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County Wexford
Ireland

DUMPING AT SEA PERMIT

Permit Register Number:	S0024-01
Permit Holder:	Dublin Port Company, Port Centre, Alexandra Road, Dublin 1.
Location of Loading:	Liffey Estuary Lower and Dublin Bay
Location of Dumping:	Outer Dublin Bay

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DUMPING AT SEA ACT 1996 AS AMENDED

DUMPING AT SEA PERMIT

Decision of the Agency, under Section 5(1) of the
Dumping at Sea Act 1996 as amended

Reference number: **S0024-01**

The Agency in exercise of the powers conferred on it by the Dumping at Sea Act 1996 as amended, for the reasons hereinafter set out, hereby grants this dumping at sea permit to Dublin Port Company, subject to conditions, as set out in the schedule attached hereto.

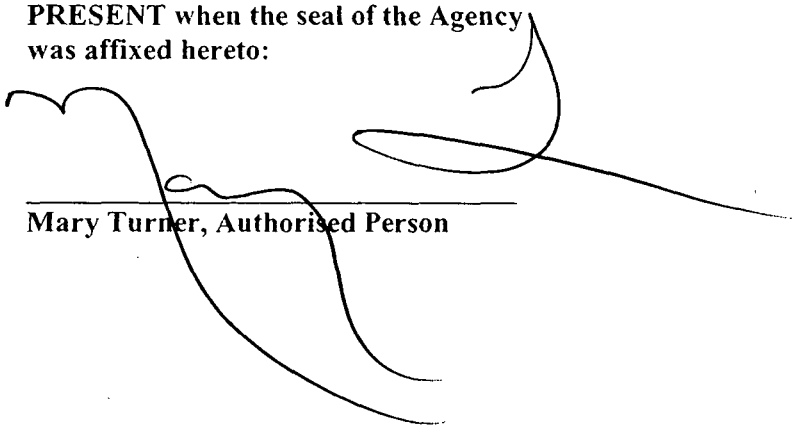
The permit authorises the loading of dredged material from Liffey Estuary Lower and Dublin Bay and the dumping at sea of dredged material to Outer Dublin Bay subject to conditions.

A copy of the Decision is attached.

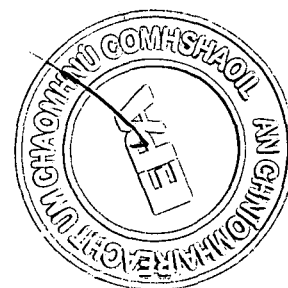
Loading and dumping at sea of a substance or material, in accordance with the Dumping at Sea Act 1996 as amended

GIVEN under the Seal of the Agency this 13th day of September 2016.

PRESENT when the seal of the Agency
was affixed hereto:



Mary Turner, Authorised Person



INTRODUCTION

This introduction is not part of the permit and does not purport to be a legal interpretation of the permit.

This permit is for the loading and dumping at sea of dredged material arising from capital dredging by Dublin Port Company as part of the Alexandra Basin Redevelopment Project. Under this permit, a maximum of 8,760,000 tonnes of dredged material may be loaded and dumped at sea up until and including 31st March 2021. The permit is restricted to the loading and dumping at sea of dredged material from the section of the navigation channel delineated as Loading Area B in the permit application. Chemical analysis has shown that the sediments from this section of the navigation channel are suitable for conventional dumping at sea.

The loading of sediments shall be undertaken using either a backhoe dredger or a trailing suction hopper dredger unless otherwise agreed by the Agency. To minimise the release of suspended solids into the Liffey channel, over-spilling from the vessel shall be prohibited during the loading of dredged material landward (west) of the Bull Walls entrance. Dumping shall be effected by conventional release of the dredged material through the hull of the vessel at the Burford Bank dumping site in Dublin Bay. The permit holder is required to manage the permitted activities to ensure the protection of the marine environment and to submit reports on the loading and dumping activities and monitoring results to the Agency.

The permit sets out in detail the conditions under which Dublin Port Company will carry out loading and dumping at sea.

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Glossary of Terms

All terms in this permit should be interpreted in accordance with the definitions in Dumping at Sea Act 1996 as amended, unless otherwise defined in the section.

