2009 supersedes Regulation (EC) No. 1774/2002 and lays down detailed rules for the handling, use and disposal of animal by-products and derived products, processing and transformation standards.

A draft statutory instrument enabling Regulation (EC) No. 1069/2009 is expected to go before the Minister for Agriculture, Food and the Marine for signing in order to give effect to this EC Regulation in Ireland.

- Commission Regulation (EU) No 142/2011 of 25 February 2011 implementing Regulation (EC) No 1069/2009 of the European Parliament and of the Council laying down health rules as regards animal by-products and derived products not intended for human

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

consumption and implementing Council Directive 97/78/EC as regards certain samples and items exempt from veterinary checks at the border under that Directive

This Regulation sets out hygiene conditions and the format for documents which have to accompany consignments of animal by-products and derived products for the purposes of traceability.

European Communities (Waste Directive) Regulations 2011 [\[S.I. No. 126 of 2011\]](#)

These Regulations provide for measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use and transpose Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain directives, referred to in these Regulations as the waste directive. The vast bulk of the waste directive is already transposed by the [Waste Management Act 1996](#) and various regulations made thereunder and where required the Regulations amend the 1996 Waste Management Act, provide for stand-alone aspects not amenable for direct inclusion into the Act by way of specific amendments and also other consequential amendments to regulations affected by the transposition.

LEGISLATION LIST

[This list is not intended to be exhaustive – it is for reference purposes only.]

- [EU Directive 2000/59/EC on port reception facilities for ship generated wastes and cargo residues](#)
- [S.I. No. 117 of 2003: European Communities \(Port Reception Facilities for Ship-Generated Waste and Cargo Residues\) Regulations 2003](#)
- [Directive 2002/84/EC amending the Directives on maritime safety and the prevention of pollution from ships](#)
- [S.I. No. 659 of 2003: European Communities \(Port Reception Facilities for Ship-Generated Waste and Cargo Residues\) \(Amendment\) Regulations 2003](#)
- [Commission Directive 2007/71/EC of 13 December 2007 amending Annex II of Directive 2000/59/EC of the European Parliament and the Council on port reception facilities for ship-generated waste and cargo residues](#)
- [S.I. No. 376 of 2009: European Communities \(Port Reception Facilities for Ship-Generated Waste and Cargo Residues\) \(Amendment\) Regulations 2009](#)
- [Commission Directive \(EU\) 2015/2087 amending Annex II to Directive 2000/59/EC on port reception facilities for ship-generated waste and cargo residues](#)
- [S.I. No. 550 of 2016: European Communities \(Port Reception Facilities for Ship-Generated Waste and Cargo Residues\) \(Amendment\) Regulations 2016](#)

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- [Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements](#)
- Directive 2009/123/EC amending Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements
- S.I. No. 542 of 2010: European Communities (Ship-Source Pollution) Regulations 2010
- Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC
- Directive 2009/17/EC amending Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system
- S.I. No. 573 of 2010: European Communities (Vessel Traffic Monitoring and Information System) Regulations 2010
- Commission Directive 2011/15/EU amending Directive 2002/59/EC of the European Parliament and of the Council establishing a Community vessel traffic monitoring and information system
- S.I. No. 71 of 2012: European Communities (Vessel Traffic Monitoring and Information System) (Amendment) Regulations 2012
- Commission Directive 2014/100/EU amending Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system
- S.I. No. 367 of 2016: European Communities (Vessel Traffic Monitoring and Information System) (Amendment) Regulations 2016
- Directive 2012/33/EU amending Council Directive 1999/32/EC as regards the sulphur content of marine fuels
- S.I. No. 361 of 2015: European Union (Sulphur Content of Marine Fuels) Regulations 2015
- Sea Pollution Act, 1991
- Sea Pollution (Amendment) Act, 1999
- Sea Pollution (Miscellaneous Provisions) Act, 2006

[Statutory Instrument(s) giving effect to MARPOL Annex I]

- S.I. No. 788 of 2007: Sea Pollution (Prevention of Oil Pollution) Regulations 2007
- S.I. No. 282 of 2008: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2008
- S.I. No. 664 of 2010: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2010

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- S.I. No. 365 of 2011: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2011
- S.I. No. 275 of 2014: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2014
- S.I. No. 461 of 2016: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2016
- S.I. No. 578 of 2016: Sea Pollution (Prevention of Oil Pollution) (Amendment) (No. 2) Regulations 2016
- S.I. No. 582 of 2016: Sea Pollution (Prevention of Oil Pollution) (Amendment) (No. 3) Regulations 2016

[Statutory Instrument(s) giving effect to MARPOL Annex II]

- S.I. No. 217 of 2008: Sea Pollution (Control of Pollution by Noxious Liquid Substances in Bulk) Regulations 2008

[Statutory Instrument(s) giving effect to MARPOL Annex III]

- S.I. No. 510 of 2013: Sea Pollution (Harmful Substances in Packaged Form) Regulations 2013
- S.I. No. 459 of 2016: Sea Pollution (Harmful Substances in Packaged Form) (Amendment) Regulations 2016

[Statutory Instrument(s) giving effect to MARPOL Annex IV]

- S.I. No. 269 of 2006: Sea Pollution (Prevention of Pollution by Sewage from Ships) Regulations 2006
- S.I. No. 281 of 2008: Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) Regulations 2008
- S.I. No. 372 of 2008: Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) (No.2) Regulations 2008
- S.I. No. 492 of 2012: Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) Regulations 2012

[Statutory Instrument(s) giving effect to MARPOL Annex V]

- S.I. No. 372 of 2012: Sea Pollution (Prevention of Pollution by Garbage from Ships) Regulations 2012

[Statutory Instrument(s) giving effect to MARPOL Annex VI]

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- S.I. No. 313 of 2010: Sea Pollution (Prevention of Air Pollution from Ships) Regulations 2010
- S.I. No. 383 of 2011: Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) Regulations 2011
- S.I. No. 596 of 2011: Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) (No. 2) Regulations 2011
- S.I. No. 35 of 2013: Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) Regulations 2013

[Statutory Instrument(s) giving effect to other international legislation]

- S.I. No. 82 of 2008: Sea Pollution (Control of Harmful Anti-fouling Systems on Ships) Regulations 2008

[Other legislation]

- Waste Management Act 1996 [No. 10 of 1996]
- Waste Management (Amendment) Act 2001 [No. 36 of 2001]
- Protection of the Environment Act 2003 [No. 27 of 2003]
- Diseases of Animals Act 1966
- S.I. No. 153 of 1985: Diseases of Animals (Feeding and Use of Swill) Order 1985
- S.I. No. 133 of 1987: Diseases of Animals (Feeding and Use of Swill) (Amendment) Order 1987
- S.I. No. 597 of 2001: Diseases of Animals Act, 1966 (Prohibition on the Use of Swill) Order, 2001
- S.I. No. 252 of 2008: European Communities (Transmissible Spongiform Encephalopathies and Animal By-Products) Regulations 2008
- S.I. No. 12 of 2009: Diseases of Animals Act 1966 (Prohibition On the Use of Swill) (Amendment) Order 2009
- Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation)
- Commission Regulation (EU) No 142/2011 of 25 February 2011 implementing Regulation (EC) No 1069/2009 of the European Parliament and of the Council laying down health rules as regards animal by-products and derived products not intended for human consumption and implementing Council Directive

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

97/78/EC as regards certain samples and items exempt from veterinary checks at the border under that Directive

- S.I. No. 126 of 2011: European Communities (Waste Directive) Regulations 2011

2 a. MAP AND DETAILS OF JURISDICTION

The jurisdiction of Dublin Port Company is indicated on the attached map by the area/s coloured in yellow.



.itho 2008 Dublin
Port 12500 2...

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

3. DEFINITION OF WASTES

USE THE DEFINITIONS IN MARPOL 73/78 REGULATIONS

3.1 MARPOL ANNEXES

- **Annex I – Oily Wastes (bilges, sludge, ballast, slops)**

- **Annex II – Noxious Liquid Substances Carried in Bulk (dirty ballast, slops, tank washings)**

- **Annex III – Pollution by Harmful Substances Carried by Sea in Packaged Form**

- **Annex IV – Sewage**

- **Annex V – Garbage**
 - which includes - hazardous waste, food waste, glass, metal, plastics, paper/cardboard, wood, paint tins, batteries

- **Annex VI – Prevention of Air Pollution from Ships**

The categories under consideration at Dublin Port Company are Annexes I, II and V, there being no general requirement for Annex III (such pollution would be dealt with by way of an appropriate response to an isolated incident). Facilities are available at Dublin Port for the discharge of sewage if required.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

4. SECTION I

PROCESS UNDERTAKEN BY DUBLIN PORT COMPANY TO ACHIEVE LEGISLATIVE COMPLIANCE

4.1 CONSULTATION

Purpose

To ensure that the needs of potential users and waste regulators are taken into account when planning and operating port waste reception facilities; to ensure that all mariners are aware of the location, cost and procedures for using the facilities, and also of the consultation arrangements for the future development of adequate facilities within the port.

The port has recently and continues to have on-going consultation both with the national authority and locally with the port users (ships), through their shipping agents or shore representatives.

Objective

Dublin Port Company has taken its obligations seriously and has engaged in a consultation exercise with all links in the waste management chain in order to discuss and explain the implications of the Directive and the Statutory Instrument bringing it into effect nationally. The objective has been to effect an exchange of information and to gain an understanding of the perspective of other parts of the waste management chain in order to devise a flexible and workable system.

To ensure the adequacy of the process, Dublin Port Company has consulted:

- Ships' Masters
- Ships' Agents
- Waste Contractors
- Waste Regulators
- Central Government
- Regional Government

Process

Ships' masters have been consulted as part of the exercise to analyse types and quantities of wastes landed and this information has been obtained by questionnaires issued by Dublin Port Company and through ships' agents. The process is described in the appropriate paragraph below.

Dublin Port Company held a series of consultation meetings during June 2002. A copy of the presentation given at those meetings (supplied to all those attended) and a

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

copy of the Minutes of the meetings) can be viewed on application to the Harbour Master, Dublin Port Company.

5. ANALYSIS OF NEED FOR WASTE RECEPTION FACILITIES

5.1 Purpose

To assemble information to allow the port to assess what facilities should be provided.

5.2 Methodology

Reproduced below is the questionnaire used to gain information in order to analyse types and quantities of wastes landed during March 2002, issued through the ships' agents. The results are analysed *infra*.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

6. THE QUESTIONNAIRE

DUBLIN PORT COMPANY

SURVEY ON MARPOL 73/78 REGULATIONS AND THEIR EFFECTS

To help us improve waste management at this port, we would be grateful if you would answer the following questions and return the form to your agent before departure.

Date:

IMO Number:

I. SHIP CHARACTERISTICS

1 Name:

2 Berth/Wharf visited:

3 Number of days since last port:

4 Number of crew:

5 Number of passengers:

6 **Ship Type:**

- Container ship
- Dry cargo
- Bulker
- Gas tanker
- Oil tanker
- Oil tanker with segregated ballast tank
- RoRo vessel

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

Other (please specify)

II WASTE HANDLING OPERATIONS AND FACILITIES

Annex I – Oily wastes (bilges, sludge, ballast, slops)

7 Give size of on board facilities for storage of oily wastes (cu.m):

8 If you have on board processing facilities please tick:

9 Describe quantities of waste which will be handled in this port (cu.m):

- Dirty ballast
- Slops
- Tank washings
- Bilges
- Sludges
- Other (please specify)

10 If you discharge only to shore facilities please tick:

Annex IV – Sewage

11 Give size of on board facilities for storage of sewage (cu.m):

12 If you have on board treatment facilities, please tick:

13 Describe quantities of waste which will be handled in this port:

.....

.....

.....

.....

Annex V – Garbage

14 Give size of on board facilities for storage of garbage (cu.m):

15 Describe quantities of waste which will be handled in this port (10kg

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

sacks):

- Hazardous waste
- Food waste
- Glass
- Metal
- Plastics
- Paper/cardboard
- Wood
- Paint tins
- Batteries
- Other (please specify)

16 Which of the following do you segregate:

- Hazardous waste
- Food waste
- Glass
- Metal
- Plastics
- Paper/cardboard
- Wood
- Paint tins
- Batteries
- Other (please specify)

17 Do you have any cargo waste to dispose of in this port?

- Dunnage
- Sweepings
- Other (please specify)

18 Which of the following do you have on board?

- Compactor
- Incinerator
- Comminuter
- Grinder

III ADDITIONAL INFORMATION

19 Who makes arrangement for shore facilities and disposal of waste?

- Ships personnel
- Terminal operator
- Agent
- Company representative
- Port

20 How do you rate the cost of disposal in this port?

- High
- Low

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

21 How do rate reception facilities in this port?

Annex I

- Excellent
- Good
- Average
- Poor

Annex V

- Excellent
- Good
- Average
- Poor

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

7. ANALYSIS OF PRIMARY DATA AND RESULTS

7.1 Limitations and constraints

In a sample conducted over one month period (March 2002) 54 returns were received.

7.2 Research Methodology

The questionnaire derived from past research and amended to suit Dublin Port Company. It sought basic information about the vessel and numbers of people. Questions were asked about the segregation of waste types and any provision for on-board storage and treatment facilities. Additional information as to how facilities were rated for efficiency and cost was ascertained.

7.3 Statistical Analysis

The data received was analysed to ascertain total oily wastes and garbage discharges for 54 ships. The quantity for one ship could therefore be calculated and multiplied by monthly/annual vessel total.

7.4 Results

10 ships out of the 54 discharged oily wastes. The sample size therefore discharged 1436 cu m oily wastes. 1 ship can be estimated to discharge 26.59 cu m (average).

By the same method, the average garbage discharge per vessel was calculated as 14 kg.

7.5 Credibility

It is impossible to comment whether the garbage figure is accurate or not. European research data suggests using a waste factor of 1.5kg of garbage per person per day. However, data has been received showing tonnes of garbage collected from ships 2000-2001 (477 tonnes) and January - October 2002 (80 tonnes). It is the view of Dublin Port Company that the amount will rise with the increase in visits by cruise liners and that 500 tonnes per annum is not an unreasonable assumption. The current figures represent wastes received from cruise liners and navy vessels: no Ro-Ro or Lo-Lo vessels have discharged.

8. STUDY OF WASTE HANDLING CHAIN

In the course of the consultation exercise, Dublin Port Company had discussions with Greenclean, Ipodec, Department of Agriculture, Department of Communications, Marine and Natural Resources, Dublin City Council, and Fingal County Council.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

9. SECTION II THE PORT WASTE MANAGEMENT SYSTEM

PROCEDURES FOR THE USE OF THE PORT WASTE RECEPTION FACILITIES AT DUBLIN PORT COMPANY

9.1 Mandatory Provision

Dublin Port intends to make available the following system of port reception facilities for ship generated waste

9.2 Mandatory Discharge

All vessels **MUST** discharge ship-generated waste before leaving Dublin Port **unless** it can be demonstrated that either storage space for such waste is sufficient, **or** the vessel has applied for and has been granted an exemption, thereby meeting the 3 criteria as outlined in Section 9.3

If retaining waste on board, a legitimate reason for not using the port reception facilities must be given, (such as having sufficient storage space on board). In such circumstance, the Master must apply (using the appropriate form), for the retention of "ship generated" waste on board. This completed form to be sent to the Harbour Master, Dublin Port Company via the Ship's Agent, or directly if no ship's agent has been appointed.

Failure to do so may result in detention in port until waste has been discharged. If there is reason to believe that there is a risk of waste being discharged into the sea because adequate facilities are not available at the next port of call; or if that port of call is unknown, these will also be grounds for detention.

9.3 Definition of an Exempt Ship

Ships that meet the 3 criteria indicated below, may apply for an exemption from the port waste management system. Applications for exemptions must be made to Dublin Port Company and be approved by the Minister prior to an exemption being granted. There are three grounds for the granting of an exemption and they must **ALL** be satisfied:

SCHEDULED traffic operating along a regular route
Evidence of DELIVERY in one port along the route
Evidence of PAYMENT in one port along the route

9.4 Notification Requirement

The following information is required from **ALL** vessels prior to arrival:

- Name/call sign/IMO number

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

- Flag state
- ETA/ETD
- Previous/next port of call
- Last port and date when ship generated waste was delivered
- Whether delivering all/some/none of ship generated waste into facilities
- Type and amount of waste to be delivered/stored on board plus maximum storage capacity
- The unit of measurement is cu m/kg

9.5 Notification Mechanism

The checklist is to be completed by the Master and submitted to Dublin Port Company via the ship's agent 24 hours prior to arrival. Transmission should preferably be by electronic means (e mail or fax). Dublin Port Company will retain ALL notification records for 3 years in order to comply with the audit requirements of SI 117 of 2003. Failure to submit a checklist MAY result in delay in entry. It is to be noted that this will be called a SCHEDULE 2 WASTE CHECKLIST to avoid confusion with the convention that Schedule 2 checklist refers to hazardous cargo.

