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Ireland

Tuesday 3 March 2026

Ref: M1104/ENV/Lt/002

Re: Environmental Statement, Balbriggan Harbour Dredging and Reclamation Works

Dear Sir/Madam,

The purpose of this document is to summarise the potential environmental effects or impacts resulting from the proposed Maintenance Dredging at Balbriggan Harbour and proposed associated mitigation measures.

Balbriggan Harbour, built between 1760 and 1790 at the mouth of the Bracken River north of Dublin, has evolved over 250 years. It features two main piers—the East Pier (original harbour/sea wall) and the West Pier with its extension—along with slipways, stairways, a lighthouse, and other structures. The Ballast Pier divides the Outer and Inner Harbours. Sheltered from southerly and westerly waves, the harbour accommodates fishing vessels (up to 18 m) and leisure craft, primarily in the Inner Harbour. The harbour quaysides are used for both fishing activities and public access.

The scope for the maintenance dredging works at Balbriggan Harbour comprises of the works described in the following sections. The appointed contractor will determine the final dredging methodology; however, it is anticipated that dredging will take place at lower tidal levels when the harbour basin has naturally dried out, using appropriate excavation plant.

[1.1.1] Proposed Plant

To undertake the proposed maintenance dredging works, the plant expected to be used within the works methodology is as follows:

- 25m LOA approx. hopper barge;
- Tugboat;
- Pontoon barge;
- Long-reach excavator;
- Sealed arctic haulage trucks.

This list is not exhaustive, as the final list of required plant will ultimately be dictated by the appointed contractor's methodology. This does, however, serve as the preliminary list of expected plant for the works.

[1.1.2] Dredging Methodology

The appointed contractor will determine the final dredging methodology; however, it is anticipated that the works will be carried out using an excavator positioned on a pontoon barge or from the quayside, which will deposit dredged material directly into the hopper barge. It is expected that dredging will progress from the outer areas towards the inner sections of the harbour basin.

To optimise efficiency and minimise water content in the dredged material, dredging will be undertaken during lower tides when the harbour basin has naturally dried out. All areas to be dredged will dry out during lower tides. The dredged material is expected to remain in the barge for drying, with periodic mechanical disturbance by the excavator to aid the drying process, supplemented by air drying as required.

Once sufficiently dried, it is anticipated that the material will be loaded into sealed trucks and transported to a licensed disposal facility in accordance with regulatory requirements.

[1.1.3] Drying Methodology

The final material drying methodology will be determined by the appointed contractor; however, it is expected that all drying will be achieved through natural air-drying, within the barge. At this point, additional chemical or mechanical drying processes are not anticipated. Material will likely be considered sufficiently dry once its moisture content is below 20% and the haulage contractor confirms it is safe for transport. The final moisture content will be stipulated by the haulage contractor.

Disposal is expected to be at a suitably licensed landside facility, with the final selection of the disposal site being the responsibility of the appointed contractor in compliance with regulatory requirements.

[1.2] Summary of Environmental Effects

The site of the proposed works is located within the Balbriggan Harbour, Fingal, Co. Dublin. The coastal town of Balbriggan dominates the surrounding landscape and is a moderately built-up area. The terrestrial habitat assemblage surrounding the proposed development site is dominated by Buildings and Artificial Surfaces (BL3) which is comprised of roads, residential and commercial properties, harbour quays, piers and berths. The harbour is comprised of concrete and other hard surfaces (BL3) and is surrounded by Open Marine Water (MW4). The beach to the North of the harbour is categorised as Muddy Sand Shore (LS3) while the habitats located to the South consist of a Mixed Substrata Shore (LR4) and Sedimentary Sea Cliffs (CS3). The landscape to the west and south of the site comprises

Amenity Grassland (GA2), Grassy Verges (GS2), Hedgerows (WL1), and Treelines (WL2). Habitat photographs can be viewed in Appendix A.

No botanical species protected under the Flora (Protection) Order 2015, listed in Annex II or IV of the EU Habitats Directive (92/43/EEC), or listed as species of conservation concern in Ireland were recorded within the study site. All species recorded during the botanical survey are considered common for similar habitats in the general area.

There are five (5) European Sites with direct and/or indirect connectivity with the proposed Balbriggan Harbour Works. The potential significant effects from the proposed dredging works, alone and in-combination with other developments, have been considered in the context of European Sites and the conservation objectives of their Qualifying Interests/Special Conservation Interest.