AER	Annual Environmental Report.
Agreement	Agreement in writing.
Annually	All or part of a period of twelve consecutive months.
Application	The application by the permit holder for this permit.
Attachment	Any reference to Attachments in this permit refers to attachments submitted as part of this permit application.
BIM	Bord Iascaigh Mhara.
Campaign	A planned period of sustained loading and dumping activity.
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
Chart	Any reference to a chart or chart number means a chart or chart number contained in the application, unless otherwise specified in this permit.
Closed period	Period of time when loading and/or dumping at sea is prohibited in order to protect designated species or sites.
Competent laboratory	A testing facility meeting the general management and technical requirements of EN ISO/IEC-17025 standard, or other equivalent standards accepted at international level and utilising methods of analysis, including laboratory, field, and on-line methods, which are validated and documented in accordance with the above standard(s) for the specific tests.
Day	Any 24 hour period.
DBT	Dibutyltin
DO	Dissolved oxygen.
Documentation	Any report, record, results, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this permit.
Dumping	(a) any deliberate disposal in the maritime area (including side-cast dredging, plough dredging, water injection dredging and other such dredging techniques) of a substance or material from or in conjunction with a vessel or aircraft or offshore installation, (b) any deliberate disposal in the maritime area of vessels, aircraft or offshore installations.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this permit.
Environmental damage	As defined in Directive 2004/35/EC.

EPA	Environmental Protection Agency.
Exclusive economic zone	The outer limit of the exclusive economic zone is the line every point of which lies at a distance of 200 nautical miles from the nearest point of the baseline
Harbour Authority	As defined in Section 1 of the Dumping at Sea Act 1996 as amended
HCB	Hexachlorobenzene.
HCH	Hexachlorocyclohexane.
IFI	Inland Fisheries Ireland.
Incident	The following shall constitute as incident for the purposes of this permit: (i) an emergency; (ii) any loading or dumping at sea activity which does not comply with the requirements of this permit; (iii) any indication that environmental pollution has, or may have, taken place. (iv) a complaint of an environmental nature.
Inland waters	All sea areas which lie on the landward side of the baseline of the territorial seas.
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to perform its function adequately.
Map	Any reference to a map or map number means a map or map number contained in the application, unless otherwise specified in this permit.
Master	The person having the command or charge of the vessel.
Monthly	A minimum of 12 times per year, at intervals of approximately one month.
Monitored Zone	Area which must be monitored for marine mammals by a Marine Mammal Observer.
Noise-sensitive location (NSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
NPWS	National Parks and Wildlife Service.
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic
PAH	Polycyclic aromatic hydrocarbons.
PCB	Polychlorinated biphenyls.
Permit Holder	Dublin Port Company, Port Centre, Alexandra Road, Dublin 1.
Position	Latitude and longitude coordinates, based on the WGS84 datum.

SAC	Special Area of Conservation designated under the <i>Habitats Directive</i> , Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.
Sample(s)	Unless the context of this permit indicates to the contrary, the term sample(s) shall include measurements taken by electronic instruments.
SFPA	Sea Fisheries Protection Authority.
SPA	Special Protection Area designated under the <i>Birds Directive</i> , Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Standard Method	A National, European or internationally recognised procedure (e.g., I.S. EN, ISO, CEN, BS or equivalent); or an in-house documented procedure based on the above references; a procedure as detailed in the current edition of "Standard Methods for the Examination of Water and Wastewater" (prepared and published jointly by A.P.H.A., A.W.W.A. & W.E.F.), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or an alternative method as may be agreed by the Agency.
TBT	Tributyltin.
The Agency	Environmental Protection Agency.
The Maritime Area	Comprises (i) the inland waters and territorial seas of the State, and the seabed and subsoil beneath them, (ii) any area for the time being standing designated by order under section 2 of the Continental Shelf Act 1968 for the purposes of that Act, and the waters above it, and (iii) the exclusive economic zone of the State.

Decision & Reasons for the Decision

The Environmental Protection Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this permit, the loading and dumping activities will comply with and will not contravene any of the requirements of Section 5 of the Dumping at Sea Act 1996 as amended.

The Agency also considers that the activities will not adversely affect the integrity of any European Site, and has decided to impose conditions for the purposes of ensuring they do not do so. It has determined that the activities, if managed, operated and controlled in accordance with the permit, will not have any adverse effect on the integrity of any of those sites.

The Agency has accordingly decided to grant a permit to Dublin Port Company to carry on the activities listed in *Part I Schedule of Activities Permitted*, subject to the conditions set out in *Part III Conditions*.

In reaching this decision the Agency has considered the documentation relating to:

- the application, Register Number: S0024-01 and the supporting documentation received from the applicant;
- the submissions, comments and observations received from other parties;
- the applicant's response to third party submissions;
- a report by Hydro Environmental Ltd. for the EPA, *Review of hydrodynamic and sediment transport related issues at the proposed disposal site*, received on 9th August 2016;
- the Inspector's Report dated 10th August 2016.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the proposed activities, individually or in combination with other plans or projects is/are likely to have a significant effect on any European Site. In this context, particular attention was paid to the European Site(s) at Rockabill to Dalkey Island SAC, North Bull Island SPA, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA and South Dublin Bay SAC.

