Ayesa

Haulbowline Dredging Works Natura Impact Statement

[redacted]

COMMERCIAL IN CONFIDENCE

Client: **Ayesa**

Address: [redacted]

Project reference: **P00014506**

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Project Director: [redacted]

Project Manager: [redacted]

Other: [redacted]

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APEM Ltd

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Revision and Amendment Register

Version Number	Date	Section(s)	Page(s)	Summary of Changes	Approved by
1.0	02/09/2025	All	All	NIS Assessment Draft Report	JB
2.0	03/09/2025	Sections 1 & 2		Amendments	JB

Contents

Acronyms and Abbreviations

Abbreviation	Term
AA	Appropriate Assessment
AEoI	Adverse Effect on the Integrity
AIMU	Assessments of Impacts of the Maritime Usage
CD	Chart Datum
DaS	Dumping at Sea
DEHLG	Department of Environment, Heritage and Local Government
DOD	Department of Defence
DOP	Dredging Outboard Pump
EC	European Commission
EPA	Environmental Protection Agency
EU	European Union
IROPI	Imperative Reasons of Overriding Public Interest
LSE	Likely Significant Effect
MARA	Maritime Area Regulatory Authority
NIS	Natura Impact Statement
NPWS	National Parks and Wildlife Service
PoCC	Port of Cork Company
SAC	Special Area of Conservation
SISAA	Supporting Information for Screening for Appropriate Assessment
SPA	Special Protection Area
SPR	Source-Pathway-Receptor
SSC	Suspended Sediment Concentration
TSHD	Trailer Suction Hopper Dredger
ZoI	Zone of Influence

List of Figures

List of Tables

1. Introduction

APEM Ltd was commissioned by Ayesa, on behalf of the Department of Defence (DOD), to prepare a report of a Natura Impact Statement (NIS) to inform the Appropriate Assessment (AA) for the proposed maintenance dredging works at the Haulbowline Naval Base in County Cork (hereafter referred to as the 'Proposed Development').

1.1 Background

Maintenance dredging at Haulbowline has been carried out at regular intervals, with previous dredging campaigns carried out in 2010 and 2016. The DOD is seeking a Dumping at Sea Permit to run from Q3 2025 to Q3 2033. During this period, the DOD plans to execute four maintenance dredging campaigns to sustain the Basin, Entrance Channel, and Graving Dock at -5.5 meters Chart Datum (CD). This process is crucial for maintaining the navigational integrity and operational efficiency of the Haulbowline Harbour, ensuring safe access for vessels utilising the facility.

This report provides the Natura Impact Assessment for Stage 2 AA of the proposed maintenance dredging works.

1.2 Purpose of this document

The aim of this report is to inform the AA process (as required under the European Communities (Birds and Habitats) Regulations 2011), to assess and determine whether the Proposed Development could be the cause of an adverse effect on the integrity (AEoI) of a European site or undermine the achievement of any conservation objectives associated with any European site.

In the context of an NIS, where the potential for Likely Significant Effect (LSE) cannot be excluded for a site, the competent authority must make an AA of the implications of the plan or project for that site, in view of the Site's Conservation Objectives. The competent authority may agree to the plan or project only after having ruled out adverse effects on the integrity of the European Site. Where an adverse effect on the site's integrity cannot be ruled out, and where there are no alternative solutions, the plan or project can only proceed if there are imperative reasons of overriding public interest (IROPI) and if the necessary compensatory measures can be secured

1.3 Requirement for AA

A Supporting Information for Screening for Appropriate Assessment (SISAA) report was undertaken in July 2025 (APEM, 2025) and it was determined that no European sites were screened in for further assessment at Stage 2: AA. Following this, a Screening for Appropriate Assessment was undertaken by the Maritime Area Regulatory Authority (MARA), which ultimately determined that a Stage 2: AA would be required when concluding that the project, individually or in combination with other plans or projects, is likely to have a significant effect on nearby European sites.

2. Proposed Development

2.1 Project Description

The primary activities of the dredging works are indicated in the Dumping at Sea (DaS) Permit Report (Ayesa, 2024) and in the Assessments of Impacts of the Maritime Usage (AIMU) report (Ayes, 2025). They are summarised here, but Ayesa (2024) and Ayesa (2025) should be referred to for additional information.

The dredging campaigns are anticipated to involve the removal of approximately 105,630 m^3 of material from the Haulbowline Harbour Basin and the Entrance Channel, which provides access to the Naval Base (Figure 3). It is projected that 90,000 m^3 of the dredged material will be allocated for disposal at sea and it is anticipated that contaminated material would only be collected during the first dredging campaign (15,630 m^3) and this material would be disposed of in a licensed landfill facility. The DaS permit is for the 90,000 m^3 of offshore disposal of dredged material over an 8-year period.

The volume to be dredged during any campaign is requested not to be fixed. Instead, it is proposed to set a maximum permitted limit that shall not be exceeded based on the maximum dredge volumes/tonnages for the works in their entirety. The greatest dredge volume would be dredged in the first campaign, with anticipated removal of approximately 32,000 m^3 and around 32 dumping activities, each involving 1,000 m^3 (equivalent to 1,850 tonnes of material).

The total area of the proposed dredge and disposal works is:

- MARA Loading Areas A (0.46 ha) and B (0.02 ha)
- Entire Non-Contaminated Loading Area/Suitable for Dumping at Sea (3.94 ha);
- Entire Contaminated Loading Area/Exclusion Zone from Dumping at Sea (0.7 ha); and
- Spoil Ground (7.6 ha).

Total area for dredging and disposal is 12.14 ha. Using the suggested multiplication factor of 1.5 for dredging and disposal projects, gives a total potential area for the Proposed Development of 18.36 ha.

The works are assumed to be undertaken in the following timescales (see submitted AIMU for more detail):

- Dredging Campaign 1 Removal of Contaminated material (graving dock) – Q3/Q4 2025
- Dredging Campaign 1 Removal of Non-Contaminated material – Q1 2026
- Dredging Campaign 2 Removal of Non-Contaminated material – Q4 2027
- Dredging Campaign 3 Removal of Non-Contaminated material - Q3/Q4 2029
- Dredging Campaign 4 Removal of Non-Contaminated material - Q3/Q4 2032

The initial dredging campaign for the non-contaminated material is envisaged to span roughly three months. This timeframe encompasses dredging activities, allowances for potential weather-related delays, the necessary preparations, and concluding operations, including mobilisation and demobilisation efforts.

The dredger that is proposed to be used will be one of two dredger options, a dredger with a Dredging Outboard Pump (DOP) or backhoe dredger (long reach back-hoe excavator). The dredger used will depend on the characteristics of the material being dredged and accessibility. The dredging works may be procured under different stages with stage 1 being the dredging of the Graving Dock. The preferred method for dredging the Graving Dock is the DOP dredge, which will allow contaminated material to be pumped directly into landside geotubes for onward disposal at landfill. Stage 2 is the dredging of the basin and approach channel and may be undertaken by either dredging method.

For the DOP dredge pump option, a crawler crane would lower the DOP 200 dredge pump, equipped with a water jet cutter, from the dockside into the water. The DOP would then pump material from the dock at a rate of 700 m^3/hour at the anticipated working head (20m).

The backhoe dredger option would employ a bucket or grab lowered to the seabed to excavate the intended sediment material and lift it to the surface. For both options, uncontaminated dredged sediment would be collected and transported utilising ‘hopper barges’ to the licenced dump site at sea or, for contaminated sediment from the Graving dock, into geotubes for disposal at a licensed landfill facility as described above.

The appointed contractor will determine the final methodology for dredging and disposal of both uncontaminated and contaminated material, ensuring that the most effective and

compliant approach is implemented based on their expertise and adherence to regulatory standards.

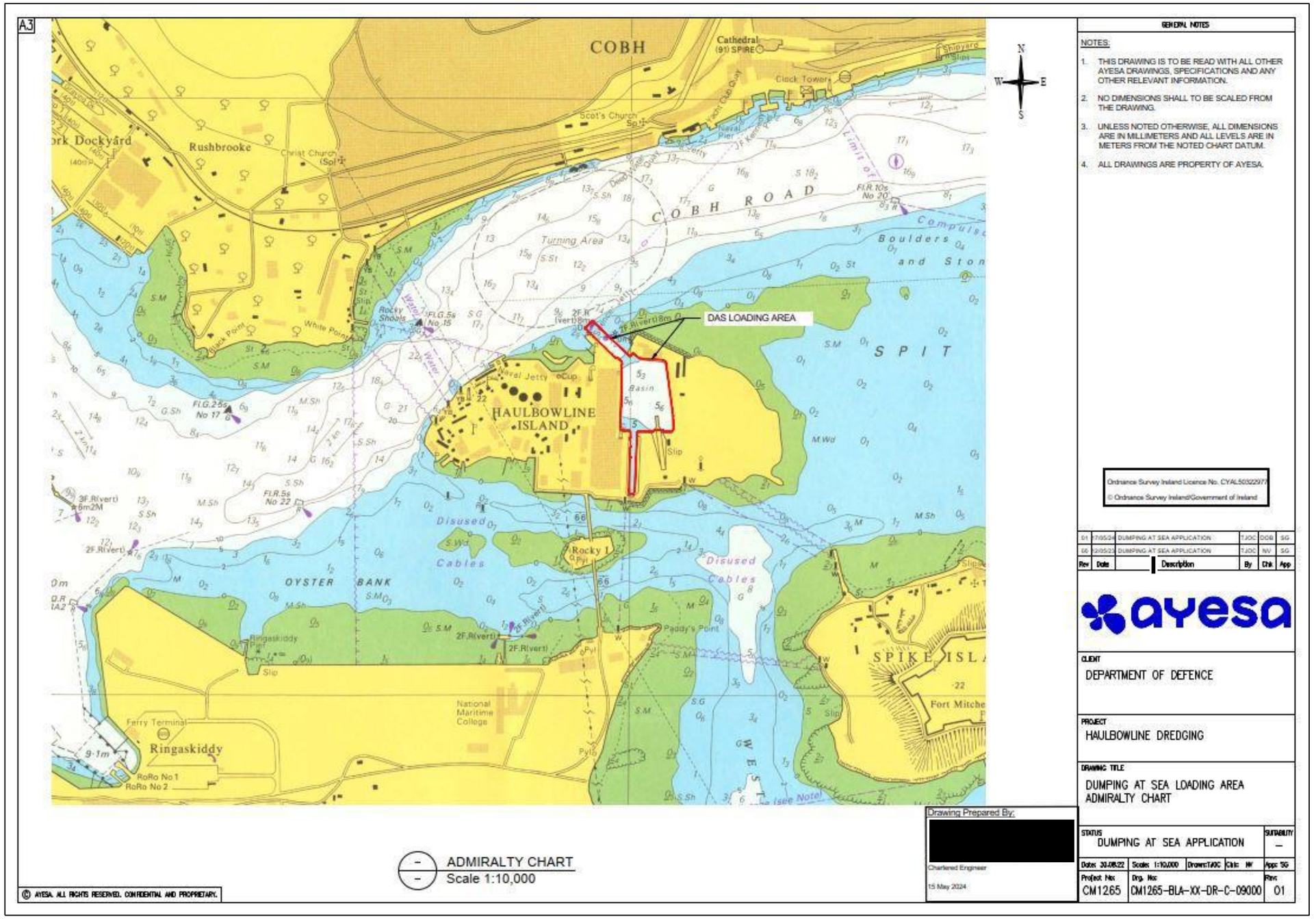


Figure 1. Proposed EPA DaS loading areas.