9.6 Records

The Harbour Master, or his nominated Deputy to be supplied copies of all records, as supplied by the waste removal contractors via the relevant Ship's Agent. Records to be held centrally and be available for auditing, or statistical gathering purposes. Statistics relating to the volume/weight of the waste to be compiled from the data supplied by the Ship's Agent, on a 6 monthly basis.

9.7 Charging System

Dublin Port Company does not provide the waste removal services directly, and accordingly has no control over the charges involved. These charges are levied by the licensed contractors (who are approved by the local authority), and will vary dependant on the type and quantity of waste involved. Dublin Port Company are satisfied that adequate waste reception facilities are available within the port.

9.8 Fees

Any cost to Dublin Port Company in the form of a waste management administration cost to be included in the Port Charges. As this charge, forms a minor proportion of the Port Charges, it is not envisaged at this stage to specifically itemise this charge, but the port may elect to do so in the future in light of developments that may occur.

9.9 Pricing

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

A list of prices, relating to the provision of waste management services, is readily available to the ship, from the waste removal contractors, through the Ship's Agent. The receipts for the service to be supplied by both the contractor and by the local authority, and such receipts to be held by the relevant Ships Agent, for a period of a minimum of 3 years.

9.10 Waste Oil

An approved waste oil removal contractor to be engaged, and the waste oil to be removed to an approved recycling facility. Records to be kept by both the contractor and the Ship's Agent and the Ship's Agent to hold such records for a minimum period of 3 years.

10. GIVING EFFECTIVE INFORMATION TO USERS

10.1 Purpose

To ensure that all vessels are aware of the services and procedures for within the port.

10.2 System

Twenty four hours (24hrs) prior to arrival the vessel will be instructed by the agent to complete the Schedule 2 (Waste) checklist.

The system will be publicised through the agents and all parts of the waste management chain will have copies of this plan and an accompanying Contact Directory (with an amendment and update procedure).

11. DUTY OF CARE/WASTE TRANSFER/WASTE DISPOSAL

11.1 System

Reception and storage are the key elements to the successful management of port waste reception facilities.

It is intended that oily wastes (MARPOL Annexes I), will be collected by an authorised contractor licensed to collect and dispose of such material. The charge raised for the service is dependent on the charge, which the contractor makes for this service.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

It is of fundamental importance that all ship-generated waste be dealt with as outlined in this waste management plan.

11.2 Waste Disposal

There will be 3 lockable skips for galley waste in the Port, two will be located in the common user area and the third will be located in the oil jetty.

Two of these will be satellite skips, of the wheelie bin type and each with a capacity of 1200 litres approx. One will be located at the western end of Alexandra Quay West i.e. Berth 29 whilst the second will be located on Jetty Road servicing the oil berths.

The third lockable skip of 14 cubic metre capacity is the hub and will be located at Ocean Pier adjacent to the No. 2 Ramp, Berth 38. All skip locations are covered by the Port security CCTV system and are reasonably close to all berths.

Dublin Port Company will maintain a current up to date permit for Landers of Swill/ Galley waste.

11.3 Process

If a ship requires to dispose of galley waste in the common user area the ships agent will contact Port Operations (8876858) giving a minimum two hours notice. Port Operations will then advise Port Security for the common user area or in the case of the oil jetty the Fire Warden.

Port Security / Fire Warden will meet ship personnel at the designated skip and ship staff will then double wrap the waste with an identifiable outer bag supplied by the Port and then place the waste bags in the skip. Note all bags must be double wrapped with the designated identity bag on the outside (the outer bags are biodegradable). Port staff are responsible for maintaining the units locked at all times.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

Port Staff will issue two dockets to the ship indicating the number of bags deposited and their identity reference (the second copy is supplied for the benefit of the ship's agent). This docket will also note both the ships and the agent's name. A copy will be retained in the Port Operations station for collection by the waste contractor on a weekly basis and the final copy will be maintained for waste management records that may be audited at any stage e.g. by the Department of Agriculture (DOA).

Operating to a documented standard operating procedure (SOP) the waste contractor will inspect the satellite bins weekly and remove the bags to the compactor. The waste contractor will maintain a log sheet 'Galley Waste Contractor Variance Report Log' as per attached as evidence of no variance between actual and recorded amounts. As required the compactor will be removed inline with the permit/licence conditions for deep burial.

The main contractor must ensure compliance with appropriate regulatory requirements. This would include the requirement to hold a mover licence from the DOA, an advance permit per skip from Dublin City Council, a commercial document to remove each skip with Category 1 waste and a burial document. A full up to date record must be maintained at all times ready for any third party independent audit. These procedures must be documented in the galley waste SOP.

11.4 Charges

It is intended that this process should be self-financing. Therefore initially there will be a minimum €50 charge for up to 5 bags, greater than this number and bags will be charged at €10 each, up to a maximum of 10 bags. Waste in excess of 10 bags will require the ship to order its own skip and control their own waste management. The Waste Contractor will bill the Ships agent directly for this service.

This system will be continuously monitored to ensure that it meets best waste management practices.

If this process is acceptable the Port waste management plan will be updated and the Harbour Master will issue a 'Notice to Mariners' advising them of this new procedure.

11.5 Pre-treatment of ships Waste

In relation to the pre-treatment of Ship's Waste by the port, there is currently no waste pre-treatment equipment in the port.

11.6 Cargo Residues

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

Cargo residues, in terms of cargo waste, to be treated in the same manner as others ships waste.

12. GRIEVANCE PROCEDURE

12.1 Reporting Alleged Inadequacies

The Master of any vessel using a facility within Dublin Port is obliged to report any inadequacies or non-availability of shore reception facilities to Dublin Port Company before leaving the port.

The appropriate form will be supplied to the ship through its agent within the port.

There is to be regular and ongoing consultation between the port and the Ship's Agents in relation to waste management issues and the waste management plan.

12.2 Grievance Procedures

Under Article 12 (f) of the Waste Management Directive 2000/59/EC, any report or complaint of alleged inadequacy of waste reception facilities to be reported to the Harbour Master of Dublin Port Company, who then forwards such complaints to the Maritime Safety and Environment Division of the Department of Communications, Marine and Natural Resources.

See appendices for a copy of the Report or Complaint of Alleged Inadequacy of Waste Reception Facilities Form.

13. AUDIT AND REVIEW

13.1 Purpose

To ensure that port waste management facilities are relevant and are up to date, and that plans are implemented effectively.

13.2 Compliance and Monitoring

The Harbour Master is the designated responsible person for Dublin Port Company nominated to implement the Dublin Port Company Ship's Waste Management and to keep it up to date and relevant. He may carry out spot checks on vessels likely not to meet the requirements as set out in the regulations. Spot checks can be undertaken on vessels deemed unlikely to use facilities as outlined in this plan.

Additionally, there will be an inspection of a fixed proportion of vessels (25%) by the relevant Port State Control authority. Vessel logbooks of all waste generated during a voyage, plus disposal data, will form part of the inspection.

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

APPENDICES

DEPARTMENT OF COMMUNICATIONS, MARINE & NATURAL RESOURCES MARINE NOTICE NO. 18 OF 2003

DIRECTIVE 2000/59/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 27TH NOVEMBER 2000

Form for reporting Alleged Inadequacy of Port Reception Facilities for Garbage and Oil

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

CONTACT DIRECTORY

Users, contractors, regulators, Government agencies

NAME	ADDRESS	PHONE NO.
Feargal O'Cuinnegain	Dept. of Agriculture, Food & the Marine Kildare Street, Dublin 2.	01 8658248/9 01 8741250 01 6076228
Eithne Gore or Siobhan Kelly. Maritime Transport Division, Dept. of Transport, Leeson Lane, Dublin2	Dept. of Transport Tourism & Sport. Leeson Lane, Dublin 2.	Eithne Gore at (01) 6783422, or Siobhan Kelly at (01) 6783461, or shipsourcepollutionprevention@dtas.ie
Frank Murphy Pat Cartney Vivian Aherne	Dublin City Council, Environmental Section, Eblana House 68-70 Marrowbone Lane Dublin 1	01 2224374 012224235 012224276
	Environmental Protection Agency, Mc Cumiskey House, Richview, Clonskeagh Road, Dublin 14.	053-9160600 1890335599 01-2680100 Emergency Numbers Dublin Inspectorate 01-2852122
Mr. P.J. Howell Director of Services for the Environment	Fingal County Council, Environmental Section, Main Street, Swords, Co. Dublin.	01 8905000 or 01 8906261

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

	Enva (Waste Oil), JKF Industrial Estate, Naas Road, Dublin 10	01-4508111
	Thorntons Recycling Centre, Killeen Road, Dublin 10	01- 6235133
	Greyhound Waste Disposal Ltd., Head Office, Craig Ave., Clondalkin Indus. Estate, Dublin 22.	01- 4577777 option 2
Mr. Leo Stafford	Panda, Beauparc Business Park, Navan, Co. Meath.	01-8438855 086-2772083 046 9024111 1890 626262
	Greenstar Customer Services Centre, Millenium Park, Ballycoolin Road, Dublin 11	1890 500 800 1890 600 900
Dublin City Council Emergency Phone Number		01 6796186

Document Number	SOP-DPC-ENV-053	Revision	0
Title	DUBLIN PORT SHIP'S WASTE MANAGEMENT PLAN	Issue Date	20 April 2017

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Amendment record sheet

(Amendments are shown in Italics)

Amendment Number	Date	Amended by	Pages amended
0001	15 th May 2008	Capt. F .Britton	Number 21
0002	22 nd March 2010	Capt. F .Britton	18.19.20.21, 22 & 23
0003	29 th Nov 2011	Capt. F. Britton	23
0004	16 th May 2013	Capt. F. Britton	Pages 5 -15 & 20 & 32
0005	May 2014	Capt. F. Britton	Sections on Red & Blue
0006	January 2017	Capt. F. Britton	Waste Oil facility on Western Oil Jetty for Tankers page 4 Contact Sheets pages 35 & 36. Legislative Summery pages 15 -18. Index page updated

APPENDIX 17 WASTE

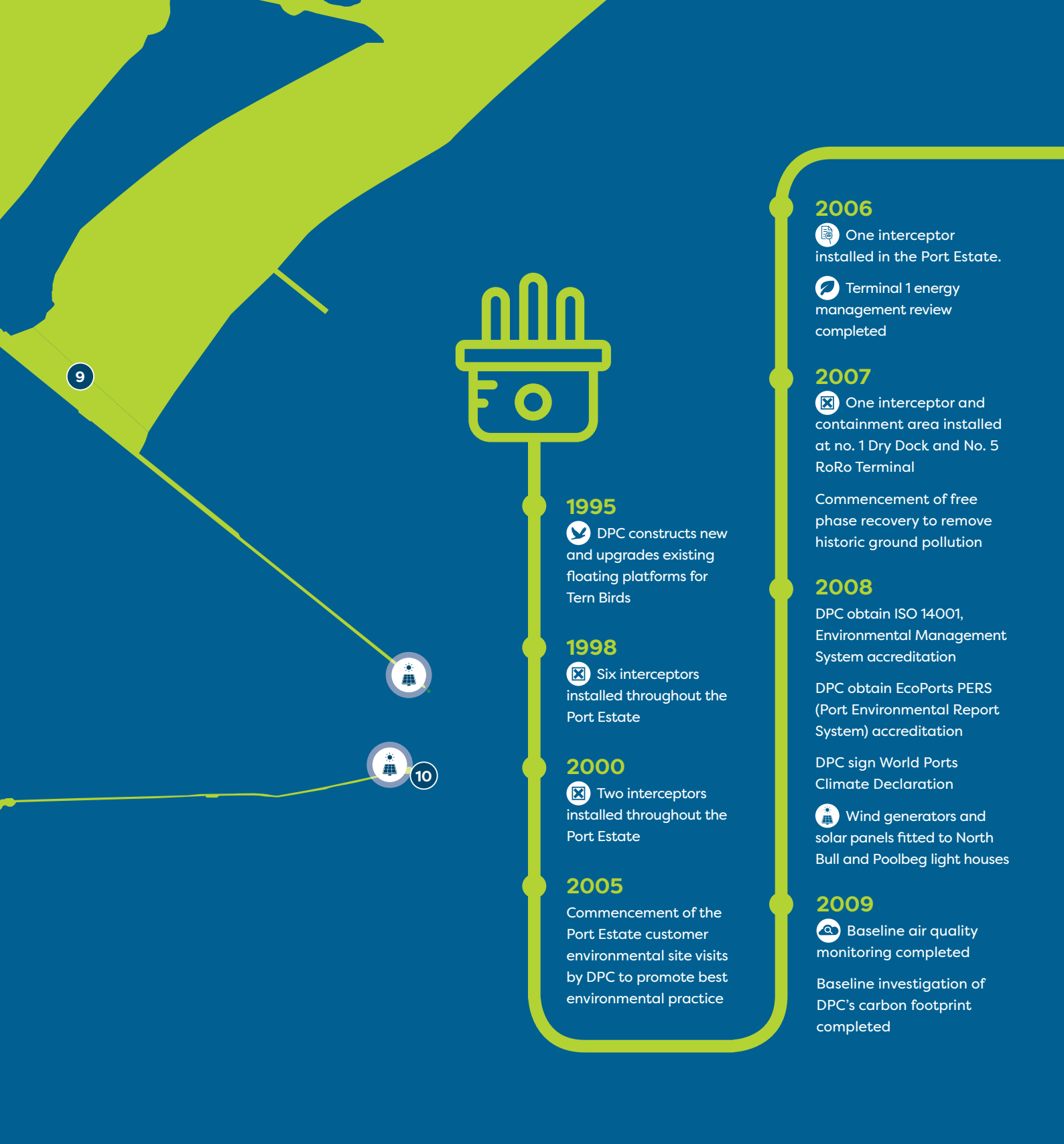
Appendix 17-2

Mapping towards our Greener Port

Sustainability Report 2017



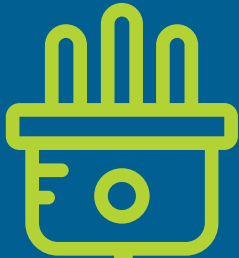
COMHLACHT CHALAFORT
ÁTHA CLIATH
DUBLIN PORT COMPANY



9




10




1995

 DPC constructs new and upgrades existing floating platforms for Tern Birds

1998

 Six interceptors installed throughout the Port Estate



2000

 Two interceptors installed throughout the Port Estate


2005

Commencement of the Port Estate customer environmental site visits by DPC to promote best environmental practice

2006

-  One interceptor installed in the Port Estate.
-  Terminal 1 energy management review completed


2007

-  One interceptor and containment area installed at no. 1 Dry Dock and No. 5 RoRo Terminal
- Commencement of free phase recovery to remove historic ground pollution

2008

- DPC obtain ISO 14001, Environmental Management System accreditation
- DPC obtain EcoPorts PERS (Port Environmental Report System) accreditation
- DPC sign World Ports Climate Declaration
-  Wind generators and solar panels fitted to North Bull and Poolbeg light houses

2009

-  Baseline air quality monitoring completed
- Baseline investigation of DPC's carbon footprint completed



3 Stoney Blocks



4 North Wall Quay Light House



5 Port Centre



6 Graving Dock and Pumphouse

2010



Implementation of a Noise and Weather monitoring programme



One year trial of electrical vans in M&S commenced



Terminal 1 energy project completed on Ramps, Marshaling areas and internal lighting

Oil recovery wells installed to facilitate free phase recovery.

2011

Baseline air quality monitoring completed



Composite water samplers installed for random sampling of surface water.