From the screening exercise, it has been determined that the proposed dredging works will incur likely **significant effects** on three (3) of the European Sites and / or on the conservation objectives of their Qualifying Interests/Special Conservation Interests through surface water, air, and/or land pathways. The sites that were determined to be at risk of further impact and screened in for further Appropriate Assessment are as follows: North-West Irish Sea SPA [004236], Skerries Islands SPA [004122], and Rockabill to Dalkey Island SAC [003000].

The project is therefore screened in for further Appropriate Assessment. Consequently, the proposed dredging works within Balbriggan Harbour will require a Natura Impact Statement (NIS) report has been prepared for consideration.

The following birds listed for special protection were observed in the area during the pre-licencing investigations.

Table 1: Recorded birds listed for special protection – Ayesa, 2025.

Birds of Conservation Concern in Ireland (BoCCI)	EU Birds Directive – Annexed Species
Amber Listed:	Annex I:
Brent Goose (<i>Branta bernicla</i>)	Great Northern Diver (<i>Gavia immer</i>)
Great Black-backed Gull (<i>Larus marinus</i>)	
Great Cormorant (<i>Phalacrocorax carbo</i>)	
House Sparrow (<i>Passer domesticus</i>)	
Lesser Black-backed Gull (<i>Larus fuscus</i>)	
Mew (Common) Gull (<i>Larus canus</i>)	
Oystercatcher (<i>Haematopus ostralegus</i>)	
Red Listed:	Annex II:

Herring Gull (*Larus argentatus*)

Feral Pigeon (*Columba livia*)

On Balbriggan Bay Beach located south of the harbour works, numerous burrows consistent with those of the Sand Martin (*Riparia riparia*) were identified within the cliff face. These burrows are typically utilised during the species' breeding season after they migrate here from Sub-Saharan Africa. This identification was confirmed by a local resident familiar with the area (see photographs in Appendix D of the NIS). In the same section of the cliff, nests occupied by Northern Fulmars (*Fulmarus glacialis*) were also present, with observed activity suggesting ongoing nesting behaviour.

The potential adverse impacts to European Sites and their conservation objectives that may occur as a result of the Scheme include:

- Loss of qualifying habitat or species where the works will require removal of those habitat or species within the site(s).
- Loss of qualifying habitat or species within the site(s) as a result of release of sediments and/or suspended silt into watercourses within or upstream of the site(s) during the works.
- Temporary habitat loss and/or fragmentation.
- Temporary barrier to faunal and avifaunal movement.
- Temporary disturbance due to noise and vibration when using plant and machinery.
- Cumulative impacts relating to other plans/projects.

[1.3] Description of Potential Impacts (Unmitigated)

[1.3.1] Effects on European Sites

The proposed development is hydrologically connected to three European Sites. This could aid the dispersion of any sediment and/or hydrocarbons that may be mobilised from the harbour works in the direction of these European Sites. The proposed site is also connected to the protected sites through air pathways which can transmit noise emissions from the site. If left unmitigated the health and condition of some qualifying habitats and species of these sites could be detrimentally impacted on.

[1.3.2] General Impacts on Key Ecological Receptors

[1.3.2.1] Habitat Loss and Degradation

The proposed maintenance dredging works within Balbriggan Harbour will inevitably lead to some minor habitat loss. There is some risk to the intertidal mudflat habitat within the harbour basin that will be directly disturbed during dredging.

Water quality impacts arising from both the construction and the operation of the proposed works have the potential to affect habitats and species directly and indirectly. Accidental pollution events could result in sediment and pollutants entering The Irish Sea. Increased storm water overflow incidences could also result in increased pollutants entering The Irish Sea.

[1.3.3] Disturbance (noise/visual)

A number of activities can result in disturbance, including visual and noise. Primary sources of noise and vibration impacts will subsequently stem from the harbour basin works and the associated machinery required. Disturbance can cause sensitive species, such as birds, to deviate from their normal, preferred behaviour, resulting in stress, increased energy expenditure and, in some cases, species mortality.