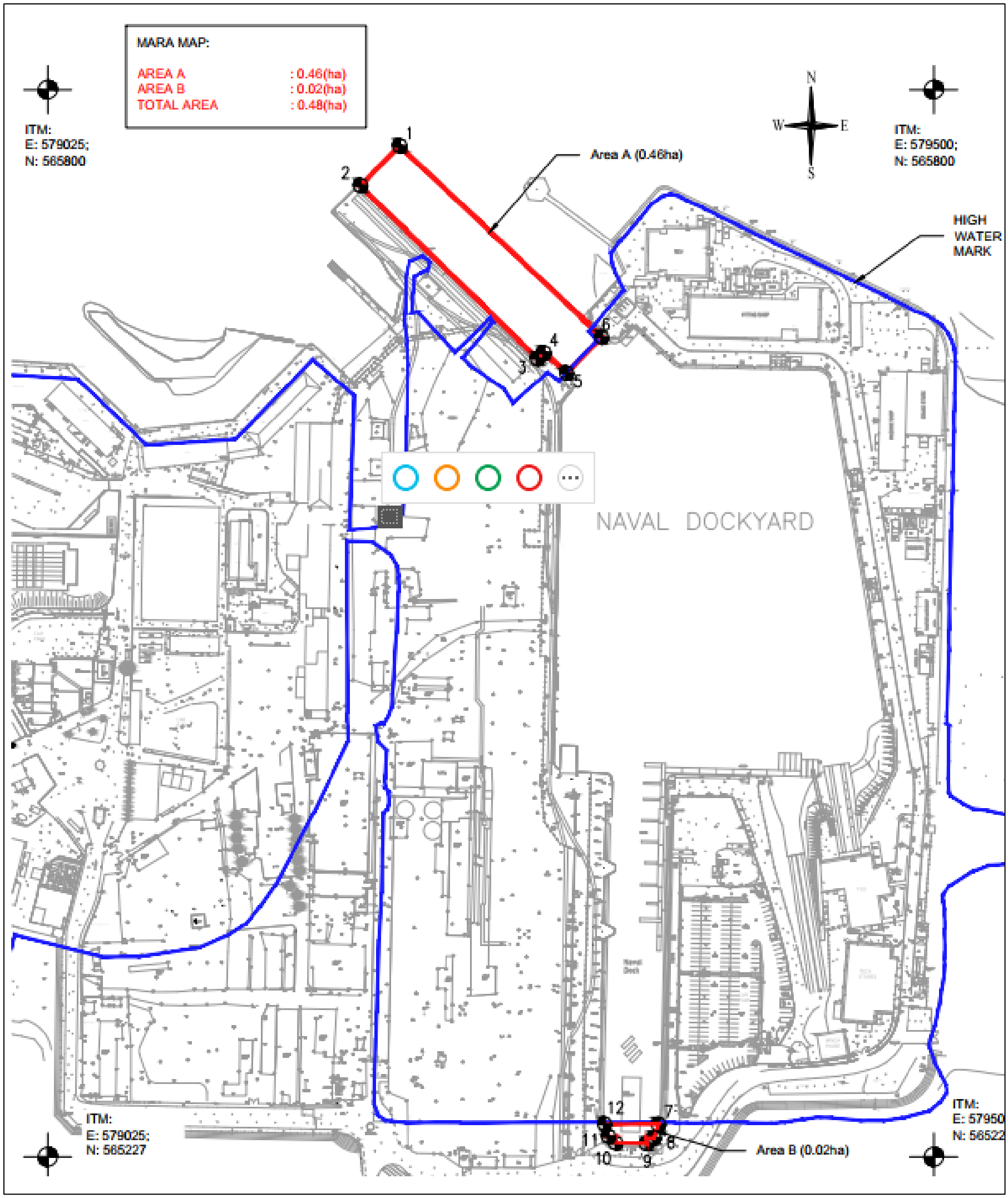
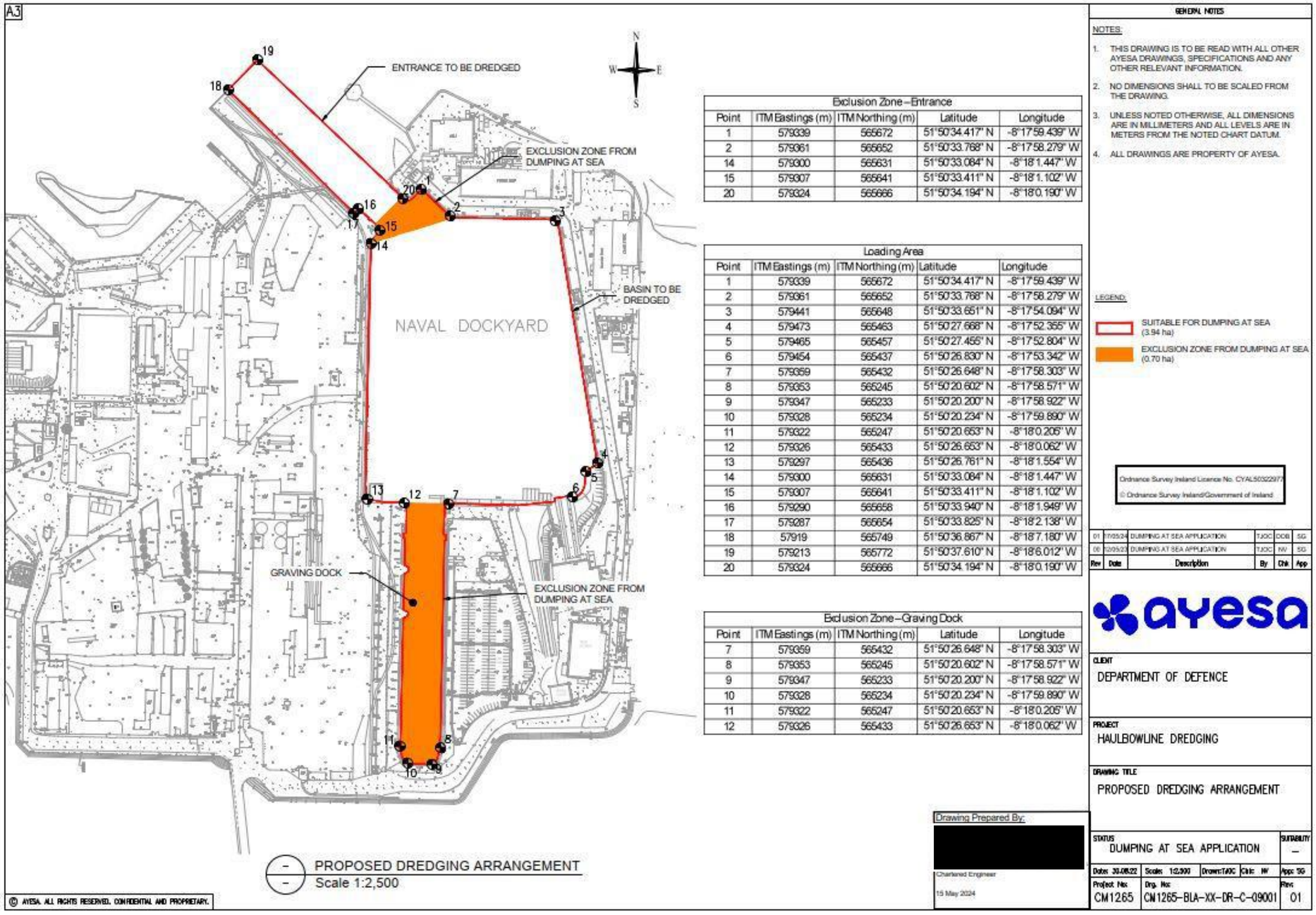


Figure 2. Proposed MARA loading areas A and B.



Exclusion Zone – Entrance				
Point	ITM Eastings (m)	ITM Northing (m)	Latitude	Longitude
1	579339	565672	51°50'34.417" N	-8°17'59.439" W
2	579361	565652	51°50'33.768" N	-8°17'58.279" W
14	579300	565631	51°50'33.084" N	-8°18'1.447" W
15	579307	565641	51°50'33.411" N	-8°18'1.102" W
20	579324	565666	51°50'34.194" N	-8°18'0.190" W

Loading Area				
Point	ITM Eastings (m)	ITM Northing (m)	Latitude	Longitude
1	579339	565672	51°50'34.417" N	-8°17'59.439" W
2	579361	565652	51°50'33.768" N	-8°17'58.279" W
3	579441	565648	51°50'33.651" N	-8°17'54.094" W
4	579473	565463	51°50'27.668" N	-8°17'52.355" W
5	579465	565457	51°50'27.455" N	-8°17'52.804" W
6	579454	565437	51°50'26.830" N	-8°17'53.342" W
7	579359	565432	51°50'26.648" N	-8°17'58.303" W
8	579353	565245	51°50'20.602" N	-8°17'58.571" W
9	579347	565233	51°50'20.200" N	-8°17'58.922" W
10	579328	565234	51°50'20.234" N	-8°17'59.890" W
11	579322	565247	51°50'20.653" N	-8°18'0.205" W
12	579326	565433	51°50'26.653" N	-8°18'0.062" W
13	579297	565436	51°50'26.761" N	-8°18'1.554" W
14	579300	565631	51°50'33.084" N	-8°18'1.447" W
15	579307	565641	51°50'33.411" N	-8°18'1.102" W
16	579290	565658	51°50'33.940" N	-8°18'1.949" W
17	579287	565654	51°50'33.825" N	-8°18'2.138" W
18	57919	565749	51°50'36.867" N	-8°18'7.180" W
19	579213	565772	51°50'37.610" N	-8°18'6.012" W
20	579324	565666	51°50'34.194" N	-8°18'0.190" W

Exclusion Zone – Graving Dock				
Point	ITM Eastings (m)	ITM Northing (m)	Latitude	Longitude
7	579359	565432	51°50'26.648" N	-8°17'58.303" W
8	579353	565245	51°50'20.602" N	-8°17'58.571" W
9	579347	565233	51°50'20.200" N	-8°17'58.922" W
10	579328	565234	51°50'20.234" N	-8°17'59.890" W
11	579322	565247	51°50'20.653" N	-8°18'0.205" W
12	579326	565433	51°50'26.653" N	-8°18'0.062" W

Drawing Prepared By:
[redacted]
Chartered Engineer
15 May 2024

GENERAL NOTES

NOTES:

1. THIS DRAWING IS TO BE READ WITH ALL OTHER AYESA DRAWINGS, SPECIFICATIONS AND ANY OTHER RELEVANT INFORMATION.
2. NO DIMENSIONS SHALL TO BE SCALED FROM THE DRAWING.
3. UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE IN MILLIMETERS AND ALL LEVELS ARE IN METERS FROM THE NOTED CHART DATUM.
4. ALL DRAWINGS ARE PROPERTY OF AYESA.

LEGEND:

SUITABLE FOR DUMPING AT SEA (3.94 ha)

EXCLUSION ZONE FROM DUMPING AT SEA (0.70 ha)

Rev	Date	Description	By	Chk	App
01	17/05/24	DUMPING AT SEA APPLICATION	TJOC	DOB	SG
00	12/05/23	DUMPING AT SEA APPLICATION	TJOC	NV	SG

ayesa

CLIENT: DEPARTMENT OF DEFENCE

PROJECT: HAULBOWLINE DREDGING

DRAWING TITLE: PROPOSED DREDGING ARRANGEMENT

STATUS: DUMPING AT SEA APPLICATION | SUITABILITY: –

Date: 30.08.22 | Scale: 1:2,500 | Drawn: TJOC | Chk: NV | Appr: SG

Project No: CM1265 | Drg. No: CM1265-BLA-XX-DR-C-09001 | Rev: 01

Figure 3. Map showing the proposed maintenance dredging areas suitable for dumping at sea and exclusion zones.