DPC were finalists in the National SEAI Sustainable Energy Awards



Experimental LED lighting installed on Tolka Quay Road

2012

IZER management system installed to identify water leakages in our infrastructure



One Interceptor installed



Building Management System installed in Port Centre



11Kw wind turbine installed in Terminal 1

2013

Feasibility study on the installation of ship to shore energy completed



DPC create a new floating platform for Tern Birds in the Tolka Estuary



Port Centre Building Management System reduces energy consumption by 204,000 kWh



DPC and Bird Watch Ireland (BWI) launch the Dublin Bay Birds Project.

2014

Memorandum of Understanding signed between Dublin Bay Biosphere Partnership and DPC

DPC and SEAI sign a joint energy efficiency agreement to achieve 33% energy efficiency savings

Launch of the first DPC Sustainability Report

Commencement of continued air quality monitoring in Dublin Port

2015

Continuation of the air quality monitoring programme in Dublin Port Estate

Dublin Bay Biosphere UNESCO designation

Energy Efficient, LED, High Mast Lighting installed throughout Dublin Port Estate

Continuation of the DPC and BWI Dublin Bay Birds monitoring project

2016

DPC obtains ISO 50001 (Energy Management System) accreditation



Installation of Solar Panels on the Maintenance and Services Building



Installation of DPC "Green Screens" in passenger Terminals

DPC achieves it's highest recycling rate of 98%



Continuation of the DPC and BWI Dublin Bay Birds monitoring project

2017

OHSAS 18001 Certification

4 Year air quality monitoring programme framework awarded August 2017



Continuation of the DPC and BWI Dublin Bay Birds monitoring project



7 Seafarers' Centre



8 Odiums Silo



9 Bull Island



10 Poolbeg Lighthouse

DPC strives to operate Dublin Port to the highest feasible environmental standards.

DPC has an important and long standing commitment, firstly, to mitigate the negative environmental effects of Port operations and, secondly, to contribute to improving the environment. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their needs. For this reason DPC are committed to ensuring the monitoring and minimization of our environmental impact.

Contents

Foreword by the CEO	04
About Dublin Port Company	06
Shipping Routes	08
Key Events	10
Environment	22
Safety	38
Social	46
Economics	54
Key Figures	60
Initiatives	62
Glossary of Terms	66

What Sustainability, the Environment and Corporate Social Responsibility mean to DPC:



Sustainability to Dublin Port means ensuring that the Port can exist and operate at a rate which meets present human needs and demands and can expand to meet future needs while preserving the environment and remediating environmental problems of the past to enable the existence and operation of the Port to continue into the future. DPC together with our stakeholders' participation, including port users, work towards ensuring a sustainable port constructed on sustainable operations, activities and developments.



In keeping with the Sustainable Development Goals officially known as Transforming our World: the 2030 Agenda for Sustainable Development; Dublin Port Company and the Sustainable Energy Authority of Ireland (SEAI) signed a joint energy efficiency agreement in 2014. As a member of the Public Sector Energy Partnership Programme, the agreement means that Dublin Port Company and SEAI will work in partnership to achieve a target of 33% energy efficiency savings and improvements by 2020. DPC also obtained certification for ISO 50001 the international Energy Management Standard in December 2016.



DPC's Corporate Social Responsibility activities allow us to integrate social and environmental concerns into our business operations. DPC is committed to not only considering the environment, but also the anthropogenic impact of the environment, ecology and preservation of the environment. Integration of the Port with Dublin City is one of our main objectives.

Foreword by the CEO

Far right:
Eamonn O'Reilly -
Chief Executive

Sustainability Report number five.

2017 was another record year for the Port with a cargo throughput of 36.4 million gross tonnes and a passenger throughput of two million.

In accommodating these large and growing throughput levels, we are committed to achieving high standards of environmental management. This is reflected in the Company's certification to the EcoPorts Ports Environmental Review System (PERS) standard and to the ISO 14001 Environmental Management standard. These certifications were initially achieved in 2008 and the company was most recently recertified to both standards, in 2018.

In addition, DPC obtained certification to ISO 50001, the International Energy Management Standard, in December 2016.

DPC has committed, in Masterplan 2040 Reviewed 2018, to developing a Natural Capital Policy for Dublin Port as an additional means for the Company to achieve sustainability.

Eamonn O'Reilly
Chief Executive

*Dublin Port
Company has
committed to
developing a
Natural Capital
Policy for Dublin
Port as an
additional means
for the Company
to achieve
sustainability*



01

About Dublin Port Company



2017 Highlights



OHSAS 18001

Obtained Certification for OHSAS 18001, Safety Management System accreditation

ISO 14001 & ISO 50001

Successful Surveillance audits for ISO 14001, Environmental Management System, and ISO 50001 in 2017 with Certification Europe



16.5%

increase in Cruise Visits



95%

recycling rate in 2017



1.8%

increase in number of ferry passengers

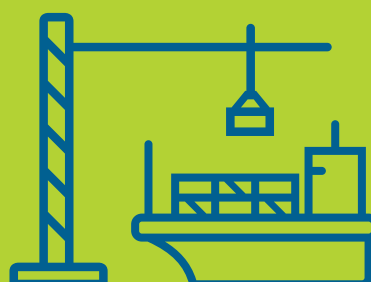
4.7%

increase in company turnover



3.9%

increase in Imports



4.9%

increase in Exports

Shipping Routes

- 
- Argentina
 - Belgium
 - Brazil
 - Canada
 - Denmark
 - Finland
 - France
 - Germany
 - Greece
 - Iceland
 - Indonesia
 - Ireland
 - Isle of Man
 - Italy
 - Latvia
 - Netherlands
 - Norway
 - Portugal
 - Romania
 - Russia
 - South Africa
 - Spain
 - Sweden
 - UK
 - USA
 - Vietnam



02

Key Events



Key Events

Project Overview 2017

Right:
Cross Berth Quay
Wall Construction



Cross Berth Quay Wall Construction – Berths 26 to 28

Cross Berth Quay (CBQ) is the 1st Phase of the Alexandra Basin Redevelopment and consists of the construction of new quay walls with two new bankseats.

The project works consisted of:

The general maintenance of the surface of the internal roads network and of the quayside areas used for operations.

- 1 The construction of 165m of new quay walls utilising the “Combi Pile Wall” system, comprising 1420mm diameter tubular steel piles driven to - 28.8mOD with interlocking double AZ18 sheet piles. The Combi Pile Wall is connected via 95mm diameter steel tie rods to an “Anchor Wall” comprising 750mm diameter Continuous Flight Augered (CFA) cast in situ concrete piles installed to a depth of -9.0mOD.
- 2 The construction of 2 no. bankseats for new Ramp 7 and relocation of existing Ramp 8.
- 3 The construction of reinforced concrete coping beam and facing panels with Marine Fittings including 1,500Kn Cast Iron T-head Bollards and Galvanised Steel Ladders, Safety Equipment and fixings for Cylindrical Type Fenders.
- 4 Construction of Tidal Lag and Surface Water Drainage Systems.

Start & Finish Date:

Site Works commenced in October 2016. Project completed in September 2017 by Roadbridge/ L&M Keating JV.

Cross Berth Quay Slab (Berths 26 & 27)

Cross Berth Quay (CBQ) is the 1st Phase of the Alexandra Basin Redevelopment and consists slab works.

The project works consisted of:

- 1 The construction of a new reinforced concrete apron slab covering an area of approx. 5,445m² to tie into the recently constructed Berth 26/27 Combi Wall and Cope Beam. The works will allow access/egress from the Berth 26/27 bankseats.
- 2 Construction of surface water drainage and new watermain infrastructure as well as utility services for future electrical and comms works.

Start & Finish Date:

Site works commenced in September 2017 and were completed by Roadbridge/ L&M Keating JV in December 2017.

Berth 28 Quay Wall and Slab

Berth 28 is a new berth located on Alexandra Quay West (AQW) and consists of a new Quay Wall and suspended slab works.

The project works consisted of:

- 1 The construction of 120m of new quay walls utilising the “Combi Pile Wall” system, comprising 1420mm diameter tubular steel piles driven to - 31.76mOD with interlocking double AZ18 sheet piles.
- 2 Combi Pile Wall connected via Reinforced Concrete Deck Slab on 1200mm diameter Continuous Flight Augered (CFA) cast in situ concrete piles to an “Anchor Wall” comprising 900mm diameter CFA cast in situ concrete piles.
- 3 Construction of Tidal Lag and Surface Water Drainage Systems.
- 4 The construction of reinforced concrete coping beam and facing panels.
- 5 Provision of Marine Fittings including 1,500Kn Cast Iron T-head Bollards, Galvanised Steel Ladders, Safety Equipment and 2m dia. x 4m long Trelleborg foam filled SeaGuard Fenders.
- 6 Installation for future Utility Services (Power/ Comms/ Water).

Start & Finish Date:

Site works commenced in March 2017 and were completed by Roadbridge/ L&M Keating JV in January 2018.

Key Events

Project Overview
2017 (Continued)

Above:
Alexandra Quay
West & Ocean Pier

Far Right:
Ocean Pier
Demolition Works

Alexandra Quay West & Ocean Pier (Partial Berths 31/32)

Ocean Pier (Berths 31/32) consists of the partial construction of new quay walls (88m in total at Berth 31 and Berth 32 interface) with a new bankseat to each berth.

The project works consisted of:

The installation of a new Quay Wall utilising the combi wall system and tie back anchor wall including new pavement slab.

- 1 The construction of 88m of new quay walls utilising the “Combi Pile Wall” system, comprising 1420mm diameter tubular steel piles driven to – 30mOD toe level with interlocking double AZ18 sheet piles driven to a toe level of -18.5m. The Combi Pile Wall is connected via M105 x 30m steel tie rods to an “Anchor Wall” comprising 908mm diameter tubular steel piles driven to a depth of -13.0mODm.
- 2 The construction of 2 no. bankseats (1 no. on Berth 31 and 1 no. on Berth 32) for new Linkspan no. 6. New Linkspan no. 6 was designed to be interchangeable on both Bankseats (i.e. berth 32 and 32).
- 3 The construction of reinforced concrete coping beam and facing panels with Marine Fittings and Furniture including Cast Iron T-head Bollards and Galvanised Steel Ladders and Safety Equipment.

- 4 Construction of Tidal Lag and Surface Water Drainage Systems.
- 5 Design construction and installation of utility services for power, lighting, comms, fibre network and water system.

Start & Finish Date:

Site works commenced on the March 2017 and works were completed on the 16th October 2017.

New Linkspan Ramps - New Linkspan no. 06

New Linkspan number 06 was installed at Berth 31/32. It was designed to be interchangeable between berths 31 and 32.

The project works consisted of:

The scoping, design, procurement, manufacture, supply, installation and Lloyd’s certification of an integral type linkspan.

Start & Finish Date:

Contract placed for works 22nd February 2017 works completed 2nd November 2017.



Ocean Pier Demolition Works

The Ocean Pier demolition works was completed to facilitate the Ocean Pier new quay wall and pavement slab construction.

The project works consisted of the demolition of:

- 1 Existing Substation.
- 2 Ocean Pier Toilet Block.
- 3 Bord na Mona accommodation.
- 4 The works also consisted of the diversion of utility services, power, comms, fibre network and water system.

Start & Finish Date:

Works commenced in March 2017 and completed July 2017.

Bord na Mona Alternative Loading Arrangements Rubbshed Modifications

The Rubbshed Modifications were completed to facilitate the relocation of Bord na Mona from the current accommodation on Ocean Pier west, Berth 34 to the Rubbshed, located adjacent Berth 36 & 37.

The project works consisted of:

The general maintenance of the surface of the internal roads network and of the quayside areas used for operations.

- 1 Design, procurement, manufacture and installation of 4.5m high x 1.0m wide precast L-blocks around the internal perimeter of the Rubbshed facility.
- 2 Electrical and Mechanical upgrade works to include: Power, lighting, fire system, plant room and all associated fittings including signage.
- 3 The installation of Plant Room for fire fighting system.

Start & Finish Date:

Site works Commenced in May 2017 and works were completed in July 2017.

Key Events

Project Overview
2017 (Continued)**Demolition - Lead in Jetty**

The demolition of the Lead in Jetty will facilitate the use of CBQ as a RoRo facility.

The project works consist of:

Demolition and removal of Lead in Jetty.

Start & Finish Date:

Phase 1 works commenced in March 2017 and were completed by Roadbridge / L&M Keating JV in May 2017.

Phase 2 works commenced in April 2017 with planned completion in line with T4 / Revetment Removal to be completed in September 2018.

Removal of Legacy Soil Berth 52-53

The removal of Legacy Soils (circa 18,600 m³) at Berth 52-53 was to facilitate future ABR works on the site.

The project works consisted of:

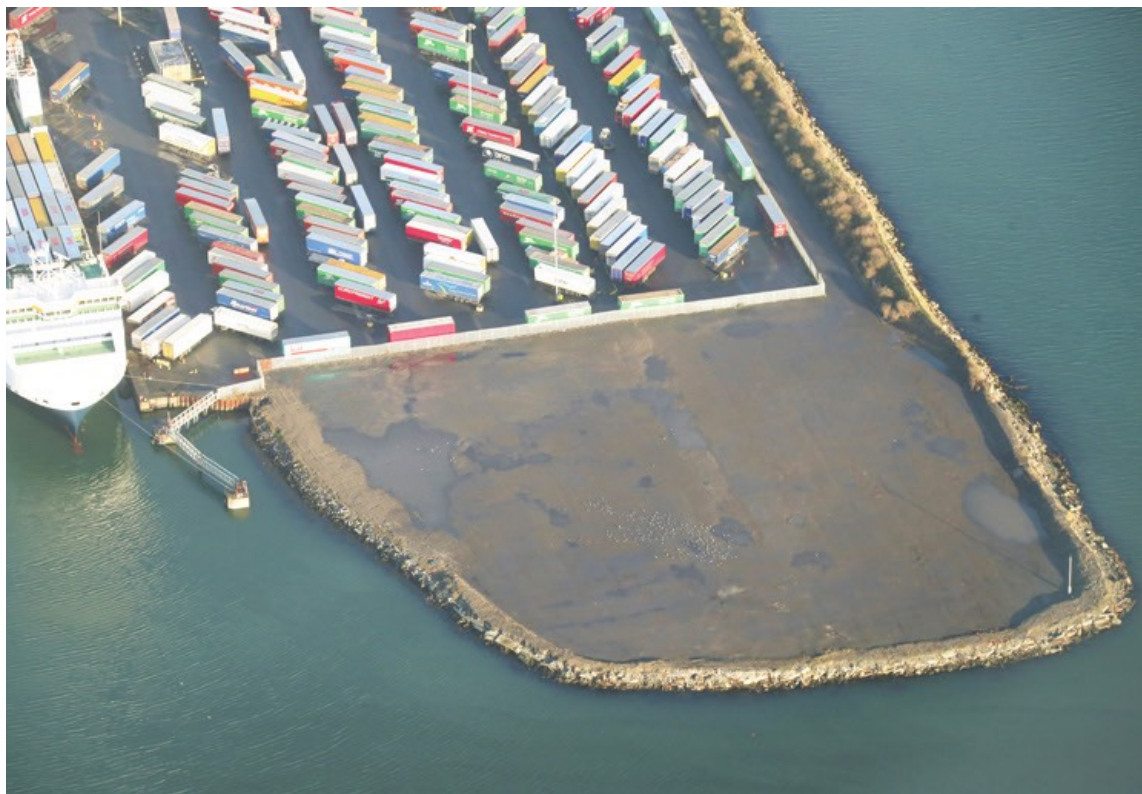
The testing, analysis and procurement of a quality contractor for the safe removal and disposal of 18,600m³ of legacy soil material.

- 1 Treatment of the stockpiles to remove weeds.
- 2 Separating the asbestos from the stockpiles to reduce category value.
- 3 Re-test the stockpiles.
- 4 Removing the material offsite via trucks or vessel depending on test results.

Start & Finish Date:

Site Works commenced in June 2017 and works completed in November 2017.

Right:
Removal of Legacy
Soil Berth



Key Events

Project Overview
2017 (Continued)

Right:
Widening of Tolka Quay Road



Widening of Tolka Quay Road

The purpose of the scheme is to allow safe and sufficient road width for two HGVs travelling side by side.

The project works consisted of:

- 1 The widening of the existing outbound carriageway of Tolka Quay Road, to maintain a constant road width of 7.3m from the edge of the existing concrete barrier to the proposed new bottom of kerb opposite road side.
- 2 Additional speed ramps were constructed as part of the resurfacing of the existing carriageway.
- 3 The associated works include site clearance, pavement works, kerbing, drainage, structure demolition, temporary traffic management, landscaping and other ancillary works.