The proposed activities are not directly connected with or necessary to the management of any European Site and the Agency considered, for the reasons set out below, that it cannot be excluded, on the basis of objective information, that the proposed activities, individually or in combination with other plans or projects, will have a significant effect on any European Site and accordingly determined that an Appropriate Assessment of the proposed activities was required, and for this reason determined to require the applicant to submit a revised Natura Impact Statement. This determination is based on the location of the proposed dumping activity within Rockabill to Dalkey Island SAC and in close proximity to a number of other European Sites (North Bull Island SPA, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, South Dublin Bay SAC), the scale and characteristics of the proposed loading and dumping activities and their potential to give rise to significant effects on the qualifying interests of the European Sites.

The Agency has completed the Appropriate Assessment of potential impacts on these sites and has made certain, based on best scientific knowledge in the field and in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 as amended, pursuant to Article 6(3) of the Habitats Directive, that the proposed activities, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site, in particular Rockabill to Dalkey Island SAC, North Bull Island SPA, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA and South Dublin Bay SAC, having regard to their conservation objectives and will not affect the preservation of these sites at favourable conservation status if carried out in accordance with this permit and the conditions attached hereto for the following reasons:

- A Marine Mammal Observer will be employed to monitor, record and protect marine mammals, including Harbour Porpoise, in accordance with NPWS guidelines for the duration of the loading and dumping activities (Condition 4.5);

- The loading and dumping activities will be confined to the winter months (1st October to 31st March) (Condition 3.2), thereby avoiding any impacts on the foraging activity of birds during the breeding season and the calving and breeding season for Harbour Porpoise;
- Sediment transport modelling indicates that there will no significant impact on the protected reef habitat;
- Conditions included in this permit to reduce impacts on water quality (Conditions 3.3, 3.4 and 3.5) will result in an avoidance of any potential indirect impacts on the qualifying interests of the European Sites.

The Agency is satisfied that no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of those European Sites Rockabill to Dalkey Island SAC, North Bull Island SPA, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA and South Dublin Bay SAC.

Part I Schedule of Activities Permitted

In pursuance of the powers conferred on it by the Dumping at Sea Act 1996 as amended, the Environmental Protection Agency (the Agency), under Section 5 of the said Acts, grants this Dumping at Sea Permit to Dublin Port Company, Port Centre, Alexandra Road, Dublin 1. The permit authorises the loading and dumping at sea activities, subject to conditions listed in Part III, with the reasons therefor and the associated schedules attached thereto.

Part II Schedule of Activities Refused

The loading and dumping at sea of dredged material from Loading Area A as delineated in Figure D.2.2_Rev01 submitted in the Further Information received on 12/02/2016 as part of Dumping at Sea Permit application Register Number S0024-01.

Reason

The Agency is not satisfied, on the basis of the information currently available, that the proposed loading and dumping at sea of dredged material from Loading Area A will not give rise to significant adverse impacts on the marine environment. It is the Agency's view that insufficient evidence is currently available to demonstrate the effectiveness of the confined aquatic disposal methodology proposed by the applicant for the disposal and long-term containment of dredged material from Loading Area A.

Part III Conditions

Condition 1. Scope

1.1 Statutory Obligations

1.1.1 This permit is for the purposes of loading and dumping at sea under the Dumping at Sea Act 1996 as amended, only and nothing in this permit shall be construed as negating the permit holder's statutory obligations or requirements under any other enactments or regulations.

1.1.2 This permit may be technically amended, as and when considered necessary by the Agency.

1.2 The material or substance to which this permit relates shall be dredged material loaded from that part of the sea specified in *Schedule A: Limitations* of this permit.

1.3 For the purposes of this permit, the location of the loading area authorised by this permit is in that part of the sea delineated in red as Loading Area B in Figures D.2.1, D. Figures D.2.2 Rev01 and D.2.3 submitted in the Further Information received on 12/02/2016 and bounded by the coordinates specified in *Schedule A.2* of this permit. Any reference in this permit to "loading area" shall mean the area thus outlined. The permitted loading activity shall be carried on only within the area outlined.

1.4 For the purposes of this permit, the location of the dumping site authorised by this permit is in that part of the sea outlined in blue in Figure E.2 included in the Further Information received on 12/02/2016 as part of the application and bounded by the coordinates specified in *Schedule A.3* of this permit. Any reference in this permit to "dumping site" shall mean the area thus outlined. The permitted dumping activity shall be carried on only within the area outlined.

1.5 Loading and dumping at sea shall be limited as set out in *Schedule A: Limitations* of this permit.

1.6 Loading and dumping at sea shall be controlled and operated as set out in the permit. All programmes required to be carried out under the terms of this permit become part of this permit.

1.7 No change to the loading and dumping activities authorised by this permit shall be carried out or commenced without the prior written agreement of the Agency.

Reason: To clarify the scope of this permit.

Condition 2. Management of the loading and dumping at sea activities

2.1 The permit holder shall ensure that all or any of the following:

- litter
- man-made debris
- odour

associated with, or arising from, the permitted activities do not result in an impairment of, or an interference with, amenities or the environment.