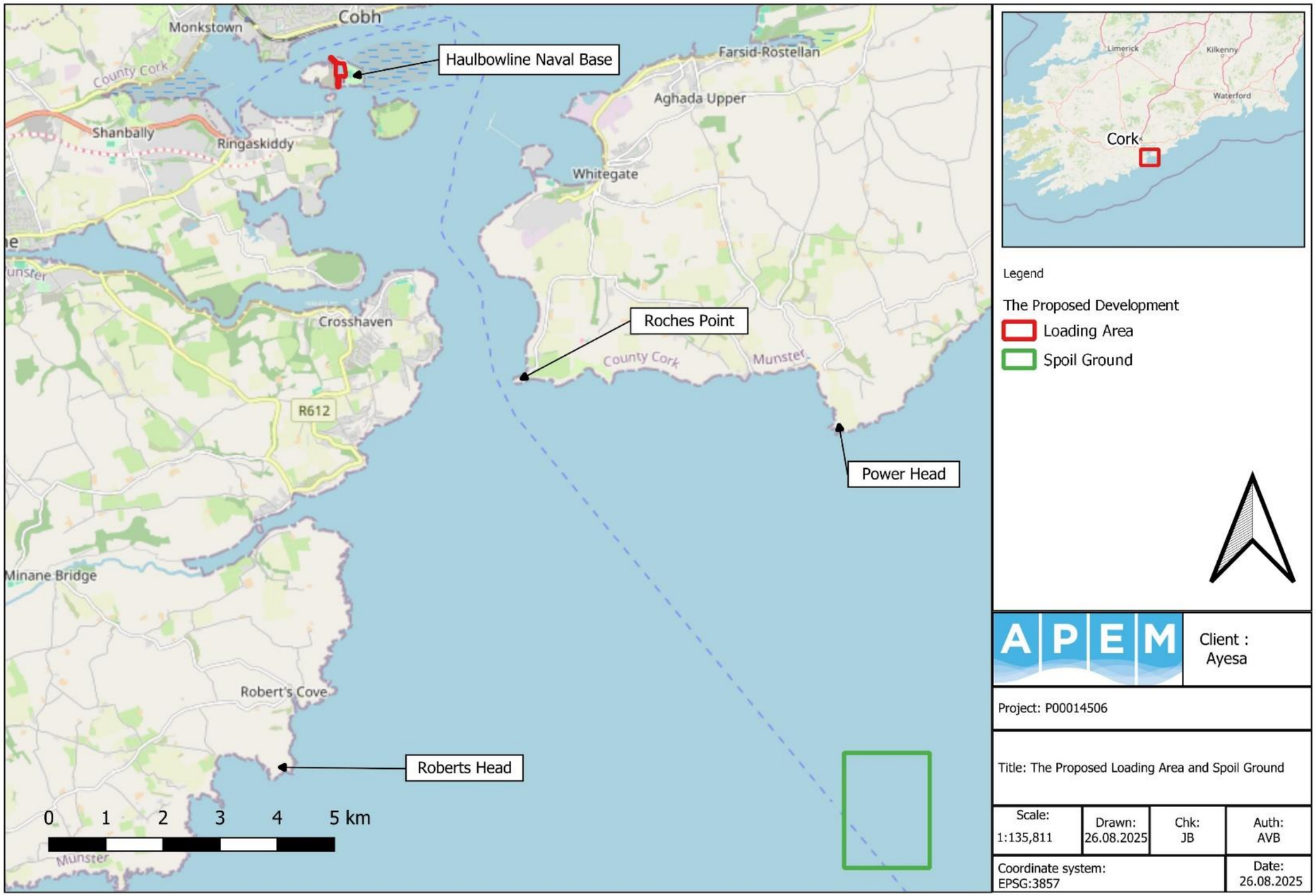


Figure 4. The Proposed Loading Area and Spoil Ground.

2.1 General Description of the Site

The dredge location is at Haulbowline Naval Base on Haulbowline Island in Cork Harbour, County Cork (see Figure 3 and Figure 4). The dredge area is enclosed within Haulbowline Island except to the north where the approach channel provides access to Cork Harbour.

All uncontaminated material from the dredging is anticipated to be disposed of at sea at the Roches Point dump site. All contaminated material will be collected during Dredging Campaign 1, and will be disposed of at a licensed disposal facility. The spoil dump site (spoil ground) is an existing spoil ground located south of Power Head, at the edge of the approaches to Cork Harbour (see Figure 4). This site lies at least 3.7 km outside of the limit of the Cork Harbour Authority, in open water of between 25 and 50 m water depth below CD (see Ayesa (2024) for more information).

2.2 Sediment Characteristics

As part of the DaS application process, it was necessary to collect and analyse sediment samples to determine potential contamination and the physical nature of the sediment to be dredged. To this end, Socotec was commissioned to analyse 18 discrete sediment samples collected from Haulbowline Harbour.

In addition to examining the potential for contaminates, the material was also examined to quantify the percentage of sand and silt material. The results of this assessment are presented in Table 1 below. As demonstrated by this information, approximately 96.6% of the material to be dredged was identified as silt, whilst the remaining 3.4%% of material had a grain size equivalent to or greater than that of sand material.

Table 1. Summary of the Dumping at Sea material analyses report (RPS, 2025a).

Sample	Particle size >2 mm % (Gravel)	Particle size <2 mm >63um % (Sand)	Particle size <63um % (Silt)
S1	0.00	8.10	91.90
S2	0.40	6.00	93.60
S3	0.00	3.40	96.60
S4	0.00	4.00	96.00
S5	0.00	0.50	99.50
S6	0.00	4.00	96.00
S7	0.00	1.80	98.20
S8	0.00	1.10	98.90
S9	0.00	2.00	98.00
S10	0.60	4.50	94.90

Sample	Particle size >2 mm % (Gravel)	Particle size <2 mm >63um % (Sand)	Particle size <63um % (Silt)
S11	0.00	0.70	99.30
S12	0.00	5.60	94.40
S13	0.00	2.00	98.00
S14	0.00	1.20	98.80
S15	0.00	0.60	99.40
S16	1.30	1.60	97.10
S17	0.00	5.70	94.30
AVERAGE	**0.13**	**3.30**	**96.57**

2.3 Sediment plumes generated from the dredging activity

A Sediment Plume Dispersion Assessment was completed by RPS for the provision of sediment plume dispersion information relating to the dredging at Haulbowline Harbour (RPS, 2025a). Production rates (i.e., rate of dredging) and percentage overspill were set at a 'realistic worst-case' scenario to cover the range of dredging techniques which could be utilised to undertake these works. As such, it was assumed that the dredging operations would be undertaken on a 24/7 basis. A typical dredging cycle is presented in Table 2 below.

The path that was used to define the location and movement of the dredging source term in the numerical model is presented in Figure 5.

Table 2. Typical dredging cycle commensurate with historical operations (RPS, 2025a).

Cycle Phase	Duration (min)
Loading time	300
Sailing to Dump	85
Dumping	10
Sailing from Dump	85
Total	**480**

Figure 5. The path used to define the location and movement of the dredging source term (RPS, 2025a).

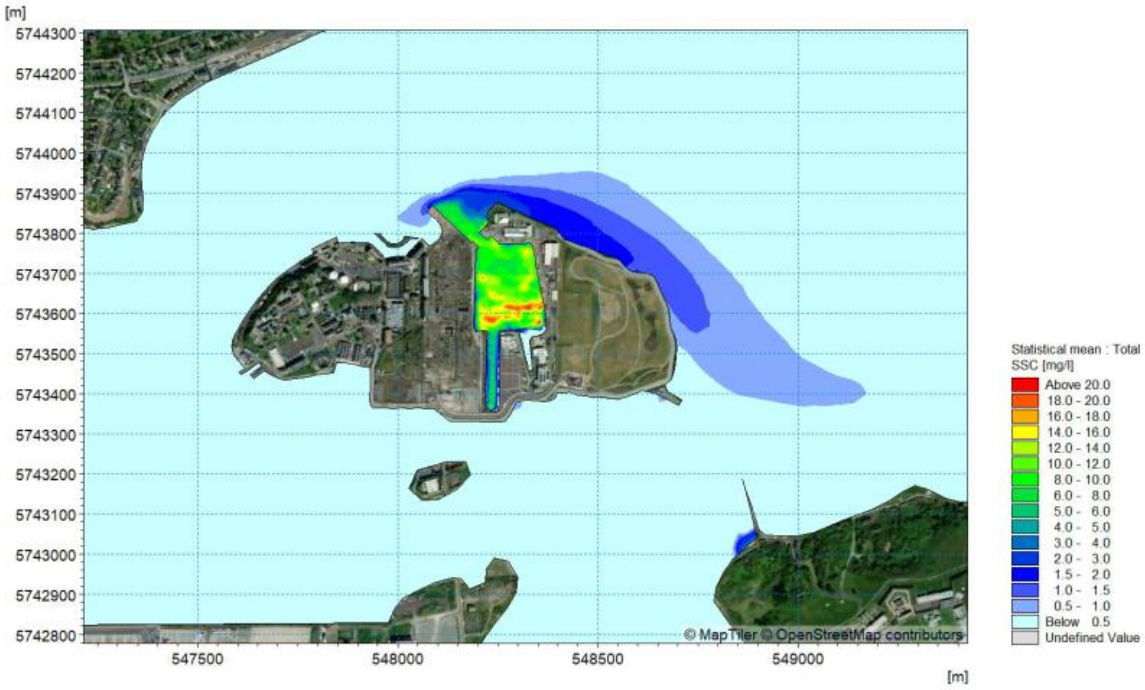


Figure 6. Average total suspended sediment concentration within Haulbowline Harbour during the course of the proposed dredging operations (RPS, 2025a).

The statistical mean total suspended sediment plume envelope is presented in Figure 6, which demonstrates that average total SSC throughout Cork harbour does not generally exceed 0.5 mg/l during the course of the dredging operation, except for within Haulbowline Harbour whereby the sheltered nature of the harbour limits flushing and results in higher average total SSC of up to 20 mg/l. Lower concentrations of less than 2 mg/L can be seen to the east side of the Island, where sediment is dispersed during the ebb tide.

2.4 Sediment plumes generated from the dumping activity

In addition to assessing sediment plumes generated from the dredging operation within Haulbowline naval base, RPS also assessed the dispersion and settlement of material released from dumping dredged material at the licensed disposal site approximately 4.5 km south of Power Head. Dumping activities are anticipated to last for approximately 10 min in every 8-hour dredging cycle.

The path that was used to define the location and movement of the dredging source term in the numerical model is presented in Figure 7.

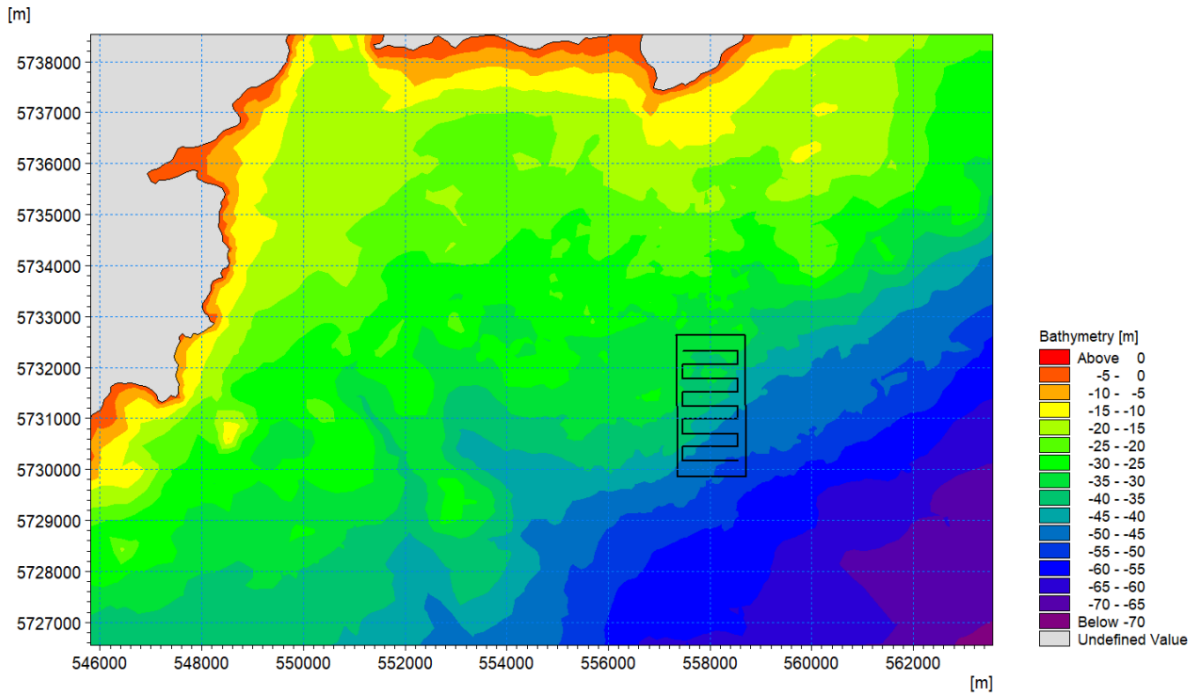


Figure 7. The path used to define the location and movement of the dumping source term (RPS, 2025a).