Start & Finish Date:

Works Commenced in March 2017 completed in June 2017.

Internal Road Upgrade Site Investigations

Site Investigation Works were completed to identify the ground conditions which will aid in the Internal Roads project going forward.

The project works consisted of:

- 1 Slit trench investigations; Shell and auger or cable percussion boreholes, samplings and in situ testing; Trial pits, sampling and testing; Slit trenches to determine the location of existing utilities.
- 2 Detailed boreholes and coring, and logs as described in IS EN14688-1; IS EN1489-1; and BS5930 and the Specification.
- 3 Monitoring of ground water levels in standpipes and piezometers; Chemical Analysis and contaminant testing; Laboratory testing of soil samples for engineering properties, behaviour and stability.
- 4 Preparation of detailed Main Factual Report as per BS5930 and the Specification, together with the production of Digital Data to AGS Version 3 (1999) Format as per S1.21.10 and cl.16.5; Provision of temporary traffic management.

Start & Finish Date:

Works Commenced in May 2017 completed in December 2017.

Key Events

Project Overview
2017 (Continued)

Stack C & Associated Demolitions

The demolition works was completed to facilitate future development works at Dublin Port for Terminal 4.

The project works consisted of the demolition of:

- 1 Stack C.
- 2 Alumina Chemicals.
- 3 Graving Dock no. 02 Toilet block.
- 4 Graving Dock no. 02 Workshop.
- 5 Portacabins and associated vegetation.
- 6 The works also consisted of the diversion of utility services, power, comms, fibre network and water services.

Start & Finish Date:

Works commenced in March 2017 and completed June 2017.

Northern Boundary Site A

Construction of an Architectural designed entrance to DPC lands at Dublin Airport Logistics Park. These lands, know as Dublin Inland Port, will be developed to facilitate the growth of the Dublin Port Estate.

The project works consisted of:

The northern boundary project of the Dublin Inland Port was to secure the site and establish an entrance. Works involved an architecturally designed entrance with planting and container sculpture structure along with hedging to the northern section along and a 3m high fence. The works also included a section of road with automated gates to form the entrance. Included in the works was a temporary building which will act as a satellite office for DPC to assist for stakeholder visits.

Start & Finish Date:

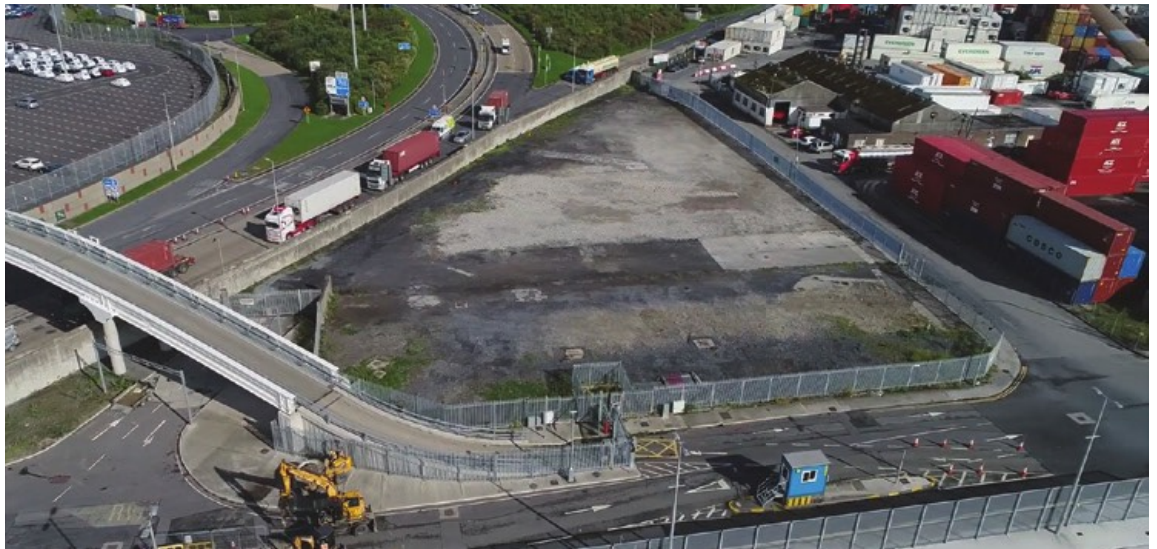
Construction commenced in March 2017 and finished in August 2017.

Top:
Stack C & Associated Demolitions

Bottom Right:
Dublin Inland Port

Bottom Left:
Dublin Inland Port

Opposite Page:
Dublin Inland Port





Key Events

New Appointments 2017

Left:
Mark Nathan –
Deputy Security
Manager



Centre:
Sarah Horgan –
Project Manager



Right:
Derek Wray –
Cost Manager



Left:
Denise Carney –
Credit Control /
Finance



Centre:
Niall Hassett –
Marine Operative



Right:
Noel Phair –
Tug Master



Left:
Kenneth Hayes –
Project Co-Ordinator



Centre:
Laura Kearns –
H&S Specialist



Right:
Maurice Mahon –
Pilot



Right:
NISO Award
Collection

Opposite Page:
OHSAS 18001
Certification



NISO Awards 2017

Dublin Port Company were awarded Distinction Awards for their Health and Safety Practices at the NISO All Ireland Occupational Safety Awards 2017.

L-R: John Thompson – Vice Chair Northern Ireland Safety Group; Seán Kyne T.D., Minister for Community Development, Natural Resources and Digital Development; Bernadette Brazil, DPC EHS & Risk Manager; Harry Galvin, NISO President



CERTIFICATION EUROPE™



This is to certify that the
**Occupational Health & Safety Management
System**

Of

Dublin Port Company

At

Port Centre, Alexandra Road, Dublin 1, Ireland

Has been assessed by Certification Europe and deemed to comply with the requirements of

OHSAS 18001:2007

This certificate is valid for the activities specified below:

All DPC operations and activities.


Certification of Registration remains the property of Certification Europe Ltd.
The validity of this Certificate is maintained on the condition that the Management System is assessed through an on-going surveillance programme and continues to adequately meet the requirements of the standard.
To verify this certificate validity please contact us at info@certificationeurope.com

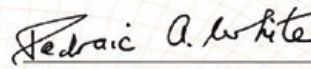
Date of Initial Certification: 27th July 2017

This Certificate is valid until: 26th July 2020

Chief Executive: Michael Brophy

Chairman: Padraic A. White

Signature: 

Signature: 

Client Registration No.: 2017/2540
Certificate Reference No.: A/1

Date of certificate issue: 27th July 2017



Key Events

Long Service Awards

Right:

Stephen Minto and Eamonn O'Reilly, 40 Years Long Service Award

**Left:**

John Moore and Eamonn O'Reilly, 40 Years Long Service Award

**Right:**

Gerry Barry and Eamonn O'Reilly, 40 Years Long Service Award

**Right:**

Barry McGlynn and Eamonn O'Reilly, 25 Years Long Service Award



Social Media

At Dublin Port Company we take great measures to incorporate the comments and opinions of staff, customers, and the Community.

Since the launch of Dublin Port Company on social media in June 2013, we have grown a follower base of over 20k fans who actively engage with us on a regular basis.

to our stakeholders and the general public through our social media channels posting varying topics of interest from leisure activities, cruise ship arrivals, community events and commercial facts relevant to our business which have been warmly welcomed and has helped integrate Dublin Port with the city.

We have worked to disseminate relevant information



Timeline of Events

Dublin Port has a very unique and indeed varied story to tell. Social media is a necessary communication tool which provides a platform for all stakeholders to engage. Our huge following demonstrates the interest that Dublin Port stimulates, while acknowledging the success achieved over this past 3 years since our launch.



03

Environment

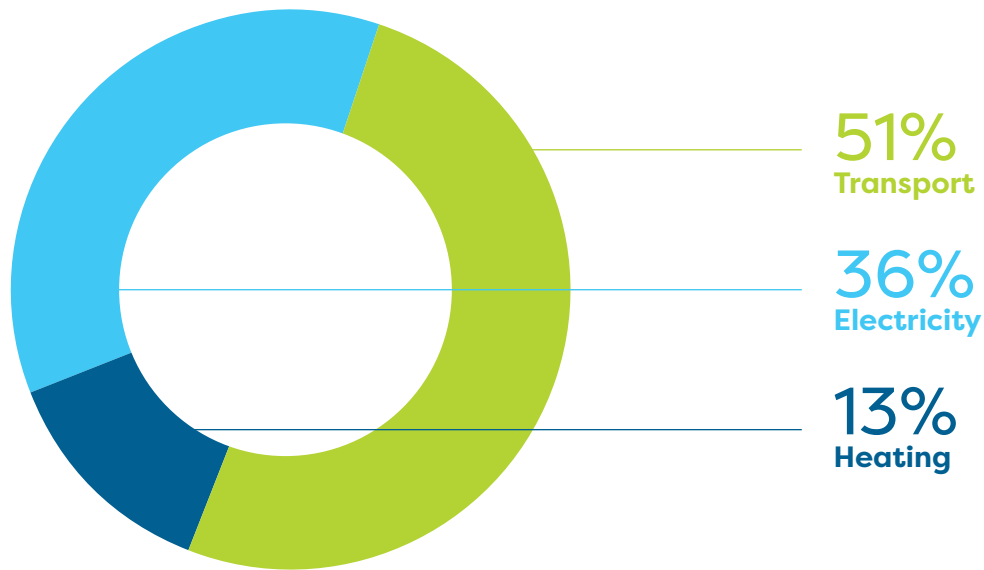


Energy 2017

Dublin Port Company's Total Final Energy consumption was excess of 17GWh in 2017. A decrease of 1GWh from 2016.

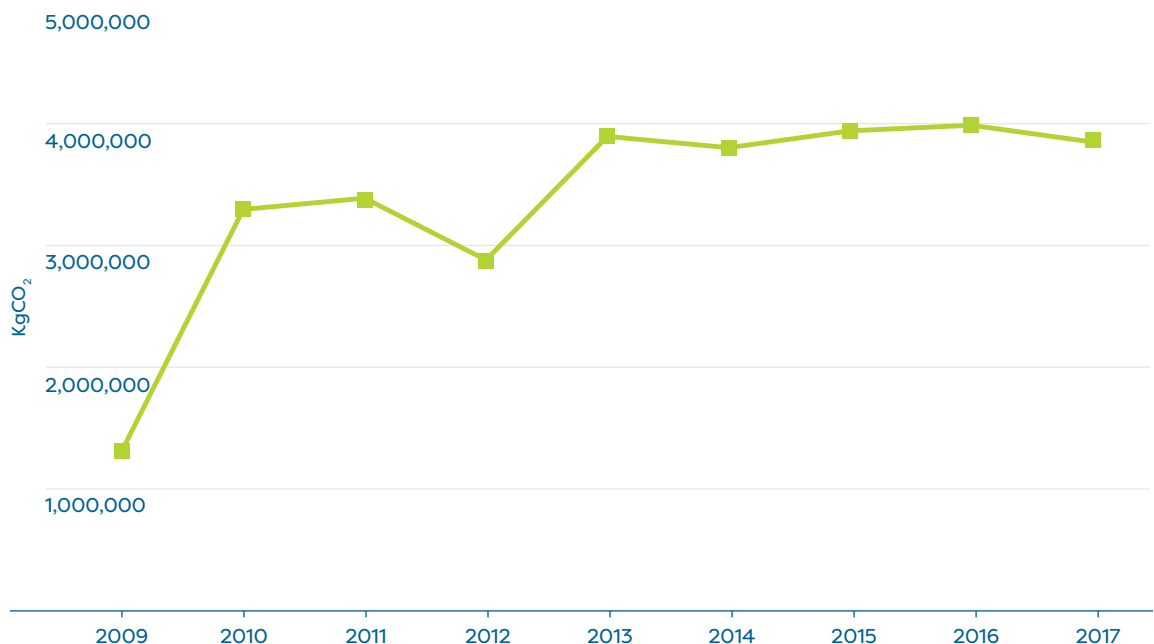
*Right:
Dublin Port's energy
consumption*

Dublin Port's energy consumption



When we talk in terms of total final energy (TPER), we mean all energy consumed. This includes all electricity, marine gas oil for fuelling our marine craft, thermal oil and gas for our space heating requirements as well as diesels and petrol to keep our vehicles on the road.

DPC CO₂ Consumption



Environment **Energy 2017** (continued)

Dublin Port's energy consumption is enough to power 3,400 average homes in Ireland and results in 3886 tonnes of CO₂ emissions per annum.

Our energy consumption comprises of 36% electricity, 51% transport fuels for vessels and vehicles, 13% for space heating.

Dublin Port Company and Sustainable Energy Authority of Ireland (SEAI) signed a joint energy efficiency agreement in 2012. As a member of the Public Sector Energy Partnership Programme, the agreement means that Dublin Port Company and SEAI will work in partnership to achieve a target of 33% energy efficiency improvements by 2020. The third National Energy Efficiency Action Plan (NEEAP 3) reaffirmed Ireland's commitment to delivering a 20% reduction in energy demand across the whole of the economy by 2020, along with a 33% reduction in public sector energy use. Each NEEAP outlines the energy efficiency measures that

will be implemented to reach the national energy saving targets as well as the progress towards this target. NEEAPs also include information on the exemplary role of the public sector and on provision of information and advice to final customers.

Under the Public Sector goals, Dublin Port is obliged to achieve a 33% energy efficiency improvement by 2020 relative to its baseline year of 2009. As the activities of the port grow or contract, energy use will rise or fall. As a result, our main ('Level 1') Energy Performance Indicator is energy use (TPER) per tonne of volume throughout, and our challenge is to achieve a 33% improvement in this.

As of December 2017, DPC has achieved a 24.3% improvement in energy performance. In order to meet the 2020 target of a 33% energy efficiency improvement DPC needs to achieve a 4.3% improvement each year, between 2018 and 2020 across its major energy consumers.

DPC Carbon Emissions (Unit: kgCO₂)

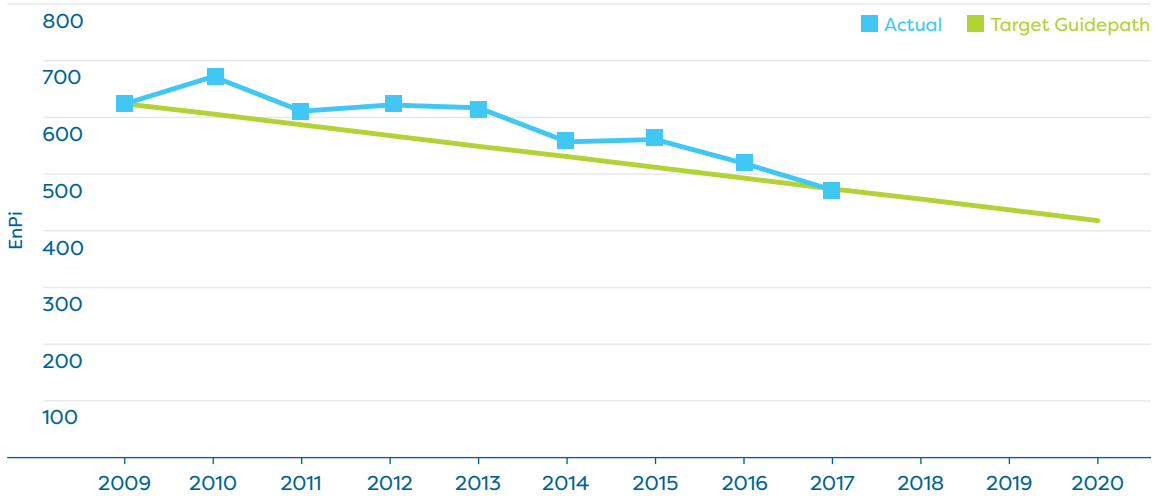
Energy Category	Energy Type	2009	2010	2011	2012	2013	2014	2015	2016	2017	Baseline
Electricity	Net Electricity Imports (MPRN data)	2,102,799	2,307,258	2,043,602	2,240,653	2,054,071	1,844,931	1,872,920	1,794,544	1,397,810	2,102,799
	Onsite Generation by Non-Fuel Renewables or Landfill Gas	0	0	0	0	0	0	0	0	0	0
		694,018	668,036	766,900	714,897	621,058	520,807	565,116	546,738	507,180	694,018
Gas		59,397	73,474	60,001	78,544	166,798	139,377	148,797	155,313	129,780	59,397
	Natural Gas (GPRN data)	59,397	73,474	60,001	78,544	166,798	139,377	148,797	155,313	129,780	59,397
Heating Oils		634,621	594,562	706,898	636,353	454,260	381,430	416,319	391,425	377,400	634,621
	Kerosene	20,286	21,444	20,192	10,096	20,192	20,253	21,454	31,813	36,962	20,286
	Gasoil	614,336	573,118	686,706	626,257	434,068	361,177	394,865	359,612	340,438	614,336
		1,165,528	1,598,035	1,204,948	1,252,975	1,540,946	1,647,625	1,899,373	1,848,132	1,981,262	1,165,528
Transport Fuels (Mineral Oil Fuels)		1,165,528	1,598,035	1,204,948	1,252,975	1,540,946	1,647,625	1,899,373	1,848,132	1,981,262	1,165,528
	Marked Diesel (non-thermal)	1,063,416	1,511,163	1,114,680	1,164,307	1,450,310	1,551,917	1,790,932	1,738,380	1,868,221	1,063,416
Transport Biofuels		0	0	0	0	0	0	0	0	0	0
		3,962,345	4,573,328	4,015,450	4,208,525	4,216,076	4,013,364	4,337,410	4,189,414	3,886,252	3,962,345

Environment **Energy 2017**
(continued)

DPC's Energy Performance





$$\text{EnPI} = \frac{\text{Total annual kWh}}{\text{Total annual throughput}} \times \frac{1000}{1} = \frac{17,204,369\text{kWh}}{36,422,017\text{T}} \times \frac{1000}{1} = 472\text{kTonne}$$


EnPi Vs Year



The above graph shows Dublin Port Company`s glide path to the national 2020 energy targets, in 2017 the consumption of total primary energy was 472 kWh used per 1000 Ton of Throughput indicating an improvement of 45kWh per 1000 Ton, our target for 2020 is 418kWh per 1000 Ton of Throughput.