2.2 Noise

2.2.1 The permit holder shall adopt all reasonably practicable measures to minimise the noise impact of the permitted activities at NSLs.

2.2.2 Noise from the permitted activities shall not cause a nuisance at any NSLs.

- 2.3 The permit holder shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience as required and shall be aware of the requirements of this permit.
- 2.4 The permit holder shall ensure that a nominated, suitably qualified and experienced person is present at all times when activities covered by this permit are ongoing.
- 2.5 The permit holder shall notify the Agency at least two weeks prior to the commencement of the loading and dumping activities, by either email (das@epa.ie) or webform or by such other means as may be specified by the Agency.
- 2.6 Documentation
- The permit holder shall issue a copy of this permit to all relevant personnel whose duties relate to any condition of this permit.
- 2.7 Corrective Action
- The permit holder shall initiate an investigation and corrective action in the event of a reported non-conformity with this permit to the satisfaction of the Agency.
- 2.8 Communications Programme
- 2.8.1 The permit holder shall within one month of the date of grant of this permit, establish, maintain and implement a Public Awareness and Communications Programme to ensure members of the public can obtain information, at all reasonable times, concerning the environmental performance of the permitted activity.
- 2.8.2 The Public Awareness and Communications Programme shall include a specific programme of outreach to interested parties on matters relating to the environmental performance of the permitted activity.

Reason: *To make provision for management of the loading and dumping at sea activities on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the marine environment.*

Condition 3. Loading and dumping at sea activities

- 3.1 All loading and dumping activities shall be completed by 31st March 2021.
- 3.2 The permitted loading and dumping activities may only be carried on between 1st October and 31st March. Loading and dumping is prohibited during the closed period specified in *Schedule A.4*.
- 3.3 Loading of dredged material shall be undertaken using either a backhoe dredger or a trailing suction hopper dredger. An alternative loading method may only be used with the prior written agreement of the Agency.
- 3.4 No over-spilling from the vessel shall be permitted while the loading activity is being carried on in the inner Liffey channel, defined as the section of Loading Area B landward (west) of the Bull Walls entrance.
- 3.5 The permit holder shall take all reasonably practicable measures to limit the release of suspended solids into the water column during loading and on voyages to and from the dumping site.
- 3.6 Dumping shall be effected by the release of the dredged material through the hull of the vessel while the vessel is in motion.
- 3.7 No material shall be dumped at sea which has been categorised as unsuitable for disposal.
- 3.8 The permit holder shall liaise with the Harbour Master at the Dublin Port Company prior to the commencement of and during the loading and dumping activities.

- 3.9 All mitigation measures set out in the Natura Impact Statement submitted as part of the application for this permit shall be implemented.
- 3.10 Information relating to the activity shall be automatically recorded during each dumping voyage and shall as a minimum contain details of the following:
- (i) The name of the vessel;
 - (ii) The source of the substance or material;
 - (iii) The date, time, location and position at which the voyage for the purposes of dumping began;
 - (iv) The date, time and position at which dumping began;
 - (v) The date, time and position at which dumping ended;
 - (vi) The quantity, stated in metric tonnes, of the substance or material dumped;
 - (vii) The date, time and position at which the vessel completed the voyage for the purpose of dumping; and
 - (viii) Logged vessel track record data.
- 3.11 Prior to the commencement of the permitted activity, the permit holder shall consult with the Marine Survey Office of the Department of Transport to ensure that all vessels used in connection with the loading and dumping activity specified in this permit meet the requirements of the Marine Survey Office. The permit holder shall ensure that the vessels used in connection with this permit are fully certified for the entire period of loading and dumping activity specified in this permit.
- 3.12 The permit holder shall permit authorised officers and Marine Mammal Observers to be on board the vessel. They shall permit and facilitate the carrying out by the authorised officer of his functions under the Dumping at Sea Act 1996 as amended, and shall comply with the provisions of those Acts in relation to the authorised officer and those functions.

Reason: *To provide for appropriate controls on loading and dumping at sea activities to ensure the protection of the marine environment.*

Condition 4. Control and Monitoring

- 4.1 The permit holder shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and in accordance with *Schedule C: Monitoring*, of this permit.
- 4.1.1 Analyses and measurements shall be undertaken by competent staff in accordance with documented operating procedures.
 - 4.1.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics shall be determined.
 - 4.1.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.
 - 4.1.4 Analysis for compliance purposes, including any sub-contracted analysis, shall be done by a competent laboratory.
- 4.2 The permit holder shall ensure that:
- (i) sampling and analysis for all parameters listed in the schedules to this permit; and
 - (ii) any reference measurements for the calibration of automated measurement systems;
- shall be carried out by an appropriate Standard Method.
- 4.3 Where relevant ambient monitoring results are available from any other statutory body, including the Agency, the permit holder may submit those results to contribute to the fulfilment of the requirements of *Schedule B: Monitoring* of this permit.