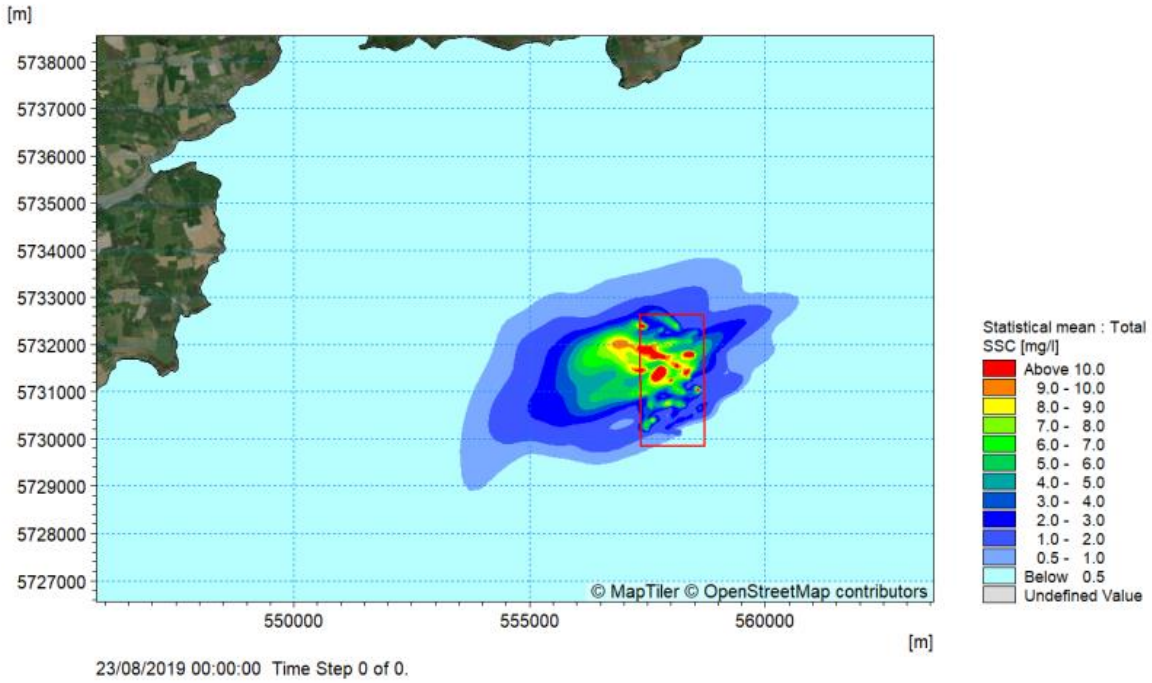


Figure 8. Average total suspended sediment concentration at the licensed disposal site during the course of the dredging operations (RPS, 2025a).

The statistical mean total suspended sediment plume envelope is presented in Figure 8, which demonstrates that average total SSC beyond the immediate vicinity of the licensed disposal site does not generally exceed 10mg/l and will be dispersed to less than 0.5 mg/l within approximately 2 km from the disposal site boundary. Bed thickness at the disposal site presented very little change across the dumpsite, with changes in bed thickness not exceeding c.0.06 m.

3. Methodology

The NIS process is based on the requirements of the following specific European Union Directives and the Regulations that implement their requirements in national law.

3.1 Relevant Guidance and legislation

3.1.1 Birds Directive

The European Union (EU) Directive on the Conservation of Wild Birds (79/409/EEC) (hereafter called the 'Birds Directive') provides a framework for the conservation and management of wild birds in Europe. The relevant provisions of the Directive are the identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex

I of the Directive and for all regularly occurring migratory species (required by Article 4). The Directive requires national governments to establish SPAs and to have in place mechanisms to protect and manage them. The SPA protection procedures originally set out in Article 4 of the Birds Directive have been replaced by the Article 6 provisions of the Habitats Directive.

3.1.2 Habitats Directive

The EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC) (hereafter called the 'Habitats Directive') provides a framework for the conservation and management of natural habitats, wild fauna (except birds) and flora in Europe. Adopted in 1992, transposed into Irish law in 1997 and as subsequently amended, its aim is to maintain or restore natural habitats and wild species at a favourable conservation status. The relevant provisions of the Directive are the identification and classification of Special Areas of Conservation (SACs) (Article 4) and procedures for the protection of SACs and SPAs (Article 6). SACs are identified based on the presence of natural habitat types listed in Annex I and populations of the species listed in Annex II. The Directive requires national governments to establish SACs and to have in place mechanisms to protect and manage them.

Together they form a coherent network of European protected areas (SACs and SPAs), called Natura 2000 sites (hereafter referred to as "European sites"), which are safeguarded against potentially damaging developments. The Irish legislation applicable to these European sites is found in the European Communities (Birds and Natural Habitats) Regulations 2011-2015 (hereafter called 'the Habitats Regulations').

3.1.3 Relevant Guidance

The Department of the Environment, Heritage and Local Government (DEHLG, 2010) published the Appropriate Assessment Guideline for Planning Authorities. In addition to this national guidance, the European Commission has issued a series of authoritative documents that provide extensive direction regarding the procedural and substantive requirements of Appropriate Assessment. Chief among these is the document 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*' (EC, 2001), which articulates the foundational principles governing decision-making throughout the assessment process. The preparation of this report has been undertaken in accordance with these principal national and European guidelines. The following list identifies these and other pertinent guidance documents:

- Communication from the Commission on the Precautionary Principle, Office for Official Publications of the European Communities, Luxembourg (EC, 2000);

- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC. Office for Official Publications of the European Communities, Luxembourg (EC, 2001);
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission. Office for Official Publications of the European Communities, Luxembourg (EC, 2007);
- Estuaries and Coastal Zones within the Context of the Birds and Habitats Directives - Technical Supporting Document on their Dual Roles as Natura 2000 Sites and as Waterways and Locations for Ports. Office for Official Publications of the European Communities, Luxembourg (EC, 2009);
- Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, Dublin (DEHLG, 2010a);
- Department of Environment Heritage and Local Government Circular NPW 1/10 and PSSP 2/10 on Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities, Dublin (DEHLG, 2010b);
- Guidance document on the implementation of the birds and habitats directive in estuaries and coastal zones with particular attention to port development and dredging. Office for Official Publications of the European Communities, Luxembourg (EC, 2011a);
- European Commission Staff Working Document 'Integrating biodiversity and nature protection into port development' (EC, 2011b);
- Marine Natura Impact Statements in Irish Special Areas of Conservation: A working document, National Parks and Wildlife Service, Dublin (NPWS, 2012);
- Interpretation Manual of European Union Habitats. Version EUR 28. Office for Official Publications of the European Communities, Luxembourg (EC, 2013a);
- Guidelines on Climate Change and Natura 2000. Office for Official Publications of the European Communities, Luxembourg (EC, 2013b);
- Guidance on EIS and NIS Preparation for Offshore Renewable Energy Projects. Department of Communications, Climate Action and Environment, Dublin (DCCAE, 2017);
- European Commission Notice C (2018) 7621 'Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC', Office for Official Publications of the European Communities, Luxembourg (EC, 2019); and
- Institute of Air Quality Management 'A guide to the assessment of air quality impacts on designated nature conservation sites (Version 1.1)', London (IAQM, 2020).

3.2 Appropriate Assessment process

The AA process is carried out in a sequential manner and the stages of that sequence are described as follows in the European Commission's methodological guidance, an overview of the process is within Figure 9 (European Commission 2002):

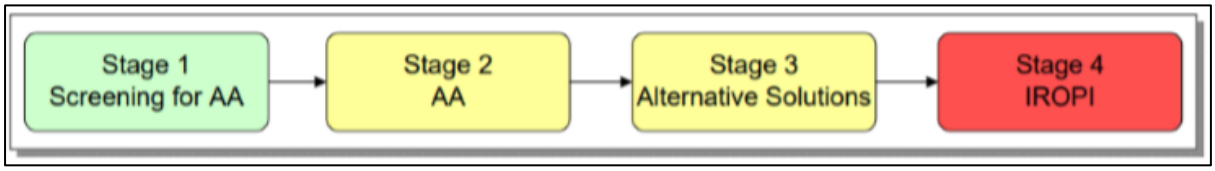


Figure 9: Stages in the AA process (Source: DEHLG, 2010).

The process promotes a hierarchy of avoidance, mitigation and compensatory measures to be addressed in the AA process as detailed in Scott-Wilson & Levitt-Therivel (2006):

- Firstly, a plan / project should aim to avoid any negative impacts on the Conservation Objectives of European sites by identifying possible impacts early and designing the project / plan to avoid such impacts.
- Secondly, mitigation measures should be applied during the AA process (after Stage 1 screening, so it should be applied at Stage 2 if required) to the point where no adverse impacts on the site(s) remain.
- Thirdly a plan / project may have to undergo an assessment of alternative solutions. Under this stage of the assessment, compensatory measures are required for any remaining adverse effects, but they are permitted only if (a) there are no alternative solutions and (b) the plan / project is required for imperative reasons of overriding public interest (the 'IROPI test'). European case law highlights that consideration must be given to alternatives outside the plan / project boundary area in carrying out the IROPI test.

3.2.1 Stage 1 –Screening

- European Sites are screened for LSEs, both from the project alone and in-combination with other projects;
- No mitigation to be considered unless impacts can be avoided through the modification or redesign of the plan or project, at this point the project is re-screened; and
- An AA is needed if the risk of significant effects cannot be excluded at the screening stage.

3.2.2 Stage 2 - Appropriate Assessment

- For those European Sites where LSEs cannot be excluded at Stage 1, then further information to inform the assessment would be prepared, and the test of whether the project alone or in-combination may adversely affect the integrity of each European Site in view of its conservation objectives would be applied;
- The AA involves the production of a NIS, which reports on the targeted professional scientific examination of the proposed plan or project and the relevant European sites, to identify and characterise any possible implications for each protected site in view of each site's Conservation Objectives, taking account of 'in combination' effects; and
- The NIS report is intended to provide information to enable the competent authority to carry out the AA.

In those cases where the conclusion is that an Adverse Effect on the Integrity (AEoI) of a European Site has been identified, then the assessment proceeds to two further stages:

3.2.3 Stage 3 - Consideration of Alternatives

- Examines any alternative solutions or options that could enable the plan or project to proceed without adverse effects on the integrity of a European site. Alternative solutions can include a proposal of a different scale, a different location and/or an option of not having the project proceed at all, i.e., the 'do nothing' alternative; and
- The process must return to Stage 2 as each alternative requires its own AA to be conducted.

3.2.4 Stage 4 – Assessment of Imperative Reasons of Overriding Public Interest

- If it is demonstrated that there are no alternative solutions to the proposal that would have a lesser effect or avoid an adverse effect on the integrity of the protected Site(s), then a justified case will be prepared that the project must be carried out for Imperative Reasons of Overriding Public Interest (IROPI);
- This is the main derogation process referenced in Article 6(4) which examines whether there are IROPI for allowing a plan or project that will have adverse effects on the integrity of a European site to proceed in circumstances where it has been established that no less damaging alternative solution exists;
- If there are such reasons, then the proposed plan or project can be allowed so long as compensatory measures are taken to ensure the overall coherence of Natura 2000 is protected (Article 6(4) of the Habitats Directive); and
- Compensatory measures must be proposed and assessed, and these must be approved by the Minister for Housing, Local Government and Heritage.

This report covers Stage 2: AA (NIS).

3.3 In-Combination Assessment

The Habitats Regulations, taken with Government policy, require the consideration of the potential effects of a project on European sites both alone and in-combination with other plans or projects.

The identification of plans and projects to include in the in-combination assessment can be based on:

- Approved plans;
- Constructed projects;
- Approved but as yet unconstructed projects; and
- Projects for which an application has been made, are currently under consideration and/or will be consented before the proposed works begin.

4. Summary of Screening Assessment

4.1 Applicant Screening for Appropriate Assessment

4.1.1 European Site Identification Process

The DOD provided a SISAA report for the Proposed Development in July 2025 (APEM, 2025). The Zone of Influence (ZoI) for the proposed activities (encompassing the dredging and sediment disposal at the Spoil Ground) was identified through a review of the types of works the project will involve, the type of impacts and effects that could arise as a result, the Sediment Plume Dispersion Assessment report (RPS, 2025a), the distance between the project and European sites and the qualifying interests of the European sites.