Energy Performance Indicators 2017

 24.3% Improvement in our Energy efficiency since 2009	 4.1% Increase in Energy Consumption from 2016
 8.7% better than 2016	 0.4% better than our 2017 target guide path

 **Electricity**
 181 $\frac{\text{kWh}}{1000 \text{ Tons}}$
 20% better than 2016

 **Thermal**
 64 $\frac{\text{kWh}}{1000 \text{ Tons}}$
 9% better than 2016

 **Transport**
 227 $\frac{\text{kWh}}{1000 \text{ Tons}}$
 2.9% worse than 2016


Environment **Energy 2017 (continued)**

Dublin Port Company's commitment to energy efficiency and reduction of CO₂ Emissions was underlined at the highest level when Chief Executive Eamonn O'Reilly, signed off on the 2016 Energy Policy that states:

"Dublin Port is committed to improving its energy performance in order to minimise energy costs, minimise the environmental impact of energy consumption by its facilities and services, and make a contribution toward the attainment of national energy efficiency and renewable energy targets." The company's introduction in 2016 of a new Energy

Right:
Dublin Port Company
Energy Policy

Far Right:
ISO 50001
Certificate




Energy Policy

The principal activities of Dublin Port Company (DPC) are to facilitate the efficient flow of goods and passengers through the port. The company provides the infrastructure, facilities, services and hard standing areas to meet with the needs of their customers and to allow the transfer of goods and passengers between sea and land.

"Dublin Port is committed to improving its energy performance in order to minimise energy costs, minimise the environmental impact of energy consumption by its facilities and services, and make a contribution toward the attainment of national energy efficiency and renewable energy targets."

As part of this policy, we aim to:

1. Comply with all relevant energy legislation and other requirements, such as national targets.
2. Promote energy efficiency and renewable energy best practice in the planning, design and implementation of projects.
3. Identify and invest in energy efficiency projects where they meet our capital investment criteria.
4. Promote energy management best practice through the implementation of ISO50001. We will seek to continually improve our energy management practices.
5. Promote the procurement of energy efficient products and services including, where appropriate, taking account of life-cycle costs in the evaluation of energy consuming equipment.
6. Raise staff awareness of energy issues and the environmental effects of DPC's activities through communication and training.
7. Establishing objectives and measurable targets against which improvements in energy performance will be monitored.
8. Review annually our energy policy and progress toward our energy targets, and consider the need for any amendment in the light of changing circumstances.
9. Publish an annual Energy Report
10. Ensure the availability of necessary financial and human resources to implement this policy.

Signature:  Date: 30/1/2018

Eamonn O'Reilly, Chief Executive Officer



CERTIFICATION EUROPE™

COPY
ORIGINAL
DIGITAL
COPY
ORIGINAL
DIGITAL
COPY
ORIGINAL
DIGITAL
COPY

This is to certify that the

Energy Management System

Of

Dublin Port Company

At

Port Centre, Alexandra Road, Dublin 1, Ireland

Has been assessed by Certification Europe and deemed to comply with the requirements of

ISO 50001:2011

This certificate is valid for the activities specified below:

Energy used by all facilities and vessels owned or directly operated within the port estate.

Certification of Registration remains the property of Certification Europe Ltd.
The validity of this Certificate is maintained on the condition that the Management System is assessed through an on-going surveillance programme and continues to adequately meet the requirements of the standard.
To verify this certificate validity please contact us at info@certificationeurope.com

Date of initial certification: 23rd February 2017

This certificate is valid until: 22nd February 2020

Chief Executive: Michael Brophy

Chairman: Padraic A. White

Signature:

Signature:

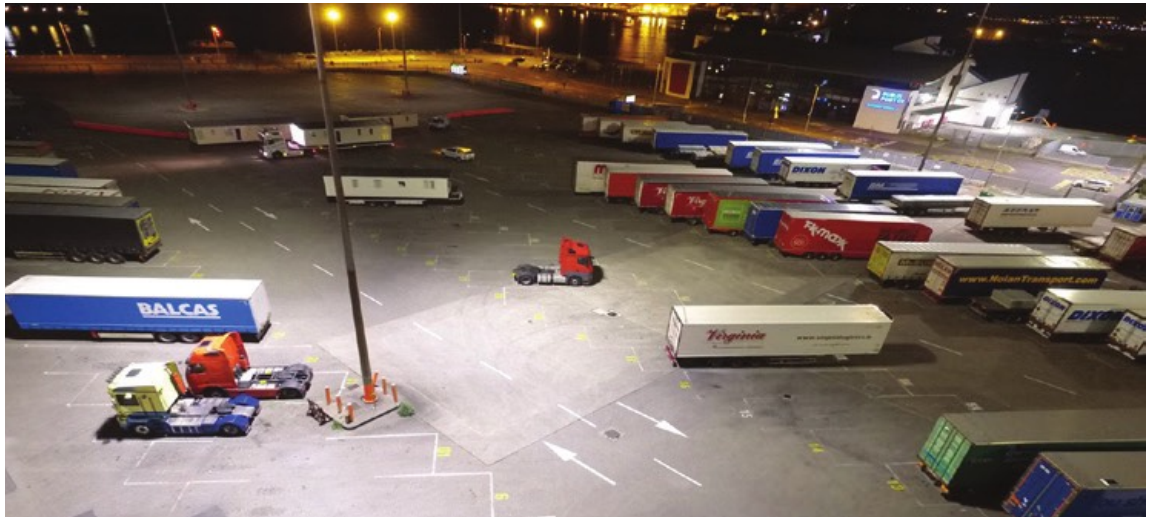
Client Registration No.: 2017/2471
Certificate Reference No.: A/1

Date of Certificate issue: 23rd February 2017



Environment **Energy 2017
(continued)**

Right:
T1 overhead shot of
new lighting



Management system and certification to ISO50001 is further evidence of the significant resources which have been allocated to help achieve the 2020 energy efficiency targets set by Government.

Our energy efficiency programme has seen much investigation into energy efficiency improvement projects as well as renewable energy projects.

In 2017 an investment of approximately €550,000 was made between Energy efficiency and renewable energy projects. 346 antiquated high mast lights were upgraded and 28Kw of solar PV was commissioned in the Maintenance and services building, these two projects alone reduced Dublin Ports electricity consumption by approximately

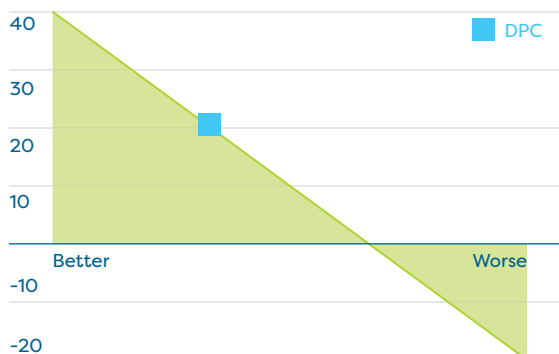
600,000 kWh saving approximately €70,000 in electricity costs per year and 320 Tonnes of CO₂.

Our Energy management programme in conjunction with ISO50001 drives use to manage energy as efficiently as possible, focusing on our heavy energy users being our buildings and marine craft.

We set energy metrics and report monthly on our performance. These reports and data that we collect and analyse allows us to benchmark Dublin Port Company`s performance against other Public bodies in the Transport ,Tourism and Sport industry.

Any energy-related queries should be directed to Energyteam@dublinport.ie

DPC Savings Among Transport, Tourism and Sport



→ **10th**
best performer (out of 20)

↑ **48.0%**
Above 48 percentile performance

Air Quality Monitoring 2017

Dublin Port Company undertook a programme of baseline air monitoring throughout the Port area and its environs in 2009, 2011, 2014/2015, 2016 and 2017.

The monitoring carried out during these time periods indicated that levels of SO₂ were in compliance with the legislative limit values for SO₂. There were breaches in the limit values for NO₂ found at a number of the monitoring stations over different monitoring events. In terms of Total dispositional dust, there were also a number of breaches in the nuisance limits value for total depositional dust. The monitoring levels of PM_{10/2.5} were found to be compliance with legislative limit values.

In May 2017, DPC tendered a four year Air Quality monitoring programme. The tender was awarded and the four year programme commenced in August 2017, highlighting the company's commitment to identifying any potential Air Quality issues and addressing where possible. Further detailed monitoring is planned for 2019 in order to identify the sources, in particular in areas of concern.

A total of eighteen individual monitoring locations (A1 to A18) are located across the port estate area, and its environs, in order to monitor ambient air concentrations of Nitrogen dioxide and Sulphur dioxide. These locations were established during the 2014/2015 monitoring program and data collected over the next

four years will facilitate comparison between the data sets in terms of improvement / declines in ambient air quality within the port and its environs. A total of seven individual monitoring locations (A1, A2, A3, A8, A9, A12, A13, A15, A16, A17 and A18) were chosen from the stated locations for the monitoring of BTEX and Ammonia. This monitoring commenced in 2017.

A total of four locations were chosen for Bergerhoff total dust deposition monitoring (D1 to D4) while a further two locations were chosen for PM₁₀ and PM_{2.5} monitoring (D5 and D6).

In accordance with *Schedule 3* of the AQS (Air Quality Standards) Regulations which refers to the required location of sampling points for the measurement of classical air pollutants, diffusion tubes were placed at least 25m from the edge of major junctions and no more than 10m from the kerbside for roadside monitoring. A combination of roadside, berth side and background sites were selected to gain an understanding of the existing concentrations within the Port as well as to identify any concentrations which may be found above the legislative limits.

Locations of the air quality monitors are shown below:

Right:
Monitoring locations in the Port Estate and its environs



Environment **Air Quality
Monitoring 2017
(continued)**



2016 Vs 2017

NO₂ monitoring data

Comparison between Year 2017 and Year 2016 demonstrates an increase in the average monitoring data for average NO₂ concentrations across the monitoring stations.

When compared with monitoring Year 2014/2015, there is a net overall improvement.

SO₂ monitoring data

Monitoring data collected during Year 2017 indicates all stations were similar in nature across the monitoring area when compared to Years 2014/2015 and Year 2016. Eleven monitoring stations were lower for SO₂ concentrations in comparison to Year 2016, while seven monitoring stations were higher. When Year 2017 is compared against Year 2014/2015, fourteen locations were lower while four locations were higher. All monitoring stations were substantially lower than the statutory limit value of 20 µg/m³, with the highest value recorded only 29.37% of the maximum limit value.

Dublin Bay Birds Project



In 2017 BirdWatch Ireland made some exciting new scientific discoveries about the birds that use Dublin Bay surrounding Dublin Port.

Using satellite tags sponsored by DPC and the **Sustainable Energy Authority of Ireland (SEAI)** the project team were able to track the exact movements of 14 wading birds – Oystercatchers, Redshanks and Curlews. The birds often use different parts of the bay at night when human disturbance is absent. Some also commute regularly between the tidal area of Dublin Bay and a variety of parks, sports pitches and other amenity grasslands. But they return to roost in the Bay at night for safety.

This year was also a very successful year for the tern colony that breeds in Dublin Port. The pontoons created by DPC especially for these migrant seabirds held large numbers of nesting birds and the breeding success was good showing that the fish that they catch in the Bay were plentiful in 2017. In addition, the ESB rebuilt the concrete structure that the terns have used for decades at Poolbeg and this also had a large colony of nesting terns. The prospects are good for the coming years.

Right:
Oystercatcher

Following Page:
*Common Terns
nesting on a
DPC pontoon in
Dublin Port
(photo: Richard
Nairn)*





Dublin Bay Birds High Level 2017



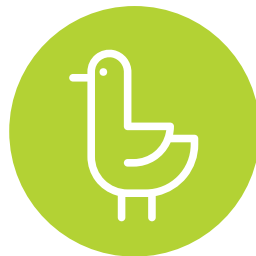
In 2017 the Dublin Bay Birds Project began its fifth year of monitoring supported by Dublin Port Company.



The peak count of 39,316 waterbirds recorded in the winter 2016/17 is the highest number ever recorded in Dublin Bay.



A total of 64 waterbird species was recorded in this period.



The count of over 7,000 Brent Geese in January 2017 is the highest ever count of this species on record for Dublin Bay.

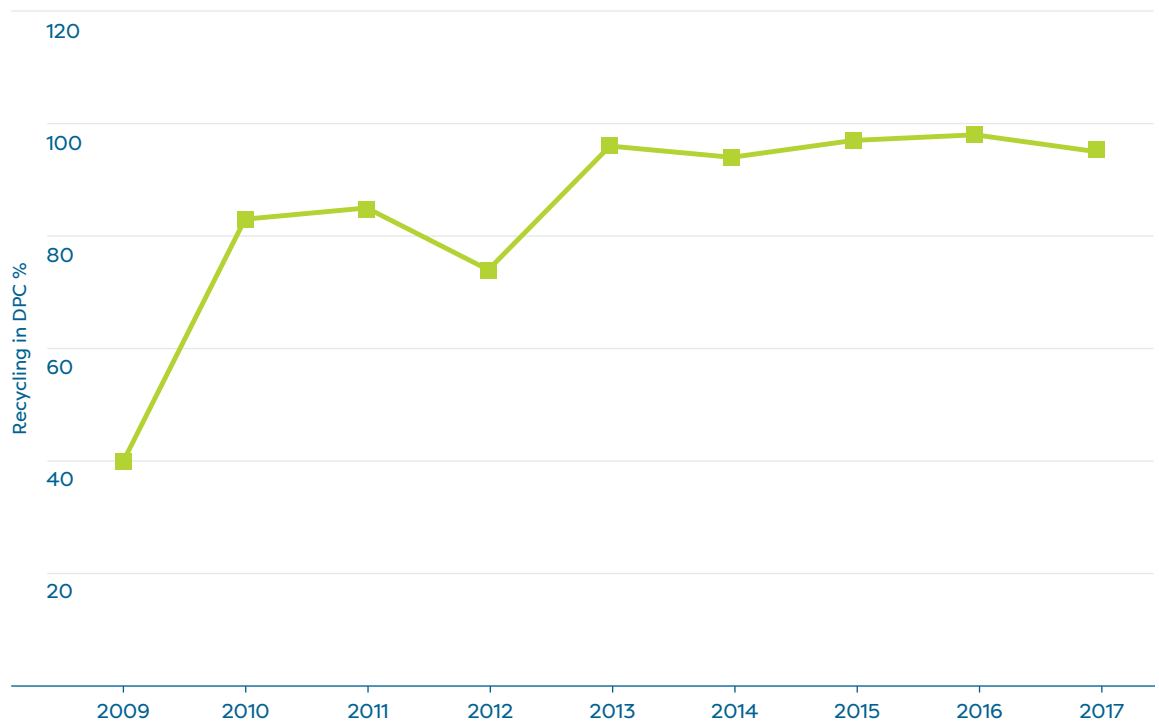


The GPS-tracking work carried out by the project team was the first time this technology has been used on waders in Ireland.