- 4.4 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this permit, may be amended with the agreement of the Agency following evaluation of test results.
- 4.5 Marine Mammals
- 4.5.1 Monitoring of marine mammals shall be carried out for the duration of the loading and dumping activities in accordance with *Schedules B.1.3* and *B.2.5*.
- 4.5.2 The monitoring, recording and reporting of marine mammals shall meet the requirements of the National Parks and Wildlife Service.
- 4.5.3 All of the measures contained in the Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters as published by the Department of Arts, Heritage and the Gaeltacht shall be fully implemented.
- 4.5.4 The Monitored Zone for marine mammals authorised by this permit is the area within a 500 m radial distance of the loading and dumping activity.
- 4.5.5 Dumping shall not take place if a cetacean or seal is detected within 50 m radial distance of the dumping activity.
- 4.5.6 The permit holder shall ensure that an adequate number of suitably qualified marine mammal observers are available for the duration of the loading and dumping activity in order to ensure satisfactory monitoring.
- 4.5.7 The permit holder shall deploy a minimum of four hydrophones in Dublin Bay to assist in the detection of marine mammals:
- A minimum of two real time passive acoustic monitoring system (PAMs) shall be deployed in Dublin Bay at the approaches to Dublin Port;
 - A minimum of two static acoustic monitoring systems (SAMs) shall be deployed at the dump site to the west of the Burford Bank and within Dublin Bay.
- 4.5.8 Full reporting on MMO operations shall be submitted to the Agency as part of the AER.
- 4.6 Bathymetry
- 4.6.1 The permit holder shall carry out pre-loading and post-loading bathymetric surveys of the Loading Area in accordance with *Schedule B.1.1* of this permit.
- 4.6.2 The permit holder shall carry out pre-dumping and post-dumping bathymetric surveys of the Dumping Site in accordance with *Schedule B.2.1* of this permit.
- 4.7 Sediment chemistry and grain size
- 4.7.1 The permit holder shall carry out chemical and granulometric analysis of sediments in accordance with *Schedule B.1.4* of this permit. A report on this analysis shall be submitted to the Agency within 1 month of completion of the analysis.
- 4.7.2 Following submission of the results of the monitoring specified in Condition 4.7.1, loading and dumping may not proceed without the written agreement of the Agency.
- 4.8 Archaeology
- 4.8.1 Prior to the commencement of the loading activity, a Marine Archaeology Management Plan shall be agreed between the permit holder and the National Monuments Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs in accordance with *Schedule B.1.5* of this permit. The plan shall be implemented in full by the permit holder unless otherwise agreed by the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

4.9 Water Quality

4.9.1 The permit holder shall carry out water quality monitoring in accordance with *Schedule B.1.2* and *Schedule B.2.2* of this permit.

4.9.2 A report on the water quality monitoring, including compliance with Condition 4.9.1, shall be submitted to the Agency as part of the AER.

4.10 Hydrographic Monitoring

4.10.1 The permit holder shall carry out hydrographic monitoring at the dumping site in accordance with *Schedule B.2.3* of this permit.

4.10.2 The results of the hydrographic monitoring shall be used to validate the hydrodynamic and wave climate model presented in *Appendix C: Coastal Processes Modelling* to the Natura Impact Statement submitted as part of the application.

4.10.3 A report on the hydrographic monitoring and model validation exercise shall be submitted to the Agency as part of the AER.

4.11 Sediment Plume

4.11.1 In accordance with *Schedule B.2.4* of this permit, the permit holder shall carry out sediment plume monitoring in the vicinity of the dumping activity during the first dumping campaign and thereafter as may be required by the Agency.

4.11.2 A detailed proposal for the sediment plume monitoring shall be submitted to the Agency for agreement at least three months prior to the commencement of the first dumping campaign. The proposed monitoring programme shall be sufficient to enable the horizontal and vertical extent of the sediment plume generated by the permitted dumping activity at different stages of the tide to be measured.

4.11.3 The results of the sediment plume monitoring, together with the results of the hydrographic monitoring, shall be used to validate the sediment transport model presented in *Appendix C: Coastal Processes Modelling* to the Natura Impact Statement submitted as part of the application.

4.11.4 A report on the sediment plume monitoring and model validation exercise shall be submitted to the Agency as part of the AER.

Reason: *To provide for the protection of the marine environment by way of monitoring of the impacts associated with the loading and dumping at sea activity.*

Condition 5. Incident Prevention and Emergency Response**5.1 Incidents**

In the event of an incident the permit holder shall immediately:

- (i) identify the date, time and place of the incident;
- (ii) as soon as practicable notify the Agency, in a format prescribed, and other relevant authorities;
- (iii) carry out an investigation to identify the nature, source and cause of the incident and any impact arising therefrom;
- (iv) isolate the source of any such impact;
- (v) evaluate the environmental pollution, if any, caused by the incident; and
- (vi) identify and execute measures to minimise the impact and the effects thereof.