The closest European site to the dredge area is the Cork Harbour SPA at approximately 2 km to the east. The next closest European site is Great Island Channel SAC which is approximately 4.3 km to the north (Figure 10).

The closest European site to the dump site is the Cork Harbour SPA, which is approximately 8.6 km northwest (Figure 10).

There is no landscape or ecological connectivity to any European sites beyond the Cork Harbour SPA and Great Island Channel SAC and there are no other European sites that have the potential to be impacted by the project through other means. Therefore, the ZoI for the project is limited to these two closest European sites.

4.1.2 Supporting Information for Screening of Appropriate Assessment Results

Potential pathways of effect, identified within the SISAA (APEM, 2025), which could potentially have an effect on European sites and have been considered in relation to the project, are as follows:

- Changes in suspended solids (water clarity);
- Visual disturbance and above water noise; and
- Pollution events from vessels and equipment.

The dredging works can also result in the following effects; however, it was determined that there is no pathway to impact on the European sites due to the distance from the sites and/or due to consideration of the features of the sites being considered, so these effects were not considered further:

- Abrasion/disturbance of the substrate on the surface of the seabed;
- Penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion;
- Direct loss of habitat;
- Smothering and siltation rate change;
- Disturbance due to underwater noise and vibration;
- Introduction or spread of invasive non-native species; and
- Disturbance due to introduction of light.

Following an initial screening of European sites undertaken within the Applicant's SISAA report (APEM, 2025), it was concluded that there is no potential for LSE on any qualifying features of the Cork Harbour SPA and the Great Island Channel SAC, and therefore no European sites were screened in for further assessment at Stage 2: AA.

4.2 Competent Authority Screening for Appropriate Assessment

As mentioned in Section 1.3, MARA completed a Screening for Appropriate Assessment Report in July 2025 (available on the Department's website[1]), which concluded that a Stage 2

[1] https://www.maritimeregulator.ie/wp-content/uploads/2025/07/MUL230029-AA-Screening-Report-and-Determination-1.pdf

AA was required as the project, individually or in combination with other plans or projects, is likely to have a significant effect on European sites.

The qualifying interest of European sites which may experience likely significant effects as a result of the proposed dredging and dumping works were identified using the 'Source-Pathway-Receptor' (SPR) model. The model was used to identify potential environmental impacts resulting from the proposed development. The parameters of the model are defined as follows:

- Source – the origin of a potential effect (noting that one source may have several pathways and receptors);
- Pathway – the means by which the effect of the activity could impact a receptor; and
- Receptor – the element of the receiving environment that is impacted.

Where there was no pathway, the pathway was so long that the effect from the source had dissipated to a negligible level before reaching the receptor, or where the receptor (site interest feature) only occurs in the area on a seasonal basis, and/or that receptor is not present in the period in which particular elements of the proposed development are a source of a potential impact, there was justification for the screening out of that particular receptor.

The report concludes as follows:

- Increased suspended solids causing likely significant effects on Annex I habitats cannot be discounted for the following European sites:
    - Great Island Channel SAC
- Increased suspended solids, disturbance from underwater noise and disturbance from visual and above water noise, causing likely significant effects on Annex II species and Special Conservation Interests cannot be discounted for the following European sites:
    - Cork Harbour SPA

In relation to the specific qualifying interests and species conservation interests of each of the European sites concerned, MARA's Screening for AA Report reached a conclusion that all interest features listed in Table 3 could not be excluded at the screening stage.

As such, the MARA Screening for AA report concludes as follows:

"It cannot be excluded on the basis of objective scientific information, that the proposed project, either individually or in combination with other plans or projects, will have a significant effect on a European Site."

Based on the AA Screening and Determination Report prepared by MARA, the Applicant has taken the following two European sites to Stage 2 AA:

- Great Island Channel SAC [004030]; and
- Cork Harbour SPA [001058].

The European Sites screened into Stage 2 AA are presented in Figure 10 with their distance from the project site provided in Table 3. Based on MARA's Screening Determination, the following impact pathways were screened into Stage 2 AA for the qualifying interests present at the two European sites screened in for further assessment:

- Water quality and habitat deterioration effects on protected habitats and species as a result of changes in suspended solids;
- Disturbance and displacement effects on protected birds as a result of visual disturbance and above water underwater noise; and
- Visual and above water noise disturbance effects on protected bird species.

Table 3. European sites screened in for appropriate assessment and their qualifying interest features.

European site & site code	Approx. distance from PD	List of Qualifying Interest features	Screened in and Connections (S-P-R)[2]
Cork Harbour SPA [004030]	<2 km	Little Grebe (*Tachybaptus ruficollis*) [A004] Great Crested Grebe (*Podiceps cristatus*) [A005] Cormorant (*Phalacrocorax carbo*) [A017] Grey Heron (*Ardea cinerea*) [A028] Shelduck (*Tadorna tadorna*) [A048] Wigeon (*Anas penelope*) [A050] Teal (*Anas crecca*) [A052] Pintail (*Anas acuta*) [A054] Shoveler (*Anas clypeata*) [A056]	MARA: *"Yes - possible visual & above water noise disturbance and disturbance from underwater noise and indirect impacts on water quality."*

[2] https://www.maritimeregulator.ie/wp-content/uploads/2025/07/MUL230029-AA-Screening-Report-and-Determination-1.pdf

European site & site code	Approx. distance from PD	List of Qualifying Interest features	Screened in and Connections (S-P-R)[2]
		Red-breasted Merganser (*Mergus serrator*) [A069] Oystercatcher (*Haematopus ostralegus*) [A130] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Lapwing (*Vanellus vanellus*) [A142] Dunlin (*Calidris alpina*) [A149] Black-tailed Godwit (*Limosa limosa*) [A156] Bar-tailed Godwit (*Limosa lapponica*) [A157] Curlew (*Numenius arquata*) [A160] Redshank (*Tringa totanus*) [A162] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Common Gull (*Larus canus*) [A182] Lesser Black-backed Gull (*Larus fuscus*) [A183] Common Tern (*Sterna hirundo*) [A193] Wetland and Waterbirds [A999]	
Great Island Channel SAC [001058]	<7 km	Mudflats and sandflats not covered by seawater at low tide [1140] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	MARA: "*Yes – possible physical disturbance from water quality deterioration (suspended sediments and sediment deposition)*"

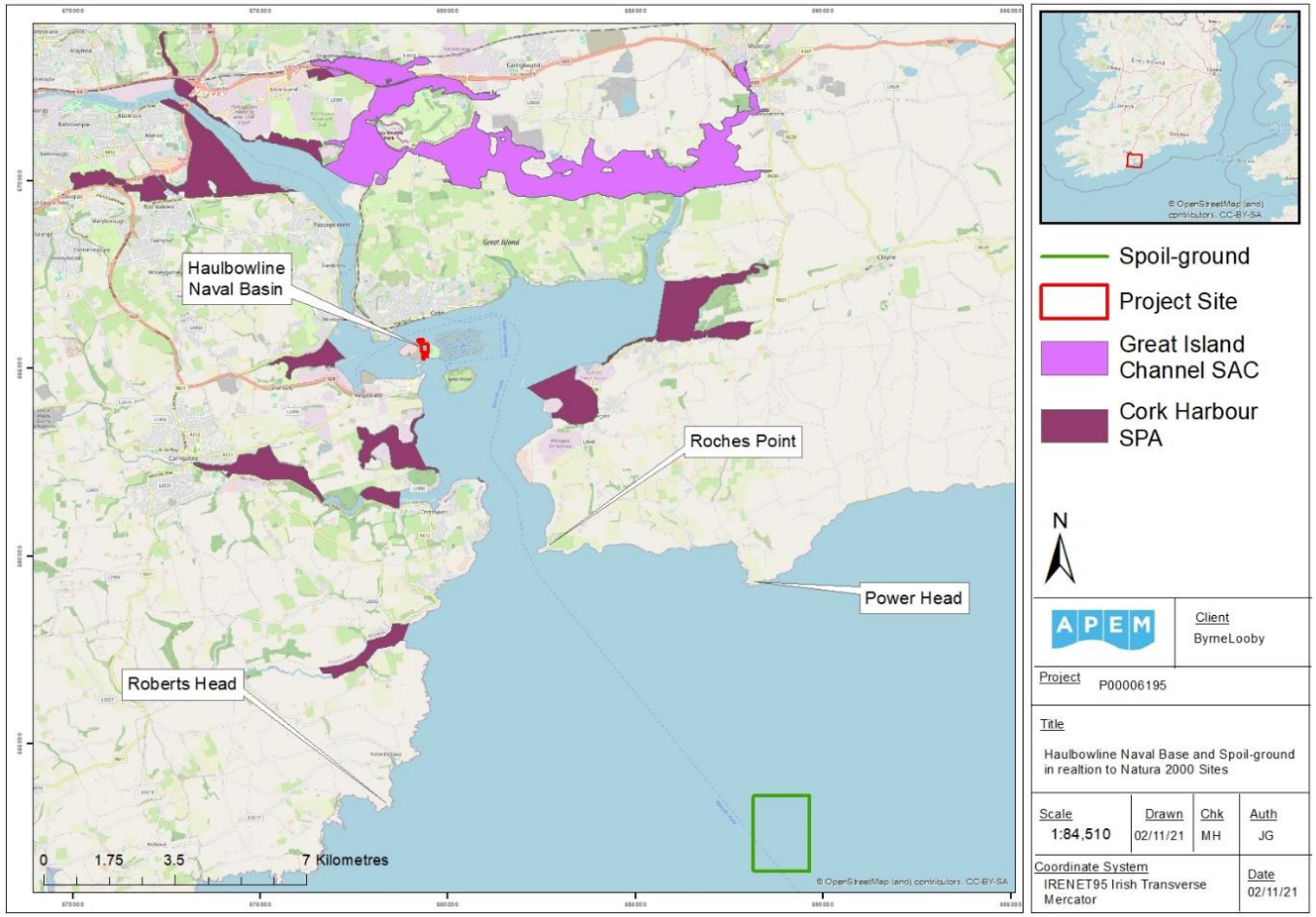


Figure 10. Proposed development dredging works area, dump site (Spoil ground) and European sites.

5. Stage 2 Appropriate Assessment – Natura Impact Statement

5.1 Introduction

As described in Section 4, European Sites and their qualifying interests were progressed to an AA (Stage 2) where it was not possible to exclude LSE. Information to inform the AA is provided below, which includes the relevant Impact Pathways and affected qualifying interest features which are under consideration. An AA of potential effects on site integrity of the screened in European sites, in light of the conservation objectives, has also been completed.

Undertaking an AA requires the consideration of potential impacts that may have an effect on the integrity of a European Site, in relation to the site's structure and function and its conservation objectives, which aim to define favourable conservation conditions for particular habitats and species. As such, the AA within this report considers the conservation objectives of the following European Sites screened in for assessment:

- Great Island Channel SAC [004030] (full details provided in Appendix 1)
    - To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Great Island Channel SAC; and
    - To restore the favourable conservation condition of Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) in Great Island Channel SAC.
- Cork Harbour SPA [001058] (full details provided in Appendix 2)
    - To maintain the favourable conservation condition of each species in Cork Harbour SPA.

5.2 Project Alone Assessment

5.2.1 Water Quality and Habitat Deterioration Effects on Habitats and Species as a result of Changes in Suspended Solids

Sediment Plume modelling has been carried out to assess in an appropriate manner whether, or not, proposed loading and dumping activities would result in adverse effects upon the wetland habitat of Cork Harbour SPA or the Mudflats sandflats and Atlantic salt meadow habitats of Great Island Channel SAC.

According to the Sediment Dispersion Modelling report (RPS, 2025a), sediment plumes for dredging operations would not generally extend more than 1 km from the dredge site boundary during periods of flood or ebb tidal flows, with higher concentrations of SSC (20 mg/l) restricted to the enclosed harbour and low concentrations (<3 mg/l) outside of the harbour. As the modelling report used the "worst-case" scenario for sediment dispersion with

the assessment of a TSHD, it is assumed that the use of a backhoe or DOP pump dredger within the naval basin environment would likely result in lower suspended sediment concentrations and dispersion with a relatively localised sediment plume.