Waste Management

In 2017, DPC reached a recycling rate of 95%. During 2018, a programme to increase the awareness of the importance of waste segregation and reuse will be completed.

Recycling in DPC





CERTIFICATION EUROPE™



This is to certify that the **Environmental Management System**

Of

Dublin Port Company

At

Port Centre, Alexandra Road, Dublin 1, Ireland

Has been assessed by Certification Europe and deemed to comply with the requirements of

ISO 14001:2015

This certificate is valid for the activities specified below:

Dublin ports companies activities, facilities and operations

Certification of Registration remains the property of Certification Europe Ltd.
The validity of this Certificate is maintained on the condition that the Management System is assessed through an on-going surveillance programme and continues to adequately meet the requirements of the standard.
To verify this certificate validity please contact us at info@certificationeurope.com

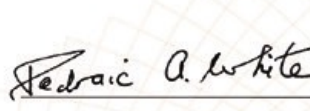
Date of Initial Certification: 15th September 2008

This Certificate is valid until: 19th July 2020

Chief Executive: Michael Brophy

Chairman: Padraic A. White

Signature: 

Signature: 

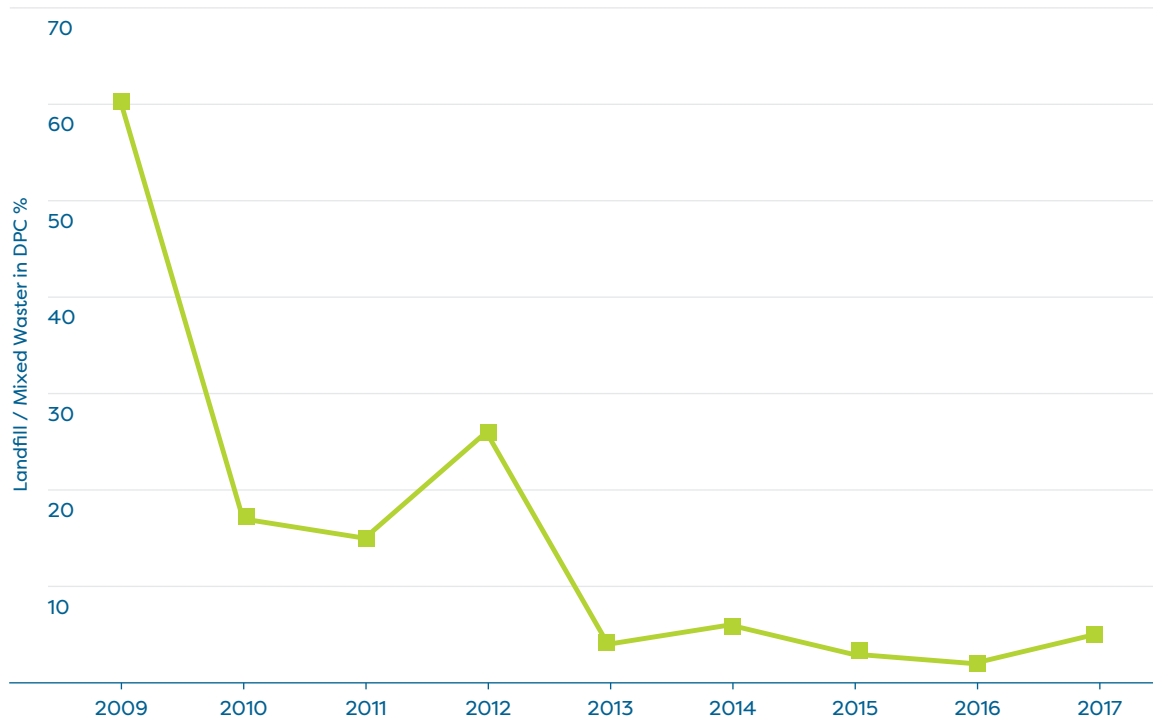
Client Registration No.: 2014/1982
Certificate Reference No.: A/3

Date of certificate issue: 22nd May 2018

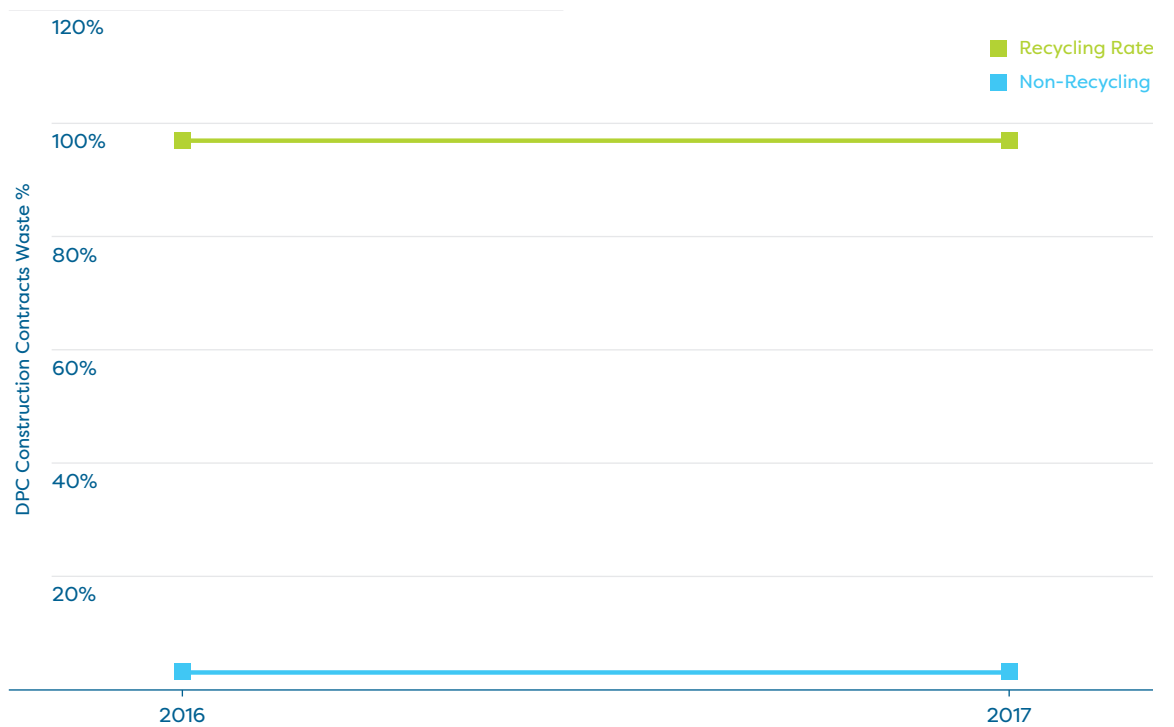


Environment **Waste Management (Continued)**

DPC Landfill/ Mixed Waste

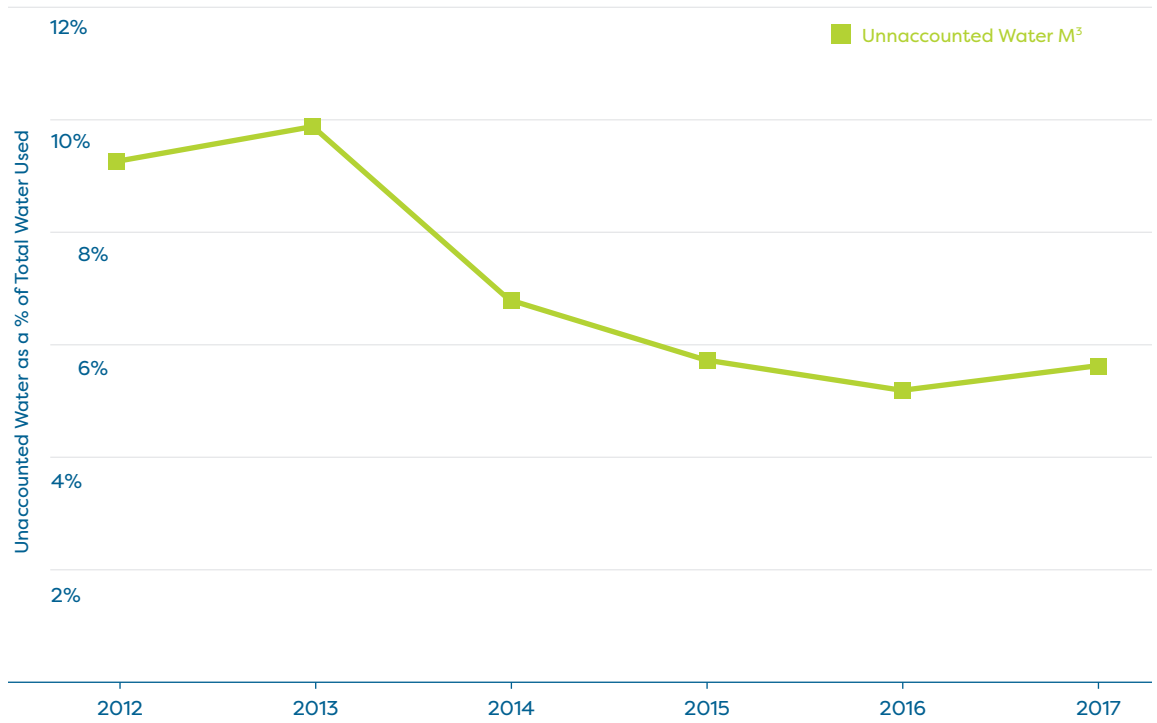


DPC Construction Contracts Waste

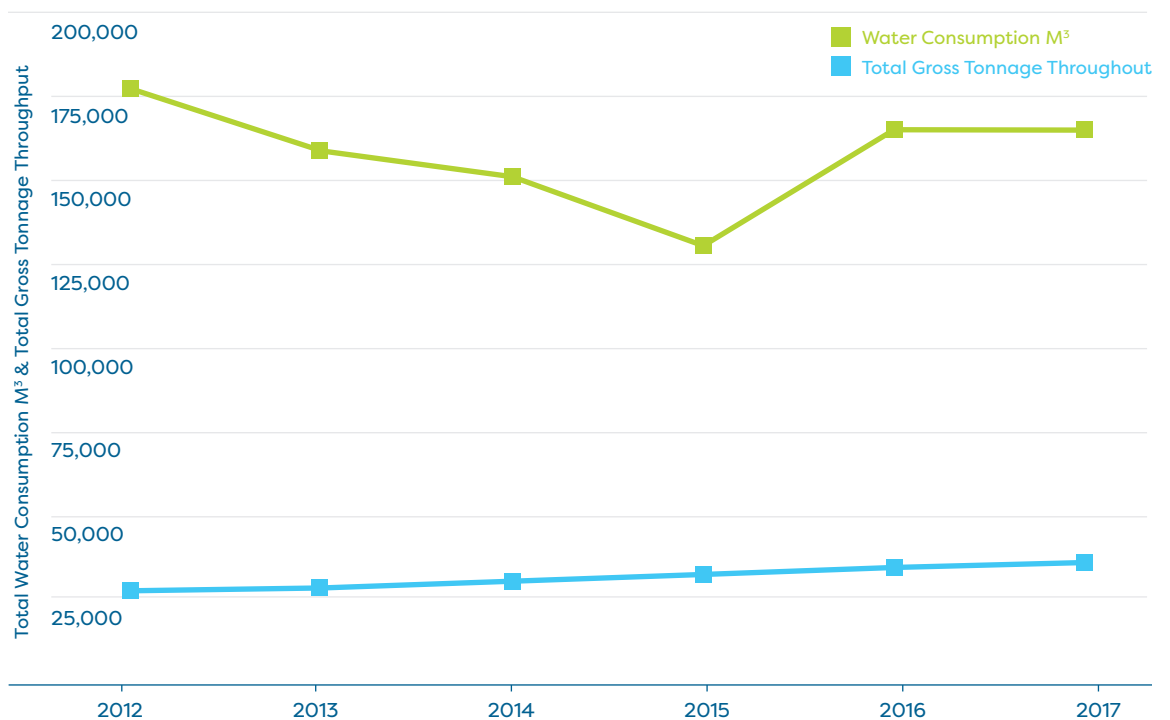


Water Charts

Unaccounted Water as a % of Total Water Used



Total Water Consumption M³ & Total Gross Tonnage Throughput





04

Safety

by safety



Training



Total Attendees



Total Courses



Total Training Costs



In 2017, a total of 76 training courses were completed, with 388 attendees.



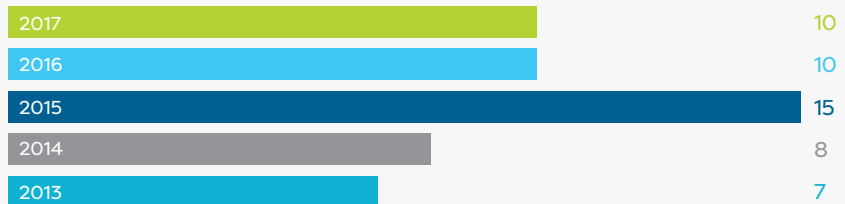
Accidents and Incidents



Total Man Hours



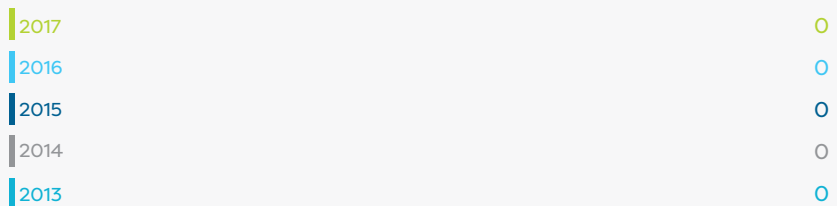
Quantity of Accidents



>3 Days - HSA Reportable



Fatalities



Safety

Health and Safety Committee

Right:
Health and Safety Committee

In 2017, the Health and Safety Committee met 6 times.



L-R: Grace Davitt, EHS Administrator; Bernadette Brazil EHS & Risk Manager; **Paddy Paisley, Maintenance & Services Safety Rep**; Back Row: Stephen Collier, Energy Manager; Paul Clarke, Marine Supervisor; Tristan Murphy, Asst. Deputy Harbour Master; Ken Rooney, Engineering Services Manager; David Thornton, PMO H&S Manager; Cormac Kennedy, Head of Property; Michael McKenna, Harbour Master; Front Row: Mark Nathan, Deputy Security Manager; **Edel Currie, Clerical Safety Rep**; Laura Kearns, Health & Safety Specialist; Ann Marie McLoughlin, PMO H&S Manager; Pat Ward, Human Resources & Cruise Manager; Angela Flanagan, Environmental Intern; **Bernard Power, Pilots Safety Rep**.

Right:
Health & Wellbeing Lunchtime Mile

Far Right:
OHSAS 18001 Certificate



Health and Wellbeing

In March 2017, DPC participated in the IBEC Health and Wellbeing day. DPC participated in the lunchtime mile, which was a great success. Some employee's participating were: Tony Forde, Denise Carey, Audrey Harpur, Bernadette Brazil, Paddy Paisley, Gillian Conroy, Audrey O'Shea and Ger McKechnie.

OHSAS 18001, Safety Management System accreditation

In 2017, DPC were certified to OHSAS 18001, an internationally recognised and independently audited Safety Management System accreditation.



NISO, National Irish Safety Organisation Award

Dublin Port Company is committed to ensuring the safety of its employees and other persons affected by its activities.

For two consecutive years Dublin Port Company were awarded Distinction Awards for their Health and Safety Practices at the NISO All Ireland Occupational Safety Awards 2016 and 2017.

Right:
NISO All Ireland
Occupational Safety
Awards 2017



L-R; Harry Galvin, NISO President; Laura Kearns, DPC H&S Specialist; Bernadette Brazil, DPC EHS & Risk Manager; David Thornton DPC PMO H&S Manager; Lynette Harcourt, DPC Digital Media Manager; John Thompson – Vice Chair Northern Ireland Safety Group.