5.2 The permit holder shall provide a report of the investigation into the incident to the Agency for its agreement within one month of the incident occurring or as otherwise agreed by the Agency. The report shall include a proposal to:

- (i) identify and put in place measures to avoid recurrence of the incident; and
 - (ii) identify and put in place any other appropriate remedial actions.
- 5.3 The permit holder shall, in advance of the commencement of the activities, ensure that a documented Accident Prevention Procedure is in place that addresses hazards, particularly in relation to the prevention of accidents with a possible impact on the environment.
- 5.4 The permit holder shall, in advance of the commencement of the activities, ensure that a document Emergency Response Procedure is in place that addresses any emergency situation which may arise. This procedure shall include provision for minimising the effects of any emergency on the environment.

Reason: *To provide for the protection of the marine environment.*

Condition 6. Notification, Records and Reports

- 6.1 The permit holder shall notify the Agency by both telephone and either email (das@epa.ie) or webform, to the Agency's headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any incident (as defined in this permit). The permit holder shall include as part of the notification, the date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any impacts.
- 6.2 In the case of any incident relating to any impact on water, the permit holder shall notify the Marine Institute, Sea Fisheries Protection Authority, Inland Fisheries Ireland, Bord Iascaigh Mhara and any other relevant authorities as soon as practicable after such an incident.
- 6.3 In the case of any incident relating to archaeology, marine mammals or migratory fish, the permit holder shall notify the National Parks and Wildlife Service, Marine Institute, Sea Fisheries Protection Authority and Inland Fisheries Ireland and any other relevant authorities as soon as practicable after such an incident.
- 6.4 The permit holder shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to manage the incident, and the effect on the marine environment, and avoid recurrence. The permit holder shall, as soon as practicable following incident notification, submit to the Agency the incident record.
- 6.5 The permit holder shall record all complaints related to the loading and dumping activities. Each such record shall give details of the date and time of the complaint, the name of the complainant (if provided), and give details of the nature of the complaint. A record shall be kept of the response made and any corrective action undertaken in the case of each complaint. This record shall be made available to the Agency upon request.
- 6.6 The permit holder shall as a minimum keep the following documents:
- (i) the permit(s) relating to the dumping site;
 - (ii) the previous years' AERs for the dumping site;
 - (iii) records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this permit and any previous permits dating back at least three years;
 - (iv) all correspondence with the Agency;
 - (v) complaints register; and
 - (vi) up to date drawings/plans showing the location of the loading area and the dumping site authorised by this permit.

This documentation shall be available to the Agency for inspection at all reasonable times and shall be submitted to the Agency, as required, in such a format as may be requested, including electronic submittal of the information or a summary of such information

- 6.7 The permit holder shall submit electronically to the Agency, by the 31st March of each year, an AER covering the previous calendar year. This report shall include as a minimum the information specified in *Schedule C: Annual Environmental Report* of this permit, and shall be prepared in accordance with any relevant guidelines issued by the Agency or as otherwise prescribed by the Agency.
- 6.8 A full record, which shall be open to inspection by authorised officer of the Agency at all times, shall be kept by the permit holder on matters relating to each load of the substance or material intended to be dumped, and put on board the vessel. This record shall be maintained continually and shall as a minimum contain those details specified in Condition 3.10 of this permit. This information shall be submitted as required by and as may be prescribed by the Agency as part of the Annual Environmental Report and immediately on request by an authorised officer.
- 6.9 All reports shall be certified accurate and representative by the permit holder, manager or a nominated, suitably qualified and experienced deputy.
- 6.10 The permit holder shall notify the Agency in writing upon completion of the loading and dumping activities to which this permit relates.

Reason: *To provide for the collection and reporting of adequate information on the loading and dumping at sea activity.*

Condition 7. Financial Charges

7.1 Agency Charges

- 7.1.1 The permit holder shall pay to the Agency a contribution or such sum, as the Agency from time to time determines having regard to variations in the extent of reporting, auditing, inspections, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Dumping at Sea Act 1996 as amended.
- 7.1.2 The cost of any other tests, sampling, analysis and monitoring which the Agency may require in relation to the loading and dumping of the substance or material the subject of this permit shall be borne by the permit holder. Furthermore, the cost of any tests, sampling, analysis and monitoring surveys carried out by an authorised officer or by or on behalf of the Agency in relation to the sampling of a substance or material the subject of this permit shall also be borne by the holder of the permit.
- 7.2 The Permit Holder shall indemnify the Agency and its authorised officers against all cost occurred by him as a result of a breach of any of the conditions of this permit.