As the majority of the dredging area is close to the Haulbowline harbour mouth, or within it, sediment plume modelling outputs had more limited dispersion into the surrounding water bodies, especially when compared to dredging activities in open water. In addition, any sediment plumes are predicted to disperse quickly after dredging activity and dredge plumes will be largely limited to areas within the immediate zone of operations. As both the Great Island Channel SAC and Cork Harbour SAC are both over 2 km from the proposed dredging and disposal operations, it is expected that any sediment disturbed by the proposed activities will not impact any habitats or species within the designated site boundaries. Further, the direction of travel for suspended particles is, on average, in an easterly and southerly direction, which is away from both of the designated sited.

When considering the SPA features that may forage within areas affected by temporary sediment plumes (grebes, cormorant, red-breasted merganser, gull species and common tern) none of these species are found in significant numbers within close proximity to Haulbowline harbour (NPWS, 2014a). As the modelling predicts that any sediment plumes will be neither extensive in their spatial or temporal nature this would not constitute a significant effect on any foraging species, as there are significant unaffected areas for them to forage. Therefore, foraging areas will not be significantly affected by the low levels of modelled sediment increase in the relatively confined area in which works are proposed.

An assessment of the dumping phase of the primary maintenance dredging operations found that the average total suspended sediment concentration beyond the immediate vicinity of the licensed disposal site did not generally exceed 10 mg/l. Such sediment plumes will quickly disperse to less than 0.5mg/l approximately 2 km from the disposal site boundary. According to the assessment, almost all the sediment dumped during the primary dredging operation will remain within the confines of the licensed disposal site. There was also very little change in bed level across the dumpsite, with bed thickness changes not exceeding *c*.0.06m. This means that no sediments from the dumping site will reach either the Great Island Channel SAC or Cork Harbour SPA, ruling out any direct effect on any features of these two designated sites.

When considering the few species that may forage as far offshore as the dumping site (great crested grebe, cormorant, red-breasted merganser, gull species and common tern) the short-term nature and limited spatial extent of any increases in sediment in this area would not constitute a significant effect on foraging effectiveness. It should also be noted that the Roches Point spoil disposal site has been in operation since 1978. Moreover, the dumping site

is not likely to represent a regular location for any of these species to forage in, when considering the Cork SPA, Great Island Channel SAC and wider Port of Cork offer more favourable conditions.

As a result of no sediments from the dumping site being predicted to reach either the Great Island Channel SAC or Cork Harbour SPA and no significant effect being caused to any designated features foraging within the dumping site it can be determined that dumping activities would not cause an adverse effect on any receptors at either designated site.

In summary, the project will not result in adverse water quality or habitat deterioration effects on Annex I habitats of Great Island Channel SAC and aquatic Annex II species of Cork Harbour SPA as a result of suspended solids, and no reasonable scientific doubt remains as to the absence of such effects. The Proposed Development does not directly overlap with either of the SPA and SAC boundaries, with any disturbed sediment from the dredging and disposal activities to remain spatially limited to areas within the immediate zone of operations. **It is, therefore, expected that the Proposed Development activities will not result in AEoI for the Great Island Channel SAC and Cork Harbour SPA as a result of Water Quality and Habitat Deterioration.**

5.2.2 Disturbance and Displacement Effects on Birds as a result of Underwater Noise

The proposed development is within 2 km to the Cork Harbour SPA and, therefore, there is the potential for disturbance / displacement of qualifying species of the SPA as a result of underwater noise generated from the use of vessels and plant used for the dredging and dumping activities. The worst-case acoustic properties of continuous noise from dredging and shipping are presented in Table 4. However, the area of the SPA which falls within 2 km of the proposed dredging activities is extremely small in the context of the overall size of the SPA, which is 27 km^2, and therefore, there is abundant alternative foraging habitat if birds are disturbed / displaced. It is also noted that the areas of water immediately adjacent to the dredging activities host limited abundances of birds (NPWS, 2014a) that are listed as designated features of the Cork Harbour SPA. Vessels would also only be present within 2 km of the SPA for a very short time, and impacts arising from underwater noise would be short-term and reversible.

In addition, underwater noise and disturbance from vessels and other human activities is common within Cork Harbour, which has been an active port for over 200 years. Species will, therefore, be relatively habituated to sources of disturbance from these sources (Cutts *et al.*, 2009), which will be similar to the prevailing baseline conditions within the wider area. When referring to the worst-case acoustic properties of dredging and vessels presented by the

MMO (2015, Table 4), it is expected that the proposed dredging and dumping activities will generate levels of underwater noise similar to those of the background shipping.

Table 4. Typical and worst-case acoustic properties of anthropogenic continuous noise sources (MMO, 2015).

Activity	Sub-activity	Source level (dB re 1uPa m)				Frequency (Hz)	
		Range	Mean	Median	Max	Range	Peak
Dredging	TSHD during dredging	184-188	187	187	188	30-63,000	40-500
Dredging	Backhoe during dredging	163-186	178	175	186	3-20,000	35-500
Shipping	Bulk cargo in transit	175-192	186	184	192	10-40,000	10-1,000
Shipping	Container in transit	169-198	186	181	198	1-120,000	8-33
Shipping	Loaded barge in transit	161-171	167	166	171	45-7,070	37-5,000
Shipping	Vehicle carrier in transit	178-182	180	180	182	ND	20-1,000

When considering the designated features that may be susceptible to impacts from underwater noise it is recognised that species that prey on small fish by shallow diving, dip diving or surface feeding (including gulls and terns) are unlikely to be impacted by underwater noise due to the brevity of exposure time and low sensitivity to underwater noise disturbance (Furness *et al.*, 2013; Fliessbach *et al.*, 2019). As a result of limited exposure or sensitivity to underwater noise being evident for gulls and common tern it can be concluded that no significant effect will occur to these designated features from underwater noise associated with dredging activities. Alongside other designated features that do not forage underwater (including ducks and waders) underwater noise from dredging activities would not be the cause of an adverse effect on these receptors at either designated site.

Of the bird species known to feed exclusively underwater, pursuit diving species (including little grebe, great crested grebe, cormorant, red-breasted merganser), these may be more prone to impacts as they forage underwater for prey items such as fish and invertebrates. However, within an area such as the Port of Cork alongside shipping traffic and the level ambient noise already experienced at this site (Sutton *et al.*, 2014) the presence of an

additional vessel and associated underwater noise is highly unlikely to be significant. In addition, it is noted that none of the pursuit diving species that are designated features of the Cork Harbour SPA (little grebe, great crested grebe, cormorant, red-breasted merganser) are known to use the area within close proximity (within 2 km) to the proposed dredging activities in significant numbers. With respect to little grebe and red-breasted merganser, both these species were absent to at least 2 km from any sources of noise associated with dredging activities (NPWS, 2014a), meaning no potential impacts to them. With respect to great crested grebe and cormorant, although both species are present within 2 km of the source of any noise associated with the proposed dredging activities, they are both able to forage across the wider Port of Cork and make use of other areas if they are subject to disturbance during the short period of dredging. Therefore, as any increased underwater noise would be similar to the current wider ambient levels generated by other activities, few designated species would be present within a reasonable area of influence (circa 500 m) and dredging activities will be of relatively short duration (maximum of 10-12 weeks per annum) it can be concluded that no significant effect will occur to these designated features.

In summary, the project will not result in adverse effects on from underwater noise on Annex II species of Cork Harbour SPA, and no reasonable scientific doubt remains as to the absence of such effects. **It is, therefore, expected that the Proposed Development activities will not result in AEoI for the Cork Harbour SPA as a result of disturbance and displacement effects on birds as a result of underwater noise.**

5.2.3 Visual and Above Water Noise Disturbance Effect on Birds

Disturbance effects on birds can manifest through their displacement from suitable or preferred habitat. During the proposed dredging works, both noise and visual disturbance have the potential to cause displacement as a result of the visual presence of vessels and above water noise generated during dredging and disposal. Different species show differing sensitivities to visual and auditory disturbance (Fliessbach *et al.*, 2019).

Wader and wildfowl species in the intertidal area (including those listed as designated features of Cork Harbour SPA) are less likely to be disturbed by vessel activities in the nearshore region given likely levels of baseline visual disturbance onshore (Cutts and Allen 1999, Cutts *et al.* 2009). As with non-avian receptors, impulsive noise generated during vessel activities is more likely to cause disturbance than non-impulsive noise (Wright *et al.,* 2010), although little data are available on species-specific responses to noise. The maximum distance waders and wildfowl are known to be sensitive to above water noise and visual presence is 500 m, with the exception of curlew that may be responsive to noise stimuli from 650 m away. However, for the majority of activities and species activities would need to be within 100-300 m before a disturbance response may occur (Goodship *et al.*, 2022).

The majority of the designated wader and wildfowl species within Cork Harbour SPA are not found to use any areas within 500 m of the dredging activities (NPWS, 2014a), so would not be disturbed by any above water noise or visual presence stimuli. Of the species likely present within 500 m oystercatchers, curlews and redshank forage on the south of the Haulbowline island coastline, but due to buildings and other structures acting as noise barriers no disturbance would be predicted to birds residing in such areas. For species known to reside in small numbers to the north of the island (including grey heron and oystercatcher) they are only within 500 m of the noise source (dredging activities) if present on the outer mudflats when fully exposed at low tide. For the remainder of the tidal sequence both species would be beyond this precautionary disturbance distance. Therefore, as it is highly unlikely that any waders and wildfowl would be present within close proximity (within 500 m) of the dredging activities none of these species would be subject to above water disturbance from either noise or visual presence.

For species that may be present on the water surface within 500 m (great crested grebe and cormorant), both species have relatively high tolerance levels to visual and noise disturbance events from such small-scale dredging activities. This is evidenced on review of low tide counts across the Cork Harbour SPA (NPWS, 2014b), showing that both species are regularly recorded within areas of higher human activities, including harbours, shipping lanes, loading bays and adjacent to active docklands. Therefore, both species can be assumed to be habituated to noise levels similar to and higher than the proposed dredging activities or the physical presence of vessels that are both greater in size and more mobile. Should either species be displaced from foraging areas within close proximity (500m) of the dredging activities then substantial areas of suitable habitat are available for them to locate to for the short periods when dredging is proposed, so there would not be any significant effects to either species.

Terns can be followed at a moderate distance by a small inflatable boat without apparently causing significant disturbance (Perrow *et al.*, 2011) and some seabirds appear to show little or no disturbance responses to boats, with some gull species being attracted to vessels due to their association with fishery discards (Bradbury *et al.*, 2014). As gull species are not considered to be sensitive to such activities, they are not considered to be displaced from any proposed vessel activities (MMO, 2018). For common tern, they are most prone to displacement in response to noise and visual presence stimuli within 200 m of their breeding site (nests). However, the species is known to nest on artificial floating platforms, making use of such structures to set up colonies within heavily built-up coastal areas (Goodship *et al.*, 2022), including ports and harbours, where they are habituated to everyday noise and physical presence associated with small and large vessels. The visual presence and any above water noise associated with the proposed dredging activities would not be the cause of any

disturbance stimuli at common tern breeding colonies with the Cork Harbour SPA, as activities are well beyond 200 m and not in line of sight. The dredging activities would also not be the cause of significant effects on foraging common terns, as they are likely to be habituated to vessel activities across the Cork Harbour SPA and make use of more productive areas of the SPA, having been successfully breeding within the area since the 1970s (NPWS, 2014a).

In conclusion, it is expected that the project will not result in adverse visual and above water noise disturbance on Annex II species of Cork Harbour SPA, and no reasonable scientific doubt remains as to the absence of such effects. **It is, therefore, expected that the Proposed Development activities will not result in AEoI for the Cork Harbour SPA as a result of visual and above water noise disturbance.**

5.3 In-Combination Assessment

5.3.1 In-Combination Screening

It is a requirement of AA that the in-combination or cumulative effects of the proposed development together with other plans or projects are assessed. MARA included a screening assessment of in-combination effects using a stepwise approach for identifying other plans and projects that may impact any European sites in-combination with the proposed activities. The assessment is available on the Department's website[3], which has been used to help inform the screening of plans and projects for this assessment.

Five plans (Table 5) and seven projects (Table 6) have been identified as having potential to act in-combination with the Proposed Development for the purpose of this assessment.

Table 5. List of plans identified which have potential in-combination impacts on European sites.