Mental Health Awareness

In conjunction with the CIF Construction Safety Week in October 2017, DPC supported our contractors and ran Mental Health Awareness and Driving for Work campaigns promoted with material distributed from Mental Health Ireland and the Health and Safety Authority.

Right:
Mind our Workers
Poster

Below:
Driving for Work
Poster

Mind our Workers
SPOT THE SIGNS - SAVE A LIFE
Together we can help reduce the rate of male suicide

S Sleep Disturbance
I Isolation
G Giving Away Possessions
N No Interest In Anything
S Speaking Of No Future

If you have any concerns: Remember... APR

A → **ASK** - Ask the Question "Are you suicidal?"
P → **PERSUADE** - If the person is reluctant to talk, be persistent and in a quiet setting persuade them, They might just thank you later!
R → **REFER** - Have all the necessary details ready, helpline numbers etc. Offer to make the call yourself!

POSITIVE MENTAL HEALTH
THURSDAY 26TH OCTOBER
#CIFSafety17

CONSTRUCTION SAFETY WEEK 2017
For more information visit www.cif.ie or call 01 406 6000

Mental Health

Over the past 10 years, suicide and mental health have become two of the most important issues in Ireland. The culture around these subjects has started to change. People are becoming more open about the issues of suicide and mental health. However if we want to help reduce the number of suicides and improve awareness of mental health issues then there are still massive strides to take.

This is especially true when it comes to helping the men of our nation. In Ireland the majority of people who die by suicide are men. If we want to see a reduction in the number of suicides in Ireland then one of the steps that must be taken is to help promote further understanding and awareness of suicide and mental health amongst Irish men. Action is needed to help accomplish this objective. Irish men can be reluctant to discuss their problems and emotions with their colleagues and friends. No industry in Ireland is as male dominated as the construction sector.

For more information on Suicide Support visit:
<http://www.pieta.ie/>

When you're behind the wheel, driving is your ONLY JOB

Distractions often include:

- Daydreaming
- Talking on the phone
- Texting, reading emails etc
- Looking at maps
- Adjusting mirrors, seats, radio etc
- Focussing on what's on the radio
- Stress

DRIVING FOR WORK
FRIDAY 27TH OCTOBER
#CIFSafety17

CONSTRUCTION SAFETY WEEK 2017
For more information visit www.cif.ie or call 01 406 6000

Driving for Work

Driving for work involves a risk not only for drivers, but also for fellow workers and members of the public, such as pedestrians and other road users. As an employer or self-employed person, you must, by law, manage the risks that may arise when you or your employees drive for work. Employers should have systems in place to ensure that Driving for Work activities are road safety compliant. Employers cannot directly control roadway conditions, but they can promote and influence safe driving behaviour and actions by their employees.

For more information: http://www.hsa.ie/eng/Vehicles_at_Work/Driving_for_Work/

Developing Dublin Port Safely

Right:

DPC's Programme Management Office Director, Garrett Dorman, presented David Scully (RoadBridge L&M Keating) a voucher for his contribution to safety on site.



To satisfy the developments outlined in our 2040 Masterplan, DPC are engaging large contractors to complete construction development works, DPC Capital Projects.

As the Port grows, so does our awareness for the importance of a positive safety culture and safe practices. DPC has engaged two Construction H&S Managers to oversee the development of our Masterplan, our Construction H&S Managers ensure

only the best and safest contractors are engaged by DPC. DPC strictly monitor and positively influence our contractors on a daily basis and support Safety and Health campaigns on our construction sites.

Developing Dublin Port Safely (Continued)

Right:
Capital Project
Safety Essentials

Capital Projects Safety Essentials

COMHLAUGHT CHALAFORT
ATHA CLIATH
DUBLIN PORT COMPANY

	Risk Management: Do not commence work until you have reviewed your Method Statement and Risk Assessment with your Supervisor and confirmed all controls are in place.		Excavations: Before excavation work commences ensure controls are in place. Never enter into an excavation without the appropriate controls (for example: Adequate access and egress, sides are protected from collapsing etc)
	Working at Height: Fall prevention or protection systems are required where there is a risk of falling.		Mobile Equipment and light vehicles: Ensure Plant and Equipment are in good working order. Always follow the traffic rules, wear your seat belt, keep within speed limits and do not use hand held devices while driving. Pedestrians must always stand clear of mobile equipment.
	Working with suspended loads: Never work or walk under a suspended load.		Working Over Water: When working around water always wear a lifejacket and never work alone.
	Isolation and Lockout Equipment: Energy sources must be isolated, locked, tagged and tested before work commences.		Safe Use of Chemicals: Read and comply with Material Safety Data Sheets prior to transporting, decanting or using chemicals.
	Confined Spaces: Never enter into a confined space without the appropriate permit, training and controls in place.		Personal Protective Equipment: PPE is your last line of defence, so wear it!

Capital Projects Safety Essentials

As part of the DPC’s continual improvement process the Capital Projects Safety Essentials have been developed. These essential rules were derived from project risk registers, experience, lessons learned, as well as from accident investigations conducted across the Construction Industry.

To purpose of these rules are to:

- Clearly explain the basic safety rules that everyone should know and apply.
- Strengthen incident prevention by encouraging people to step in whenever they see something being done wrong.
- Stop work if the risk is not being properly managed.

05

Social



Dublin Port Company – CSR

Dublin Port Company’s (DPC) Corporate Social Responsibility (CSR) strategy is founded on enhancing the quality of services, amenities and opportunities available to residents of the port’s communities, new and established.

Committed to good corporate citizenship, DPC has an influential role to play in neighbouring communities, and in strengthening the bonds between the port, the city of Dublin and its citizens; a central tenant of the company’s Masterplan 2012–2040.

Within the company’s strategic plan, CSR is clearly defined as the commitment of the Port to contribute to sustainable economic development; working with employees, the local community and society at large to improve the quality of life, in ways that are both good for the business of the Port and good for Dublin City, its citizens and visitors.

DPC’s CSR programme has evolved since 2011 and includes a host of initiatives, many of which are longstanding and have grown in tandem with DPC since the company’s CSR programme first launched.

By partnering with the community, DPC continues to gain valuable insights and real understanding of how it can help to address specific needs in the community through CSR.

Our CSR programme is built on three key pillars – **education, community and sport** – and comprises a mix of new and established initiatives in 2017.

Providing educational opportunities in the community for...

*Right:
Pupils attending
Discover University
at National College
of Ireland*

Young Families

Early Learning Initiative at National College of Ireland

DPC sponsors the Parent Child Home Programme (PCHP), a “learning through play experience” at the National College of Ireland’s Early Learning Initiative for young families in the docklands area. The programme was set up to envision a world where every child enters school ready to succeed because every parent has the knowledge, skills, confidence and resources to build school readiness where it starts: in the home. The programme also helps to ensure that when a child starts school, they do so on a level playing pitch, equipped with the essential building blocks – oral language, thinking skills, cognition – to thrive in the education system from the beginning with a strong foundation in place for future learning and development.

PCHP takes place twice weekly for half an hour in the child’s home over two years. Parents and toddlers aged from 18 months up to 3 years old attend (selected on referral and needs based criteria). The group provides activities, rhymes and books to support parents and toddlers to learn through play



Social

Dublin Port Company – CSR (Continued)

together. The curriculum is child-centred, play based and incorporates the principles of Aistear – The National Framework for Early Learning – to support toddlers learning through play; encourage attentive parenting; increase parent to parent support; and strengthen parent/child attachment.

This programme has proved to be hugely successful; parent(s) are always very thankful they have taken part in the programme to improve not only their child's development but to give them the skills to interact with their child and prepare them for school.

From DPC's perspective, programmes such as this offer true integration through education, foster sustainable change in the port's communities and play an important role in helping to eliminate socio-disadvantage for a new generation.

Teenagers

East Wall English/Maths/Irish Grinds and Home Work Club

St Joseph's East Wall Youth Club have been doing grinds in English, Maths and Irish for Junior and Leaving Certificate students and also run a Homework Club. The programme runs from November through to May with DPC's support.

Adults

Third Level Education Scholarships

DPC's Scholarship Programme is an annual educational bursary open to residents of the Port's local communities, including Ringsend, Irishtown,

Pearse Street, East Wall and Sheriff Street. The Programme was first established in 2001 in conjunction with DPC's Community Liaison Committee and is a mainstay of the company's CSR programme.

The bursary helps residents from the port's communities to progress to third level education by providing financial assistance to meet the cost of study, including bus/train tickets, books and course materials. By removing financial barriers to education, the bursary has already helped more than 550 people to fulfil their learning potential.

In 2017, DPC received 53 applications for the programme in the academic year 2017/2018. Following interviews by an independent panel, grants were awarded to 48 local recipients to begin third level studies at universities and colleges including the Institute of Art & Technology Dún Laoghaire, University College Dublin and University of Southampton Health Sciences. Currently, some 176 are in receipt of grants, which are acknowledged as a vital lifeline for students who might otherwise not have attended further education.

Supporting Communities

RDRD

The Ringsend & District Response to Drugs (RDRD) was originally set up as a community-based drug response group for the East Wall, Pearse Street and Ringsend areas. Since 2001 DPC has supported RDRD, helping it to deliver comprehensive crisis intervention, addict and family support programmes to over 200 families

Right:
2017 Annual RDRD
Graduation



Social

Dublin Port Company –
CSR (Continued)

Right:
Rinn Voyager



in these local communities. Year on year, there is increasing demand from individuals and families in the community seeking help and support for a range of supports. The project team now works with families that are experiencing tragic and traumatic circumstances ranging from serious illness, suicide, poverty, drug addiction, alcoholism, domestic violence and homelessness.

Rinn Voyager

The Rinn Voyager Sailing Project began in Dublin Port in 1992 at a time of high unemployment and a history of early school leavers in the port's neighbouring community. Borne out of DPC's CSR commitment to improving educational training facilities and opportunities for local residents, the company agreed to match EU funding and supply the premises, facilities and engineering expertise to enable a group of unskilled school leavers and long term unemployed in 1993 build a steel sailing boat; the Rinn Voyager.

Upon completion, the 42ft sailing vessel was launched in 1996 by the then Irish President, Mary Robinson and for the past 22 years has been used by local community groups and organisations for outings, rehabilitative programmes and team building exercises through the medium of sail training. The initial Project was developed in response to feedback from the community for the need for structured education/training initiatives that would offer participants the opportunity to develop new skills in a constructive, positive environment. Today, the Rinn Voyager provides a wide variety of community groups with a means through which they can challenge their members physically and mentally using team work, character building and leadership exercises on board. The Project in its current form also aims to and delivers on providing a positive and challenging environment for recovering drug addicts and those at risk of drug addiction, where they can develop essential life skills and return to a clean life.

Social

Dublin Port Company –
CSR (Continued)

Celebrating Communities

St. Andrew's Resource Centre, South Docks Festival

The festival is an annual event run by St. Andrew's Resource Centre in collaboration with Pearse Area Recreational Centre and many local groups and clubs. In 2017, the festival marked its 30th anniversary with an action-packed programme of events and entertainment for all ages. The week-long festival aims to highlight and celebrate Pearse Street's and City Quay's traditional association with the docks as well as continuing to celebrate their lively local community and heritage.

Launching the 2017 festival was the (then) Lord Mayor of Dublin, Mícheál Mac Donncha, who took to the waters of Dublin Bay to take part in the annual "Casting of the Spear" ceremony. The "Casting of the Spear" is a tradition dating back 529 years and the first official duty for the Lord Mayor as Honorary Admiral of Dublin Port. The title of Honorary Admiral of Dublin Port has been bestowed on the Lord Mayor of Dublin for over 20 years.

Historical records show that the maritime tradition of the Casting the Spear dates back to 1488 when Thomas Mayler, who was then Lord Mayor of

Right:

Eamonn O'Reilly, CEO Dublin Port Company, Micháel MacDonnach, Lord Mayor of Dublin, Betty Ashe St. Andrew's Resource Centre, Dolores Wilson St. Andrew's Resource Centre, Lucy McCaffrey Chairperson Dublin Port Company



Social

Dublin Port Company –
CSR (Continued)

Right:
 Micháel
 MacDonnach Lord
 Mayor of Dublin
 & Lucy McCaffrey
 Chairperson Dublin
 Port Company



Dublin, rode out on horseback and cast a spear as far as he could into the sea. This was to mark the city's boundaries eastwards. Centuries later, the re-enactment ceremony is a reminder of Dublin's role as a port city in medieval times and highlights Dublin Port's remarkable history since its establishment as a trading post some 1,200 years ago.

Together, the South Docks Festival and Casting of the Spear help to keep alive the customs and traditions that define Dublin as a port city.

Bringing Communities Together Through Sport

Sport brings communities together to enjoy and take part in a shared passion and in the port's communities, this extends to sporting activities both on and off the river.

From rowing, sailing, swimming and kayaking to football, soccer and hurling, the River Liffey, Dublin

Port, Dublin Bay and surrounding areas are a hive of activity all year round, especially during the summer months.

Every club, event and sporting fixture is unique and DPC is committed to helping people of all ages and abilities in our community to take part, whether as an active participant, keen observer, coach or volunteer.

By supporting clubs, initiatives, training programmes and events, we aim to help local sports organisations successfully attract new members, create a vibrant community around their sport and foster greater physical, mental and educational wellbeing among members of each community.

Those educational messages around health, commitment, team work and ambition that others receive through sports can only serve to filter out into all aspects of their lives and for the benefit of the wider port communities.

Dublin Port Company – CSR (Continued)

Right:
*Poolbeg Yacht
Club Regatta*



Some of the sports events and initiatives that DPC has supported on and off the river in 2017 include:

- St. Patrick's RC Regatta
- Stella Maris RC Regatta
- Poolbeg Yacht Club Regatta
- Clontarf Yacht & Boat Club Regatta
- East Wall Water Sports
- Dublin Currach Regatta
- Liffey Swim
- Sail Training Ireland
- Scoil Uí Chonaill GAA Games
- Clanna Gael Fontenoy GAA Games
- St. Joseph's Football Club
- St. Patrick's Football Club

Social

Dublin Port Company –
CSR (Continued)

Right:
Clanna Gael
Fontenoy U-14 boys'
team



Right:
Clanna Gael
Fontenoy U-11 girls'
team



06

Economics



Introduction

In 2017, Dublin Port continued to serve as the main gateway for trade in and out of Ireland, with record levels of throughput being handled for the third successful year.

Total throughput for the year amounted to 36.4m tonnes representing a 4.3% increase on 2016 and with compound growth over the last five years amounting to 30.1%, volumes are now 5.5m tonnes (17.7%) higher than at the previous peak in 2007 prior to the economic downturn. The main features of throughput perform are summarised as follows:

- Total throughput up 4.3% from 34.9m tonnes to 36.4m tonnes
- Imports up 3.9% from 20.7m tonnes to 21.5m tonnes

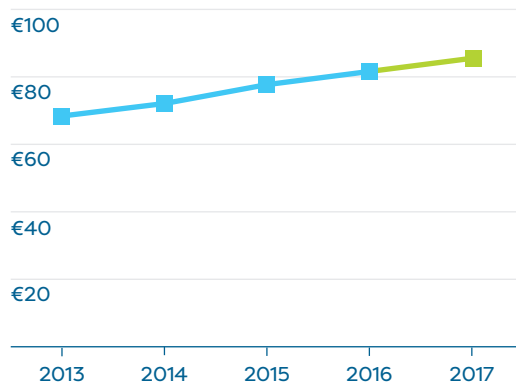
- Exports up 4.9% from 14.2m tonnes to 14.9m tonnes

Volume growth in 2017 was again underpinned by strong growth in the unitised sector with the Ro-Ro and Lo-Lo traces recording increases of 5.0% and 5.2% respectively in terms of units handled. The combined tonnage of the unitised trades amounted to 30.1m tonnes in 2017 accounting for 82.6% of total trade through the port. Liquid bulk volumes, primarily oil products increased by 6.6% to 4.3m tonnes while bulk solid volumes fell by just 1.0% largely as a result of lower cement exports as the domestic construction sector continued to recover.