Reason: *To provide for adequate financing for monitoring to protect the marine environment.*

SCHEDULE A: Limitations**A.1 Quantity of Dredged Material to be Dumped at Sea**

	Maximum quantity per calendar month (tonnes, wet weight)	Total maximum quantity (tonnes, wet weight)
Dredged material	292,000	8,760,000

A.2 Location of Loading Area(s)**Loading Area B**

Point	Latitude ^{Note 1}	Longitude ^{Note 1}
DC-1	53.3450°	-6.2075°
DC-2	53.3433°	-6.2075°
DC-3	53.3424°	-6.1966°
DC-4	53.3421°	-6.1909°
DC-5	53.3422°	-6.1824°
DC-6	53.3424°	-6.1514°
DC-7	53.3391°	-6.1139°
DC-8	53.3279°	-6.0904°
DC-9	53.3311°	-6.0790°
DC-10	53.3385°	-6.0727°
DC-11	53.3377°	-6.0833°
DC-12	53.3435°	-6.1128°
DC-13	53.3455°	-6.1465°
DC-14	53.3446°	-6.1839°
DC-15	53.3458°	-6.1934°
DC-16	53.3452°	-6.1962°
DC-17	53.3449°	-6.2039°

Note 1: Based on WGS84 datum

A.3 Location of Dumping Site

Point	Latitude ^{Note 1}	Longitude ^{Note 1}
DS-1	53.3345°	-6.0500°
DS-2	53.3230°	-6.0500°
DS-3	53.3195°	-6.0452°
DS-4	53.3195°	-6.0303°
DS-5	53.3345°	-6.0303°

Note 1: Based on WGS84 datum

A.4 Closed Period

From	To	Applicable To	Reason for Closed Period
1 st April	30 th September	All loading and dumping activities.	To avoid interference with other users and protected species.



SCHEDULE B: Monitoring**B.1 Monitoring at Loading Area** ^{Note 1}

Note 1: The frequency, methods and scope of monitoring, sampling and analyses may be amended in accordance with Condition 4.4.

B.1.1 Bathymetry Monitoring

Parameters	Monitoring Frequency/Time	Monitoring Locations	Analysis Method/Technique
Bathymetry & concurrent tide observations	Pre-loading survey shall be carried out within one week prior to the commencement of each loading campaign. Post-dredging survey shall be carried out within one week following the completion of each loading campaign.	Survey to cover the extent of the loading activity.	High resolution bathymetric survey & concurrent tidal height measurements.

B.1.2 Water Quality Monitoring

Parameters	Monitoring Frequency/Time	Monitoring Locations	Analysis Method/Technique
Turbidity	Continuous monitoring shall be carried out for the duration of each loading campaign.	Station 1: R. Liffey Channel upstream of the works in the vicinity of East Link Bridge. Station 2: southern edge of R. Liffey Channel in close proximity to Poolbeg cooling water intake.	Continuous monitoring using turbidity sensor.
Suspended solids	The permit holder shall take a sufficient number of water samples during each loading campaign to determine the relationship between turbidity and suspended solids.	Station 3: northern edge of R. Liffey Channel outside but in close proximity to South Dublin Bay and River Tolka SPA. Station 4: Within the Tolka Estuary	Grab sampling and analysis by Standard Method.

B.1.3 Marine Mammal Monitoring

Parameters	Monitoring Frequency/Time	Monitoring Locations	Analysis Method/Technique
Marine mammals	Continuous monitoring shall be carried out for the duration of the loading activity.	500 m radial distance of the loading activity	Monitoring to be undertaken by an independent Marine Mammal Observer with relevant experience.

B.1.4 Sediment Monitoring

Parameters	Monitoring Frequency/Time	Monitoring Locations (WGS84 datum)	Analysis Method/Technique
Visual inspection (to include colour, texture, odour, presence of animals etc.); Water content & sediment density; Sediment grain size: % gravel (> 2mm fraction) % sand (< 2mm fraction) % mud/silt (< 63µm fraction); Total organic carbon; Carbonate; Mercury; Arsenic; Cadmium; Copper; Lead; Zinc; Chromium; Nickel; Lithium; Aluminium; TBT; DBT; HCB; γ-HCH (Lindane); Total extractable hydrocarbons; Individual congeners of PCB 28, 52, 101, 118, 138, 153, 180; Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenzo(ah)anthracene, Benzo(ghi)perylene, Indeno(123-cd)pyrene.	Summer 2017 Summer 2020	DC03A: 53.34320°, -6.19116° DC04: 53.34369°, -6.18346° DC05: 53.34332°, -6.14829° DC06: 53.33608°, -6.08881° DC07: 53.33274°, -6.08881°	Grab sampling of surface sediments and analysis by Standard Method ^{Note 1,2}
Radionuclides	Summer 2017	To be agreed with the Agency	Grab sampling of surface sediments and analysis by gamma spectrometry

Note 1: Sampling and analyses shall be conducted in accordance with the analytical and quality requirements set out in: *M. Cronin et al. 2006. Guidelines for the Assessment of Dredge Material for Disposal in Irish Waters. Marine Environment & Health Series, No. 24. Marine Institute.*

Note 2: Chemical analyses should be carried out on sand-mud (< 2mm) fraction. Where the gravel fraction (> 2mm) constitutes a significant part of the total sediment, this should be taken into account in the calculation of the concentrations.