Noise and vibration impacts are generally associated with the use of construction machinery and vehicles. The high levels of noise generated from construction activities can cause significant disturbance to local fauna such as seabirds, fish, marine turtles, and marine mammals. Vibration emissions can similarly impart impacts to marine fauna, as well as the disturbance of prey items such as fish, crustaceans and benthic invertebrates. Moreover, underwater noise and vibration emissions can interfere with the foraging behaviour and communication of marine mammals and subsequently cause them to vacate the affected habitats or become stressed, ultimately affecting their survival. Noise and vibration pose specific risk to marine mammals, especially to cetaceans which use echolocation to forage and underwater sound to communicate. Behavioural responses from pinnipeds and cetaceans to underwater noise has been challenging to assess (Gomez et al. 2016, Southall et al. 2021). For example, changes in cetacean behaviour can be driven by the health and/or condition of the individual, age-class, context in which a change in behaviour may occur (e.g. transiting an area vs. actively foraging) (Helm et al., 2015). Consequently, it is difficult to derive a specific threshold of noise disturbance for marine mammals (Gomez et al. 2016, Southall et al. 2021).

[1.3.4] Water Quality and Pollution

A number of activities can impact upon water quality, in particular nutrient status and turbidity levels. Dredging works can result in sediment influx into adjacent areas, which can have various environmental impacts. This is particularly concerning marine habitats are the potential receptors of sediment run-off influxes. Turbidity and suspended solids is natural within the marine environment, however, excessive sedimentation can result in is the alteration of water quality, as sediment can reduce water clarity, impact water quality through nutrient influx, disrupt aquatic plant growth, and result in the deterioration of habitats for marine mammals, fish and other marine fauna, and potentially have medium to long-term impacts on nearby QI habitats.

Hydrocarbon spills into the adjacent marine ecosystem can have severe environmental impacts. Hydrocarbon spills are particularly toxic to biota, including aquatic fauna such as fish, crustaceans, benthic invertebrates, marine birds and marine mammals. Hydrocarbon spills can impact the physical and chemical properties of water, leading to significant

changes in water quality, which can result in the death of aquatic plants and fauna. The physiological effects of exposure to, and ingestion of significant concentrations of hydrocarbons on fish has been well-documented. These include mass die-offs, delayed maturation of larvae, embryo malformation and suppressed gene expression (Holth, 2009). Reduction in fish numbers would reduce food availability for local key fisheries species, cetacean species and numerous marine birds.

Primary sources of hydrocarbons, such as diesel fuel, oil, hydraulic fluid, etc, in the instance of this development will stem from excavators, tugboats and sealed haulage trucks. Although infrequent/rare, improper maintenance and/or on-site incidents may result in the discharge of hydrocarbons from construction machinery (as outlined above).

[1.3.5] Indirect Mortality

The physiological effects of exposure to, and ingestion of significant concentrations of hydrocarbons on fish has been well-documented; these include delayed maturation, embryo malformation and suppressed gene expression (Holth, 2009). Many bird species that are SCIs of North-West Irish Sea SPA and Skerries Islands SPA have diets consisting of fish. Consumption of contaminated prey can represent a risk of ill-health and could potentially result in mortality.

[1.3.6] Impact to Annex IV Species

An Annex IV Species Risk Assessment Report was prepared in accordance with the requirements of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) and the EU Habitats Directive (92/43/EEC). The report assesses the potential for impacts on European Protected Species (EPS), specifically those listed under Annex IV of the Directive, and forms part of the suite of environmental submissions accompanying the application.

Potential effects from the works, such as temporary sediment disturbance, minor increases in turbidity, underwater noise, or vessel movements, will be short-term and of low intensity. No breeding, resting, or haul-out sites for Annex IV species (including cetaceans, pinnipeds, or otter) occur within or immediately adjacent to the works area.

The implementation of standard best-practice mitigation measures and those outlined in the Project NIS (Ayesa, 2025) will further ensure that potential risks are minimised. These include the use of daylight-only operations, soft-start procedures, low-speed vessel operation, and the presence of pollution prevention and spill response protocols.

Accordingly, the proposed Balbriggan Harbour Maintenance Dredging is not expected to cause injury, disturbance, or mortality to any Annex IV species, nor result in the deterioration or destruction of breeding, resting, or foraging habitats.

[1.3.7] Cumulative and In-Combination Impacts

It is a requirement of Appropriate Assessment that the cumulative or in-combination effects of the proposed development together with other plans or projects are assessed. Cumulative impacts can be defined as a project/plan/programme likely to have a significant effect thereon, either individually or in combination with other plans or projects.