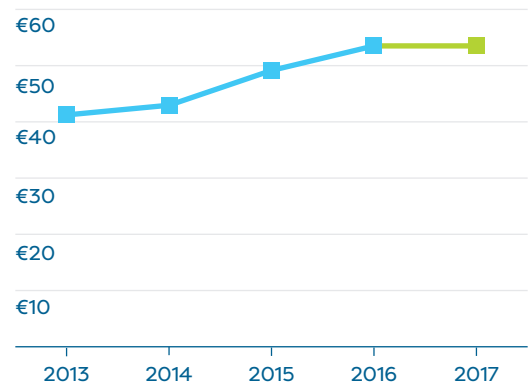


Financial Figures

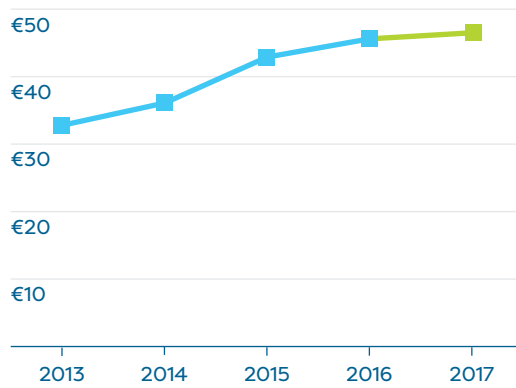
Turnover (millions)



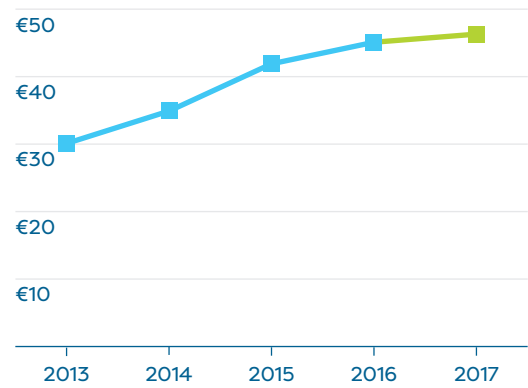
EBITDA*** (millions)



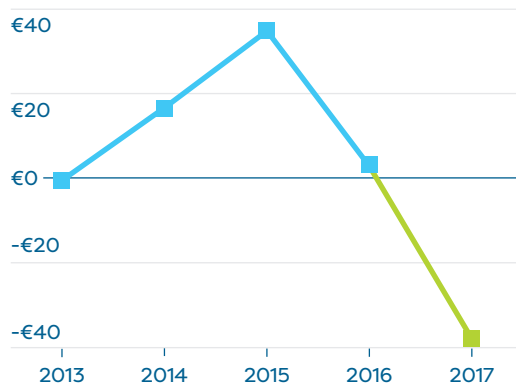
Operating Profit (millions)



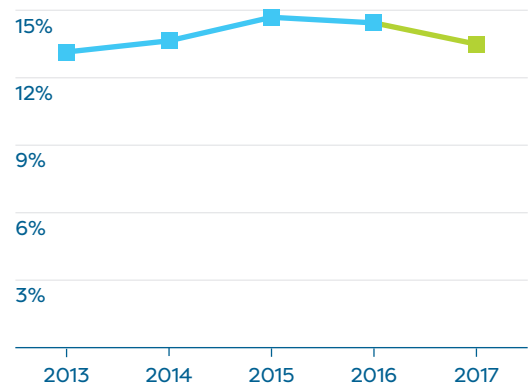
Profit before Tax (millions)



Net (Debt)/Cash (millions)



ROCE (%)



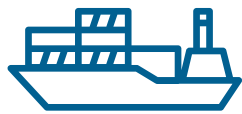
Volume Figures 2016–2017

Ro-Ro (Units)



5.0% ↑

Lo-Lo (TEU)



5.2% ↑

Ro-Ro Units per hectare per annum



Lo-Lo TEU per hectare per annum



Trade Vehicles



4.6% ↓

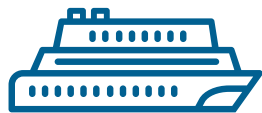
Ferry Passengers



Cruise Passengers



Cruise Visits



16.5% ↑

Bulk Liquids (million tonne)



Bulk Solids (million tonne)



The Presidents Cruise comes to Dublin

Right:
Celebrity Eclipse
Cruise



On 10th May, 2017, the Celebrity Eclipse made her maiden call to Dublin. And this was not just any cruise; this was the president's cruise, an annual exclusive cruise offering unique experiences and events and on board was Celebrity Cruises CEO & President Lisa Lutoff-Perlo.

Over 3,000 passengers and crew were greeted by Irish dancing, live music and drum displays as they disembarked the Celebrity Eclipse at Ocean Pier 33. During the overnight stay guests got to explore the city which Lutoff-Perlo said was fast becoming a top destination for cruisers. She added that "Ireland is an amazing place full of wonderful, friendly people. Our guests want to come to Ireland. The destination is becoming more and more popular and in-demand".

Such is the commitment of Celebrity Cruises to Dublin, they have committed to home-porting from The Capital in 2018 and 2019. The five home-port calls each year will bring an additional 14,000 passengers to the City and is worth an estimated €6 million to the local economy.

Cruise tourism has continued to grow globally over the last number of years and Dublin Port Company

Ireland is an amazing place full of wonderful, friendly people.

has worked hard to attract this valuable business to the city for over 30 years. And efforts have not gone unrewarded. The number of vessels calling to Dublin has continued to grow and in 2016, a record 127 ships visited the capital carrying over 200 thousand passengers and with an estimated value to the local economy of €31 Million helping Dublin Port Company fulfil its objective of re-integrating the port and the city.

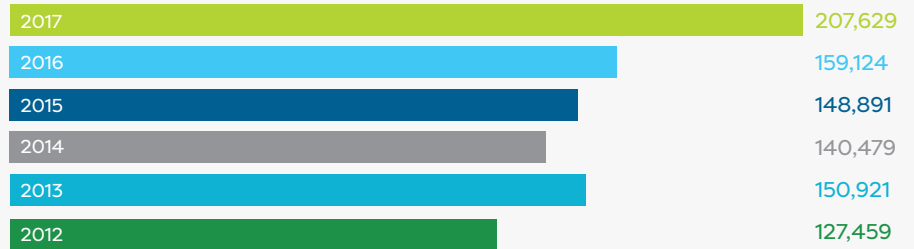
Cruise Stats



Cruise Line Calls



Cruise Passengers & Crew



Largest Cruise Ships in 2017



07

Key Figures



Social

	2013	2014	2015	2016	2017
No. of Permanent Employees	132	136	136	148	153
Age Distribution:					
20 – 29	5	4	1	4	4
30 – 39	19	15	19	27	23
40 – 49	43	45	42	41	44
50 – 59	58	63	63	58	57
60+	10	9	11	18	25
Average Age	48	49	49	49	49
Absence due to illness, %	3.7	4	3.5	3.98	2.48
No. of females (F)/ males (M) in total staff	135 Staff: 21 F / 114 M	137 Staff: 21 F / 116 M	140 Staff: 21 F / 119 M	148 Staff: 23 F / 125 M	153 Staff: 27 F / 126 M
Total No. of Executive Management Team	6	7	8	8	10
No. of females (F)/ males (M) executive managers	6 M	7 M	8 M	8 M	1 F / 9 M
Total No. of Senior Management Group	4	4	6	8	4
No. of females (F)/ males (M) in Senior Management Group	1 F / 3 M	1 F / 3 M	1 F / 5 M	2 F / 6 M	1 F / 3 M
No. of members on Board of Directors	7	7	8	6	8
No. of females (F)/ males (M) on Board of Directors	3 F / 4 M	3 F / 4 M	3 F / 5 M	2 F / 4 M	3 F / 5 M
Staff turnover, %	4	3	2	7.75	8.1
No. applying for Annual Travel Ticket	3	10	10	10	10
No. of Interns/ FAS apprentices	1	0	0	4	3
No. employees subject to random intoxicant testing	36	36	47	65	75
Applications for further education	3	5	5	3	1

08

Initiatives



What we said Vs What we did

2017 Initiatives

Continue to investigate the options available for the installation of Dublin Bike station(s), and identify suitable locations around the Port Estate as part of Dublin Port Company's Masterplan.

The installation of Dublin Bike stations is considered for all applicable development projects and will continue to be considered throughout the lifetime of our development works.

Develop a safety committee with our customers, led by DPC

DPC engaged Trinity College Dublin (TCD) to complete a Safety Culture survey on Dublin Port and its customers. TCD compiled a report and recommended a focus on communication both internally and externally with regards to Safety. DPC launched a safety awareness campaign which included the development of a video targeted at existing and new employees. DPC requested the participating customers of the Safety Culture survey to express their interest in joining a safety committee, this communication is ongoing with a view to establishing a committee during 2018.

Ocean Pier Traffic Study Commissioned in July 2018

This study aim is to address the traffic congestion on Ocean Pier and Alexandra Quay West and its adjacent Branch Roads (1, 2, 3, 4) with a view to ensuring the area is suitable for use from a health and safety perspective.

Upgrade the internal road system. .

Planning permission received, with planned works due to commence in July 2018

Port Perspectives- a Port and City integration initiative programme using the arts and culture to reconnect the Port with the City.

In 2017 this programme encompassed:

- The Hugh Lane exhibition of 70 or so works of the Antwerp artist Eugene Van Mieghem (1875 to 1930) capturing facets of the life of the Port and the City of Antwerp over decades, including through the First World War. The exhibition ran until June 2017 in tandem with a community exhibition of Port related art, and culminating in the production of a book.

- Commissioning of 3 separate pieces of artworks on Port Lands, including an exhibition of Port maps in Terminal 1, a series of podcasts detailing the lives of sea farers and finally a multimedia exhibition along the Great South Wall.

- A programme of engagement with local communities and art colleges, including drawing clubs and photographic competitions and exhibitions.

Port perspectives will continue to further the tenet of port, city integration through the medium of the arts.

The donation of the 290 Crane to DCC for display on the Quays. The Crane dates from the 1990s. It is a 20 ton Portal Slewing crane manufactured by Liebherr.

Dublin Port has donated the old Crane 290 to the City under its soft values programme. DCC have accepted the donation and have included it in their Dockland Public realm initiative for a location on the North Wall quays campshire opposite the 3 arena. DPC and DCC will work together over the next year to bring this joint ambition to fruition at some point in the future.

Complete a feasibility study for the installation of Ecowaves, the generation of power through waves.

An investigation into the suitability of Dublin Port Estate to facilitate the installation of Ecowaves began in 2017 with further desktop exercises to be completed in 2018 to determine suitability.

Continue to monitor the carbon emissions of DPC during 2017. SC

Please refer to the environmental section of this report for further updates on the carbon emissions of DPC in 2017.

As part of DPC's soft values programme, a time ball will be installed.

We have addressed this symbolically through our "Opening up Port Centre" project with the placement of the sphere.

Initiatives

What we said Vs What we did (continued)

Continue the baseline air monitoring programme in the Port estate from 2017 – 2020. In August 2017, an independent air quality monitoring company were awarded a four year contract for Ambient Air Quality Monitoring in Dublin Port Estate; the following parameters will be monitored:

- Oxides of Nitrogen
- Sulphur Dioxide
- Volatile Organic Compounds
- Ammonia
- Particulate Matter - PM10 and PM2.5
- Total Dispositional Dust
- Lead

Utilise the report received from Trinity College Dublin (TCD) on the Safety Culture in Dublin Port to develop a forum to improve safety within the Port Estate with a focus on the requirements of the Port Authority and Port Tenants outlined in the Code of Practice for Health and Safety in Dock Work.

The findings of the TCD report were communicated to Executive Management in DPC, and all participating customers. The report recommended an increase in communications relating to Safety. DPC currently hold 6 H&S Committee meetings annually, in addition to communicating via email and our safety notice boards. DPC are looking into further opportunities for improvement such as monthly newsletters and the facilitation of the development of safety forums between customers. The objectives of the forum will be to improve safety practices and cultures, knowledge sharing and relationship building. This initiative will carry over to our 2018 Initiatives.

Develop a port specific induction for shared areas within the port e.g. Common user and shared quay areas.

DPC will take the lead in the development of an Irish Ports Safety Forum consisting of EHS professionals from leading ports in Ireland. This forum will provide for the need for consultation amongst ports for the standardisation of EHS requirements of CUA's throughout the country. The requirements of Port Authorities outlined in the COP for H&S in Dock Work will contribute to the content of the Induction. This initiative will carry over to our 2018 Initiatives.

Receive third part accreditation for OHSAS 18001, the internationally recognised Safety Management System standard.

In June 2017, DPC were successfully accredited to OHSAS 18001, an internationally recognised Safety Management System certification. The system is independently audited every 6 months.

Preserve industrial heritage by relocating & upgrading a redundant crane as part of the relocation of the Estate entrance off East wall Road.

Completed in 2017 as part of Opening up Port Centre with the Crane 292 installation and its sculptural wall enclosure which speaks to its industrial heritage, the Stothert & Pitt 10 Tonne crane was refurbished, painted afresh and illuminated to celebrate and showcase it as part of our industrial heritage assets.

Continue to consult with relevant stakeholders to ensure land use improvements and efficiencies are achieved.

Various consultation and liaison meetings are hosted and attended by DPC with relevant stakeholders and committees on a regular basis.

In partnership with DCC, DPC will increase the footfall and scope of the Riverfest held in June 2017.

The footfall of the Riverfest increased to 98,000 in 2017, an increase of 4,000 from 2016.

2018 Initiatives

- Installation of a PV array on the roof of M&S.
- Upgrade of the M&S workshop lighting to high efficiency LED's.
- On-going exploration of alternative fuels for the DPC road and marine fleet.
- Water main rehabilitation works on Tolka Quay Road.
- Invest in Monitoring Buoys - Smart Active Monitors (SAM's)
- In 2017, DPC reached a recycling rate of 95%. During 2018, a programme to increase the awareness of the importance of waste segregation and reuse will be completed.
- Introduce reusable tea/coffee cups in the DPC Canteen to reduce the volume of disposable cups being used.
- Commence the publication of a monthly EHS Newsletter
- Maintain OHSAS 18001, ISO 14001 and ISO 50001 accreditations.
- Develop a port specific induction for shared areas within the port e.g. Common user and shared quay areas.
- The facilitation of the development of safety forums between customers. The objectives of the forum will be to improve safety practices and cultures, knowledge sharing and relationship building.
- Continue the Air Quality programme in Dublin Port Estate.
- Continue to monitor the energy efficiency of DPC during 2018 to meet our 2020 target of a reduction in energy consumption by 33%.
- Provide support to the Irish Nautical Trust Community Maritime Education Programme



Glossary of Terms



Glossary of Terms

Ro-Ro

Roll On Roll Off is a cargo handling method whereby vessels are loaded via one or more ramps that are lowered on the quay or lowered onto a ship.

Ro-Ro comprises cargo items that can be driven on / off a ship. These include Heavy Goods Vehicles (HGVs), cars, buses and other vehicular traffic.

Lo-Lo

Lift On Lift Off cargo is a containerised cargo handling method by which vessels are loaded or unloaded by either shore or ship cranes.

TEU

Twentyfoot Equivalent Unit. Lo-Lo cargo is normally measured in TEUs. A forty foot long container equates to two TEUs. Container vessel capacity and port throughput capacity are frequently measured in TEUs.

Liquid Bulk

Cargo includes oil, petroleum, chemicals, molasses, liquid petroleum gas (LPG) and bitumen.

Dry Bulk

Loose mostly uniform cargo normally loaded/ discharged by crane. Cargo types include animal foodstuffs, coal, fertilizer, cement fines, peat, minerals, grain, etc.

Break Bulk

General loose non-containerised cargo, stowed directly in a ship's hold.

Pilotage

The act of advising the master of a ship in navigation when entering or leaving a port in confined water.

Towage

The provision of a tug vessel to assist other vessels in safe operation within the Port

Stevedore

An individual or firm that employs dock workers to load and unload ships.

Dredging

The removal of sediment to deepen access channels, provide turning basins for ships and to maintain adequate water depth along waterside facilities.

NO_x

A generic term for the mono-nitrogen oxides NO and NO₂ (nitric oxide and nitrogen dioxide).

SO₂

Sulphur Dioxide.

PM

PM stands for particulate matter or particulates. These are microscopic particles in the air.

Anthropogenic impact on the environment

Impact due to human activity as distinct from natural causes.



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