Plan	Description
National Ports Policy 2012	The main objectives of the National Port Plan are to promote the maritime transport market and ensure the strategic development of port infrastructure. The Port of Cork was designated a 'Tier 1 Port of National Significance' under the policy, meaning it is recognised as critical to Ireland's maritime infrastructure and

[3] https://www.maritimeregulator.ie/wp-content/uploads/2025/07/MUL230029-AA-Screening-Report-and-Determination-1.pdf

Plan	Description
	future capacity planning. The Policy has shaped development in the Port of Cork, providing the mandate to synthesise the Port of Cork Masterplan 2050 and the move to supporting larger vessels and reaching environmental sustainability goals.
Port of Cork Masterplan 2050	Regarding the Port of Cork Masterplan Under the National Ports Policy, Irish ports are advised to produce port masterplans in line with international best practice for all Irish ports. This masterplan builds upon the previous Strategic Development Plan adopted by the Port of Cork Company (PoCC) in 2010. It provides an integrated framework to strategically plan for the short, medium, and long-term; to coordinate port planning: to assist local authorities in the preparation of their own local and regional plans; to evaluate future development proposals and to facilitate the green energy sector
Cork County Development Plan 2022-2028	The Plan provides a framework for land use development and activities with potential for construction an operation source effects throughout the city.
The National Marine Planning Framework	The National Marine Planning Framework was formally established in May 2021, in line with the requirements of EU Directive 2014/89/EU. The framework aims to balance environmental protection with economic social development.
The National Development Plan 2021-2030	This Plan is Ireland's largest-ever public investment strategy, committing to transform infrastructure, support climate action and drive regional development. The Plan has reinforced the strategic importance of the Port of Cork and catalyzed several major developments, including; the redevelopment of Ringaskiddy, enabling deeper berths and larger vessels.

Table 6. List of projects considered to have potential in-combination impacts on European sites.

Application Ref.	Project Description	Approx distance from PD area (km)	Project Status	Summary of works
AN Coimisiún Pleanála - 321875	Planning permission for redevelopment of port facilities (including capital dredging).	< 2	Applied	Application submitted for the redevelopment of port facilities at Ringaskiddy, which occurs in the context of a pre-existing major port redevelopment project that is currently operational. PoCC undertook significant redevelopment works at Ringaskiddy under the previous permitted Strategic Infrastructure Development Application. The redevelopment includes the construction and extension of port facilities and capital dredging of the port area. Ringaskiddy is located to the south-east of Haulbowline Island.
MUL250008	MUL application - deposit of dredged material	Overlap with Spoil Area	Applied	MUL25008, S0021-03, and S0039-01 were submitted by the PoCC for Capital dredging works proposed at the western (Area A) and eastern (Area B) areas of the Ringaskiddy ferry port, with a maximum dredge volume of 375,355m^3 and 47,862m^3, respectively. A backhoe dredger or a trailing suction hopper dredger will undertake the proposed dredging.
S0021-03	EPA Dumping at Sea permit – Port of Cork capital dredging works	< 2	Applied	

Application Ref.	Project Description	Approx distance from PD area (km)	Project Status	Summary of works
S0039-01	EPA Dumping at Sea permit – Port of Cork capital dredging works	< 2	Applied	The proposed disposal activities involve the deposition of dredged marine sediments from Ringaskiddy Basin to facilitate berth extensions with capacity to support Offshore Renewable Energy. The spoil area, 377.82 ha, is located 4.5 km south of Power head. The maximum volume of dredged material to be deposited will be 421,217 m^3.
S0013-03	EPA Dumping at Sea permit – Port of Cork maintenance dredging works	Overlap with Spoil Area	Permitted	S0013-03 and FS007127 were submitted for the proposed maintenance dredging and disposal activity throughout Cork Harbour and the River Lee. The work aims to remove accumulated sediments to maintain safe navigation areas in the Port of Cork. The areas that will be dredged are the Approach/Fairways, Cork City Berths, Ringaskiddy Basin and Berths, Trivoli Berths, Cobh Turning Circle and Berth, Auxiliary Beths, Local Access Dredging Areas and Crosshaven. The dredging works are expected to be undertaken over an 8-year period with a maximum dredge volume of 4,700,145m^3. The licensed disposal site is located approximately 8 km south of Roches Point.
FS007126	Dredging – Port of Cork Company maintenance dredging licence	< 1	Foreshore licence granted	

5.3.2 In-Combination Policy and Plan Assessment

National Ports Policy 2012

While the National Port Policy (NPP) itself does not authorize specific projects, it sets the stage for future port expansions, infrastructure upgrades, and operational changes—particularly at Tier 1 ports like the Port of Cork, supporting the Port of Cork Master Plan (PoCMP) 2050. Where no additional projects are scheduled for delivery within the same timeframe as the Proposed Development, the potential for in-combination effects does not arise. The Ringaskiddy ferry port redevelopment project (Table 6) has been identified from within the NPP and has potential for in-combination effects with the proposed development, which is assessed in Section 5.3.3.

Port of Cork Masterplan 2050

Any future projects arising during the implementation of the PoCMP will be subject to assessment at the appropriate stages of design and construction. For each, the DOD will adhere to all relevant planning, marine, environmental, and consent regulations. Where no additional projects are scheduled for delivery within the same timeframe as the Proposed Development, the potential for in-combination effects does not arise. Projects such as the Ringaskiddy ferry port redevelopment are part of the broader Port of Cork Masterplan, whereby the upgrades to Cork Container Berth 2 and Deepwater Beth Extension are essential for accommodating larger vessels and increasing port capacity (Port of Cork, 2022). As the Ringaskiddy ferry port redevelopment project (Table 6) has been identified from within the NPP, there is potential for in-combination effects with the proposed development, which is assessed in Section 5.3.3.

Cork County Development Plan 2022-2028

A Natura Impact Report was prepared (Cork County Council, 2022) in support of the Cork County Development Plan 2022-2028. The report assessed potential impacts arising from the Cork County Development Plan 2022-2028. No impacts were identified on any of the European sites identified within the ZoI or the vicinity of the Proposed Development. As such, no in-combination effects are anticipated between the Proposed Development and the Cork County Development Plan 2022-2028 or the supporting NIS.

Following the implementation of mitigation measures, it was determined that the Plan is unlikely to result in any significant impacts on designated European sites, either independently or in conjunction with other plans or projects. Consequently, given the predicted absence of AEoI from the Proposed Development, no potential for in-combination effects between the Proposed Development and the Plan has been identified

The National Marine Planning Frameworks

The National Marine Planning Framework (NMPF) addresses a wide range of sectors, including; offshore renewable energy, Fisheries and aquaculture, ports and shipping, tourism and recreation, Marine biodiversity and conservation, and Subsea infrastructure. Each sector is guided by specific planning policies and objectives to ensure coordinated development and environmental stewardship. The DOD will adhere to all relevant planning, marine, environmental, and consent regulations. Where no additional projects are scheduled for delivery within the same timeframe as the Proposed Development, the potential for in-combination effects does not arise.

The National Development Plan 2021-2030

The National Development Plan (NDP) itself is a strategic document that is not a single project but a portfolio of investments across sectors and regions, intended to promote growth and climate resilience. The Plan is ambitious and transformative, and its large scale means that there is potential for in-combination effects on protected areas. As such, all individual project arising from the Plan must undergo AA under the Habitats Directive. The DOD will adhere to all relevant planning, marine, environmental, and consent regulations. Where no additional projects are scheduled for delivery within the same timeframe as the Proposed Development, the potential for in-combination effects does not arise. The Plan supports development such as the PoCMP 2050 for the improvement of international connectivity and trade. Therefore, any projects associated with the PoCMP (e.g. the Ringaskiddy Ferry Port Redevelopment project) will be also be associated with the NDP and are assessed in Section 5.3.3.

5.3.3 In-Combination Project Assessment

Ringaskiddy Ferry Port Redevelopment Project

The following applications were submitted by the PoCC for the Ringaskiddy Port development project, which involves the redevelopment of port facilities, capital dredging and disposal activities:

- AN Coimisiún Pleanála – 321875: Planning permission for redevelopment of port facilities (including capital dredging);
- MUL250008: MUL application - deposit of dredged material;
- S0021-03: EPA Dumping at Sea permit - Port of Cork capital dredging works; and
- S0039-01: EPA Dumping at Sea permit - Port of Cork capital dredging works.

Capital dredging activities and construction of new berths, floating pontoons and access bridge within the Ringaskiddy Ferry port falls under AN Coimisiún Pleanála – 321875. The application was submitted in February 2025 and is due to be determined in August 2025. The

proposed methods of dredging include TSHD, water injection dredger, mechanical dredger and plough dredger. The proposed capital dredging areas at Ringaskiddy are within 2 km from the Haulbowline harbour and the same spoil disposal site is utilised by both projects. The timescales for the capital dredging and disposal works are unknown. However, the DOD have confirmed with PoCC that loading and dumping activities will not occur at the same time as loading and dumping from the activities under MUL250008, S0021-03 & S0039-01. (RPS, 2025b). As such, suspended sediment plumes, underwater noise, above water noise, and visual disturbance arising from both projects will not occur simultaneously and would not result in increased risk of impacting the site integrity of nearby protected sites that could otherwise occur from one or other of the projects dredging alone.

In conclusion, there is no potential for the works and activities for the Proposed Development and those under AN Coimisiún Pleanála – 321875, MUL250008, S0021-03, and S0039-01 to have in-combination effects on Cork Harbour SPA or Great Island Channel SAC. Therefore, there will be no AEoI for nearby European sites.

Port of Cork Maintenance Dredging

The PoCC submitted the following applications for the same project, which includes maintenance dredging in the River Lee and Cork Harbour area;

- FS007126: Dredging – Port of Cork Company maintenance dredging licence
- S0013-03: EPA Dumping at Sea permit – Port of Cork maintenance dredging works

An application for a licence to perform maintenance dredging within multiple areas of the River Lee and Cork Harbour was submitted for the Port of Cork Company in February 2022 under the licence number FS007126. Maintenance dredging works for FS007126 are currently in progress and are scheduled to occur in areas of the navigation channel that are close to the Proposed Development. Port of Cork Company submitted another application for a permit under S0013-03 for the disposal of the dredged material of the River Lee and Cork Harbour maintenance dredging works outlined in FS007126. The permit for S0013-03 was granted in August 2023. Condition 3.1 of the permit stated that all loading and dumping activities shall be completed between 2023 and 2030.

The timescales for maintenance dredging and disposal activities under FS007126 and S0013-03 to overlap with dredging activities within the Proposed Development. Similarly, the areas dredged under FS007126 will be location within 1 km of the Haulbowline Naval Base, and the spoil area the spoil areas for Haulbowline disposal activities and disposal under permit S0013-03 will use the same disposal site. However, it has been agreed with the Port of Cork Company that dredging and dumping activities for Proposed Development will not occur at the same time as dredging and dumping from the already permitted maintenance dredging and

disposal activities under FS007126 and S0013-03 (RPS, 2025c). As such, suspended sediment plumes, underwater noise, above water noise, and visual disturbance arising from both disposal activities will not occur simultaneously. Therefore, the proposed projects would not result in increased risk of impacting the site integrity of nearby protected sites that could otherwise occur from one or other of the projects alone.

In conclusion, there is no potential for the works and activities of the Proposed Development and those under FS007126 and S00013-03 to have in combination effects on Cork Harbour SPA or Great Island Channel SAC, and there is no AEoI for nearby European sites.

6. Summary and Conclusions

The proposed maintenance dredging works at the Haulbowline Naval Base in County Cork have the potential to interact with protected qualifying features of European sites. This assessment identified protected sites in the vicinity of the Proposed Development that could potentially be influenced by effects arising from the works.

Consideration was given to the relevant guidance issued by a number of governmental, statutory and industry bodies including, but not limited to Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC and Guidance for Planning Authorities (Department of the Environment, Heritage and Local Government).

The following European sites were screened in for Stage 2: AA:

- Great Island Channel SAC [004030]; and
- Cork Harbour SPA [001058].

The following impacts pathways were assessed in the NIS:

- Water quality and habitat deterioration effects on protected habitats and species as a result of changes in suspended solids;
- Disturbance and displacement effects on protected birds as a result of underwater noise; and
- Visual and above water noise disturbance effects on protected bird species.