For the purposes of this project, two types of cumulative impact have been defined:

- Type 1: Cumulative impacts from a single project (the combined effects of different activities during both maintenance and operation) upon a single resource/receptor, and
- Type 2: Cumulative impacts from different projects in combination with the project being assessed (the combined action of a number of different projects, cumulatively with the project being assessed, on a single resource/receptor). This can include multiple impacts of the same or similar type from a number of different projects upon the same receptor/resource).

Appendix E of the NIS provides a list of the approved plans/projects from the last three years within 500m of the proposed works which may have the potential to interact with a European Site. Each plan/project is assessed in terms of the likelihood for in-combination effects to lead to significant negative effects on European Site. There are three (3) approved planning permissions within the vicinity of Balbriggan Harbour. All other approved plans have been completed and do not pose any risk of in-combination effects.

[1.4] Summary of Mitigation Measures

Three European Sites, North-West Irish Sea SPA, Skerries Islands SPA, and Rockabill to Dalkey Island SAC, fall within the Zone of Influence of the works and are therefore subject to potential impacts via surface water and groundwater pathways, air pathways, and land pathways. Where potentially significant adverse impacts are identified, avoidance and mitigation measures are proposed to offset these impacts. Mitigation measures required for potential adverse impacts that may arise as a result of the harbour works are described below.

- Employ precision dredging techniques.
- Monitor turbidity levels in real-time using sensors and pause work if thresholds are exceeded.
- The timing of dredging activities shall consider prevailing weather conditions (e.g., high winds, heavy rainfall, or storm surges) and seasonal ecological sensitivities relevant to the harbour environment (e.g., the presence of wintering bird species).
- Fuels, lubricants and hydraulic fluids for equipment used on the construction site, as well as any solvents and oils, will be carefully handled to avoid spillage. Fuelling and lubrication of equipment will not be carried out within 10m of the water where this is possible. Any spillage of fuels, lubricants or hydraulic oils must be immediately contained, and the contaminated substrate removed from the site and dispatched to a suitably authorised waste facility.

- Sudden loud noises (or impulsive noises) should be avoided where practicable when construction activity is underway. This will help limit the potential for nearby birds to become startled and displaced from their habitat.
- Mobile plant will be switched off when not in use and not left idling.
- The project shall use of an appropriate exhaust silencer system.
- No machinery should be left running outside of the agreed operation hours, which must limit any noise emissions from the site in the late evenings and early mornings when faunal activity is at a higher level.
- The project shall restrict construction/dredging activities to periods outside sensitive breeding or feeding periods for bird species, when activity levels within the harbour basin are higher.
- Avoid contamination of mudflats from fuels, lubricants and hydraulic fluids.
- Sudden loud noises (or impulsive noises) should be avoided where practicable when construction activity is underway. This will help limit the potential for nearby birds to become startled and displaced from their habitat.
- Mobile plant will be switched off when not in use and not left idling.
- The use of an appropriate exhaust silencer system.
- No machinery should be left running outside of the agreed operation hours, which must limit any noise emissions from the site in the late evenings and early mornings when faunal activity is at a higher level.
- An Ecological Clerk of Works (ECoW) should be employed to monitor the works under license, and to inform the team through Ecological Toolbox Talks during the proposed maintenance dredging works.
- The ECoW shall be present on-site during commencement of works. As such the following points must be adhered to for this scheme:
 - An Ecological Clerk of Works (ECoW) will be involved as required during the dredging period for this scheme, in order to ensure that the required mitigation is implemented.
 - A pre-dredging rapid ecology survey will be carried out within the proposed scheme area well in advance (within 3 months prior to proposed works) in order to ensure that sufficient updated information is available to inform derogation licence applications as required.
- The ECoW and the Appointed Contractor will walk the proposed scheme together prior to work commencing on the site, in order to discuss the ecological constraints, to highlight all required mitigation and to demarcate exclusion zones appropriately.
- During the works, best practice noise reduction measures described in British Standard 5228-12009+A1:2009, Code of Practice for Noise and Vibration Control on Construction and Open Sites must be incorporated into the Construction and Environmental Management Plan.

- For mobile plant items such as HGV's, excavators and loaders, maintaining enclosure panels closed during operation can reduce noise levels over normal operation.

Yours sincerely
For Ayesa,



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