B.1.5 Marine Archaeology Monitoring

Parameters	Monitoring Frequency/Time	Monitoring Locations	Analysis Method/Technique
Marine archaeology	To be agreed with the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.	To be agreed with the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.	In accordance with Marine Archaeology Management Plan to be agreed with the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

B.2 Monitoring at Dumping Site *Note 1*

Note 1: The frequency, methods and scope of monitoring, sampling and analyses may be amended in accordance with Condition 4.4.

B.2.1 Bathymetry Monitoring

Parameters	Monitoring Frequency/Time	Monitoring Locations	Analysis Method/Technique
Bathymetry & concurrent tide observations	Pre-dumping survey shall be carried out within one week prior to the commencement of each dumping campaign. Post-dumping survey shall be carried out within one week following the completion of each dumping campaign.	Survey to cover the entire dumping site.	High resolution bathymetric survey & concurrent tidal height measurements.

B.2.2 Water Quality Monitoring

Parameters	Monitoring Frequency/Time	Monitoring Locations	Analysis Method/Technique
Turbidity	Monitoring shall commence at least one month prior to the commencement of the first dumping campaign and shall continue until at least one month following the completion of all dumping activity.	Central monitoring station within the dumping site.	Continuous real-time monitoring using turbidity sensors set at various depths (at a minimum near-bottom, mid-column and near surface).
	Monitoring shall commence at least one month prior to the commencement of each dumping campaign and shall continue until at least one month following the completion of each dumping campaign.	Station 1: Immediately north of the dumping site. Station 2: Immediately south of the dumping site. Station 3: A suitable distance from the dumping site to provide representative background information (control point).	Continuous real-time monitoring using turbidity sensors set at various depths (at a minimum near-bottom, mid-column and near surface).
Suspended solids	The permit holder shall take a sufficient number of water samples during each loading campaign to determine the relationship between turbidity and suspended solids.	Central monitoring station within the dumping site. Stations 1, 2 and 3.	Grab sampling and analysis by Standard Method

B.2.3 Hydrographic Monitoring

Parameters	Monitoring Frequency/Time	Monitoring Location	Analysis Method/Technique
Tidal current velocity, direction and water depth	Monitoring shall commence at least one month prior to the commencement of the first dumping campaign and shall continue until at least one month following the completion of all dumping activity.	Central monitoring station within the dumping site.	Continuous monitoring using Acoustic Doppler Current Profiler (ADCP) or equivalent as agreed by the Agency.
Wave climate	Monitoring shall commence at least one month prior to the commencement of the first dumping campaign and shall continue until at least one month following the completion of all dumping activity.	Central monitoring station within the dumping site.	Continuous monitoring using Wave Rider buoy or equivalent.

B.2.4 Sediment Plume Monitoring

Parameters	Monitoring Frequency/Time	Monitoring Locations	Analysis Method/Technique
Suspended solids	During the first dumping campaign and thereafter as may be required by the Agency.	To be agreed by the Agency.	Grab sampling and analysis by Standard Method
Turbidity	During the first dumping campaign and thereafter as may be required by the Agency.	To be agreed by the Agency.	Turbidity sensor
Tidal current velocity, direction and water depth	During the first dumping campaign and thereafter as may be required by the Agency.	To be agreed by the Agency.	Acoustic Doppler Current Profiler (ADCP) or equivalent as agreed by the Agency.

B.2.5 Marine Mammal Monitoring

Parameters	Monitoring Frequency/Time	Monitoring Locations	Analysis Method/Technique
Marine mammals	Continuous for duration of the dumping activity, and during voyages to/from the dumping site.	500 m radial distance of the dumping activity	Monitoring to be undertaken by an independent Marine Mammal Observer with relevant experience.

SCHEDULE C: Annual Environmental Report

Annual Environmental Report Content ^{Note 1.}
Register/log of loading and dumping activities. OSPAR dumping report. Marine positional log. Reported incidents summary. Complaints summary. Monitoring summary. Water Quality Monitoring Report. Hydrographic Monitoring Report. Sediment Plume Monitoring Report. Marine Mammal Monitoring Report. Accident Prevention Procedure. Emergency Response Procedure. Any other items specified by the Agency.

Note 1: Content may be revised subject to the agreement of the Agency.

Sealed by the seal of the Agency on this the 13th day of September 2016.

PRESENT when the seal of the Agency
Was affixed hereto:

Mary Turner, Authorised Person