The screened in sites, Great Island Channel SAC and Cork Harbour SPA, were taken through to Stage 2 AA to assess the potential for adverse effects on site integrity for the following impact pathways; Changes in suspended solids (water clarify), disturbance and displacement due to underwater noise, and visual and above water noise disturbance. It was determined that the assessed impact pathways will not results in adverse effects on the integrity of both European sites.

The in-combination assessment assessed the potential for additive or cumulative effects beyond those associated with individual projects in isolation. Five plans and seven projects were identified as having the potential to act in-combination with the Proposed Development. It was concluded that there would be no potential for AEoI in-combination with other plans and projects on the assessed European sites.

7. References

APEM (2025). Supporting Information for Screening for Appropriate Assessment Report for Dredging Works at Haulbowline Naval Basin. APEM Scientific Report P000014506. Report for ByrneLooby, July 2025.

Ayesa, (2024). Dumping at Sea Permit Report: Haulbowline Dredging. Report No. CM1265-MA-R0901 for Department of Defence. Rev 00Cutts & Allen 1999,

Ayesa (2025). Assessments of Impacts of the Maritime Usage. Revision 2. Report No. CM1265-MA-R0502. July 2025.

Cutts N, Phelps. A and Burdon D. (2009) Construction and Waterfowl, Defining Sensitivity, Response, Impacts and Guidance. Institute of Coastal and Estuarine Studies a Report to Humber Inca. Furness, 2012

Department of Communications, Climate Action and Environment (2017) Guidance on EIS and NIS preparation for offshore renewable energy projects. Dublin: Department of Communications, Climate Action and Environment.

Department of the Environment, Heritage and Local Government (2010a) Appropriate assessment of plans and projects in Ireland: Guidance for planning authorities. Dublin: Department of the Environment, Heritage and Local Government.

Department of the Environment, Heritage and Local Government (2010b) Circular NPW 1/10 and PSSP 2/10 on Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities. Dublin: Department of the Environment, Heritage and Local Government.

European Commission (2000) Communication from the Commission on the Precautionary Principle. Luxembourg: Office for Official Publications of the European Communities.

European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC. Luxembourg: Office for Official Publications of the European Communities.

European Commission (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission. Luxembourg: Office for Official Publications of the European Communities.

European Commission (2009) Estuaries and coastal zones within the context of the Birds and Habitats Directives: Technical supporting document on their dual roles as Natura 2000 sites and as waterways and locations for ports. Luxembourg: Office for Official Publications of the European Communities.

European Commission (2011a) Guidance document on the implementation of the Birds and Habitats Directives in estuaries and coastal zones, with particular attention to port development and dredging. Luxembourg: Office for Official Publications of the European Communities.

European Commission (2011b) Commission Staff Working Document: Integrating biodiversity and nature protection into port development. Brussels: European Commission.

European Commission (2013a) Interpretation Manual of European Union Habitats. Version EUR 28. Luxembourg: Office for Official Publications of the European Communities.

European Commission (2013b) Guidelines on climate change and Natura 2000. Luxembourg: Office for Official Publications of the European Communities.

European Commission (2019) Commission Notice C(2018) 7621: Managing Natura 2000 sites – The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. Luxembourg: Office for Official Publications of the European Communities.

Fliessbach, K.L, Brokenhagen, K., Guse, N., Markones, N., Schwemmer, P., Garthe, S. (2019). A Ship Traffic Disturbance Vulnerability Index for Northwest Eurpoean Seabirds as a Tool for Marine Spatial Planning. Frontiers in Marine Science. Available at: https://www.frontiersin.org/articles/10.3389/fmars.2019.00192/fullKaiser *et al.* 2006

Furness, R.W., Wade, H.M. and Masden E.A. (2023). Assessing vulnerability of marine bird populations to offshore wind farms. Journal of Environmental Management, 119: 56-66.

Goodship, N.M. and Furness, R.W. (MacArthur Green) (2022). Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

Institute of Air Quality Management (2020) A guide to the assessment of air quality impacts on designated nature conservation sites (Version 1.1). London: Institute of Air Quality Management.

Marine Management Organisation (MMO) (2015a). Modelled Mapping of Continuous Underwater Noise Generated by Activities. ABPmer. MMO Project No: 1097.

Marine Management Organisation (MMO) (2018). Displacement and habituation of seabirds in response to marine activities. A report produced for the Marine Management Organisation, MMO Project No: 1139, May 2018, 69pp

National Parks & Wildlife Service (NPWS). (2014a). Corks Harbour Special Protection Area (Site CodeSPA 4030), Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht,Conservation Objectives Supporting Document. Version 1, 160pp.

National Parks & Wildlife Service (NPWS) (2014b) Conservation Objectives: Great Island Channel SAC 001058. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, 14pp.

National Parks and Wildlife Service (2012) Marine Natura Impact Statements in Irish Special Areas of Conservation: A working document. Dublin: National Parks and Wildlife Service.

Perrow, M.R., Skeate, E.R. and Gilroy, J. 2011. Visual tracking from a rigid-hulled inflatable boat to determine foraging movements of breeding terns. Journal of Field Ornithology. 82 (1). 68-79. RPS, 2025a

Port of Cork (2022) Master Plan 2050: Public Consultation. Available at: https://www.portofcork.ie/wp-content/uploads/2022/10/Port-Masterplan-2050-Public-Consultation-Boards.pdf

RPS (2025a). Haulbowline Harbour Dredging. Sediment Plume Dispersion Assessment. 794-NI-WAE-02258. 03 June 2025.

RPS (2025b) Appropriate Assessment Screening and Natura Impact Statement, Port of Cork Ringaskiddy. Port of Cork Company, Report No. M1099-AY-ENV-R-00. Revision 01. 92pp.

RPS (2025c) NI1004 Port of Cork Maintenance Dredging Natura Impact Statement, F03, February 2023. 80pp.

Schwemmer, P., Mendel, B., Sonntag, N., Dierschke, V., & Garthe, S. (2011). Effects of ship traffic on seabirds in offshore waters: implications for marine conservation and spatial planning. Ecological Applications, 21(5), 1851-1860.

Scott Wilson and Levett-Therivel, (2006). Appropriate Assessment of Plans. Scott Wilson, Levett-Therivel Sustainability Consultants, Treweek Environmental Consultants and Land Use Consultants.

Topping, C. and Petersen, I.K. (2011). Report on a red-throated diver agent-based model to assess the cumulative impact from offshore wind farms. Report commissioned by Vattenfall

A/S. Aarhus University, DCE – Danish Centre for Environment and Energy. Wright, M.D., Goodman, P. and Cameron, T.C. 2010. Exploring behavioural responses of shorebirds to impulsive noise. In: Wildfowl 2010. 60. 150-167.

Appendix 1 – Great Island Channel SAC Conservation Objectives

Conservation Objectives for: Great Island Channel SAC (NPWS,2014b)			
1140 Mudflats and sandflats not covered by seawater at low tide			
Conservation Objective:	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Great Island Channel SAC, which is defined by the following list of attributes and targets:		
Attribute	**Measure**	**Target**	**Notes**
Habitat	Hectares	The permanent habitat area is stable or increasing, subject to natural processes	Habitat area was estimated using as 723 ha
Community distribution	Hectares	Conserve the following community type in a natural condition: Mixed sediment to sandy mud with polychaetes and oligochaetes community complex	Based on intertidal and subtidal surveys undertaken in 2006 (Aquafact, 2007) and 2011 (EcoServe, 2012; MERC, 2012).

1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)			
Conservation Objective:	To restore the favourable conservation condition of Atlantic salt meadows (Glauco-Puccinellietalia maritimae) in Great Island Channel SAC, which is defined by the following list of attributes and targets:		
Attribute	**Measure**	**Target**	**Notes**
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Bawnard - 0.29ha; Carrigatohil - 1.01ha.	Based on data from Saltmarsh Monitoring Project (SMP) (McCorry and Ryle, 2009). Two sub-sites that supported Atlantic salt meadow were mapped (1.30ha) and additional areas of potential saltmarsh (17.60ha) were identified from an examination of aerial photographs,

			giving a total estimated area of 18.90ha. Saltmarsh habitat has also been recorded at two other sub-sites within the SAC (Curtis and Sheehy Skeffington, 1998). NB further unsurveyed areas maybe present within the SAC.
Habitat distribution	Occurrence	No decline or change in habitat distribution, subject to natural processes.	Based on data from McCorry and Ryle (2009). Within the sites surveyed by the SMP, estuary type saltmarsh over a mud substrate is most common and ASM is the dominant saltmarsh habitat. NB further unsurveyed areas maybe present within the SAC.
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions	Based on data from McCorry and Ryle (2009). At Bawnard there is a seawall that was constructed in the 18th-19th centuries. At Carrigatohil the northern and eastern shorelines have been significantly modified by road construction. Part of the saltmarsh has also been infilled.
Physical structure: creeks and pans	Occurrence	Maintain/restore creek and pan	Based on data from McCorry and Ryle

		structure, subject to natural processes, including erosion and succession	(2009). The ASM at Carrigatohil is poorly developed, though some of the larger sections contain salt pans. The smaller sections, however, tend to be quite uniform in topography. The saltmarsh topography at Bawnard is poorly developed with few typical saltmarsh features. See coastal habitats supporting document for further details
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	Based on data from McCorry and Ryle (2009). At Bawnard, the entire bay empties at low tide to expose soft intertidal mudflats.
Vegetation structure: zonation	Occurrence	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Based on data from McCorry and Ryle (2009). Zonations to *Salicornia* flats and intertidal mudflats occurs at Carrigatohil. At Bawnard, there is succession from saltmarsh to brackish saltmarsh and wet grassland as well as zonation to intertidal mudflats at the lower saltmarsh boundary.
Vegetation structure: vegetation height	Centimetres	Mainain structural variation within sward	Based on data from McCorry and Ryle (2009). At

			Carrigatohil, the sward height is quite tall due to lack of grazing. At Bawnard only part of the site is grazed.
Vegetation structure: vegetation cover	Percentage cover at a representative number of monitoring stops	Maintain more than 90% area outside creeks vegetated	Based on data from McCorry and Ryle (2009). Some poaching was noted in places at Bawnard.
Vegetation composition: typical species and subcommunities	Percentage cover at a representative number of monitoring stops	Maintain range of subcommunities with typical species listed in SMP (McCorry and Ryle, 2009)	
Vegetation structure: negative indicator species - *Spartina anglica*	Hectares	No significant expansion of common cordgrass *(Spartina anglica*), with an annual spread of less than 1% where it is known to occur	Based on data from McCorry and Ryle (2009). Spartina occurs at both sub-sites in this SAC.

Appendix 2 – Cork Harbour SPA Conservation Objectives

Conservation Objectives for: Cork Harbour SPA (NPWS, 2014a)			
A004 Little Grebe *Tachybaptus ruficollis*			
A005 Great Crested Grebe *Podiceps cristatus*			
A017 Cormorant *Phalacrocorax carbo*			
A028 Grey Heron *Ardea cinerea*			
A048 Shelduck *Tadorna tadorna*			
A050 Wigeon *Anas penelope*			
A052 Teal *Anas crecca*			
A054 Pintail *Anas acuta*			
A056 Shoveler *Anas clypeata*			
A069 Red-breasted Merganser *Mergus serrator*			
A130 Oystercatcher *Haematopus ostralegus*			
A140 Golden Plover *Pluvialis apricaria*			
A141 Grey Plover *Pluvialis squatarola*			
A142 Lapwing *Vanellus vanellus*			
A149 Dunlin *Calidris alpina alpina*			
A156 Black-tailed Godwit *Limosa limosa*			
A157 Bar-tailed Godwit *Limosa lapponica*			
A160 Curlew *Numenius arquata*			
A162 Redshank *Tringa totanus*			
A179 Black-headed Gull *Chroicocephalus ridibundus*			
A182 Common Gull *Larus canus*			
A183 Lesser Black-backed Gull *Larus fuscus*			
A193 Common Tern *Sterna hirundo*			
A999 Wetland			
Conservation Objective:	To maintain the favourable conservation condition of each species in Cork Harbour SPA, which is defined by the following list of attributes and targets:		
Attribute	**Measure**	**Target**	**Notes**
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document

Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by each species, other than that occurring from natural patterns of variation	Waterbird distribution from the 2010/2011 waterbird survey programme is discussed in part five of the conservation objectives supporting document