

Hartley Anderson Limited

Marine Environmental Science and Consultancy

Appropriate Assessment

Ballycotton Harbour Dredging Foreshore
Licence Application Ref. No. FS007037

Report to
Department of Housing, Local Government
and Heritage



November 2022

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SECTION 1 - INTRODUCTION

1.1 Background

Arup with Hartley Anderson Limited have been commissioned by the Department of Housing, Local Government and Heritage (DHLGH) to conduct an Appropriate Assessment (AA) (stage 2) of an application by Cork County Council (CCC) for a Foreshore Licence (Reference No. FS007037) to cover the proposed dredging of Ballycotton Harbour to restore it to navigable depths, and the dumping at sea of uncontaminated dredged material at the previously used dumping site to the south of Power Head, 16km southwest of Ballycotton. Any contaminated dredged material will be disposed of at a licensed landfill facility.

An application (S0032-01¹) for a Dumping at Sea Licence (required under the Dumping at Sea Act 1996 as amended) for the proposed works is currently with the EPA for consideration.

1.2 Application documents submitted

A number of application documents submitted by CCC have informed this AA Screening, including:

- Application form [Applicant: Cork County Council: 30 April 2021]
- Admiralty Chart [Byrne Looby Partners, dated 23/03/2021]
- Foreshore License Map 1 [Byrne Looby Partners, dated 22/03/2021]
- Foreshore License Map 2 [Byrne Looby Partners, dated 22/03/2021]
- Cross Section [Byrne Looby Partners, dated 22/03/2021]
- Existing Bathymetry [Byrne Looby Partners, dated 22/03/2021]
- Overall Site Layout Plan [Byrne Looby Partners, dated 22/03/2021]
- Proposed Dredging Arrangement [Byrne Looby Partners, dated 22/03/2021]
- Natura Impact Statement [MERC Consultants, dated 13/05/2021 and an updated version of 21/01/2022]
- Marine Mammal Risk Assessment [IWDG Consulting, undated]
- Bird Survey Report [EirEco, dated 25/07/2019]
- Foreshore Application Report [Byrne Looby Partners, dated 22/03/2021]

- Prescribed Bodies Consultation (26 July – 24 August 2021)
 - Prescribed Bodies Observations
 - Applicant's response to Prescribed Bodies Observations.
- Prescribed Bodies Consultation (08 August 2022 – 06 September 2022)
 - Prescribed Bodies Observations

1.3 Relevant consultation responses

On 23 June 2022, the Department determined that an Appropriate Assessment of the proposed project for maintenance dredging in Ballycotton Harbour was required. The following documents were published on the Department's website:

- Risk Assessment of Annex IV Species - Ballycotton Harbour Dredging Foreshore Licence Application [Hartley Anderson 2022]
- Environmental Report with Statutory Declarations (prepared by Department Marine Advisor) [dated 21 June 2022]

¹ <https://epawebapp.epa.ie/terminalfour/DaS/DaS-view.jsp?regno=S0032-01>

- Submission on Screening for Appropriate Assessment Determination [dated 23 June 2022]
- Screening for Appropriate Assessment Determination [signed 22 June 2022]
- Screening for Appropriate Assessment - Ballycotton Harbour Dredging Foreshore Licence Application [Hartley Anderson 2022]

A notice of the fact that the Minister had made an Appropriate Assessment Screening Determination was published on 8 August 2022. The notice stated that any person could make a submission or observation concerning the project from 8 August to 6 September 2022.

The following table provides a summary of consultation submissions received following the most recent consultation (8 August – 6 September 2022) from the Prescribed Bodies and Applicant's responses (Table 1.1). Also provided are summaries of observations made by Prescribed Bodies and Applicant's responses with respect to the initial consultation (26 July – 24 August 2021, Table 1.2).

Table 1.1 : Summary of Observations made by Prescribed Bodies in September 2022 and CCC Responses

Statutory Body	Applicant's Response
<p>Department of Housing, Local Government and Heritage – Marine Advisor Environment</p> <p>Ballycotton Bay is itself a Special Protection Area (SPA) [IE004022] and this site and a number of other important European sites in its vicinity are described below.</p> <p>Ballycotton Bay SPA hosts nationally important populations of eleven species of birds, of which two, Golden Plover and Bar-tailed Godwit, are listed on Annex I of the E.U. Birds Directive.</p> <p>Ballymacoda Bay SPA is one of the most important sites in the country for wintering waterfowl. It is of international and national importance for its Golden Plover and Black-tailed Godwit populations. These species are listed on Annex I of the Birds Directive. It also supports nationally important populations of a further twelve species.</p> <p>Blackwater Estuary SPA support a national and international important population of on its wetlands. The site is also of national importance for seven species including Little Egret, Golden Plover and the aforementioned Black-tailed Godwit all of which are listed on Annex I of the Directive.</p> <p>Sovereign Islands SPA is of ornithological importance mainly for the breeding colony of Cormorant which is national importance. The non-migratory population of Great Black-backed Gull here is also of national importance.</p> <p>Cork Harbour SPA is of international importance for both its numbers of wintering birds and its populations of Black-tailed Godwit and Redshank. It supports nationally important wintering populations of 22 species, as well as a nationally important breeding colony of Common Tern. Several of the species which occur regularly are listed on Annex I of the Directive, i.e. Whooper Swan, Little Egret, Golden Plover, Bar-tailed Godwit, Ruff, Mediterranean Gull and Common Tern.</p>	<p>The applicant had no further comments to make.</p>

Statutory Body	Applicant's Response
<p>Blackwater River (Cork/Waterford) SAC the site is also important for the presence of several E.U. Habitats Directive Annex II animal species, including Sea Lamprey (<i>Petromyzon marinus</i>), Brook Lamprey (<i>Lampetra planeri</i>), River Lamprey (<i>L. fluviatilis</i>), Twaite Shad (<i>Alosa fallax fallax</i>), Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>), Otter (<i>Lutra lutra</i>). The river is noted for its enormous run of Annex II species Salmon (<i>Salmo salar</i>) over the years.</p> <p>Ballymacoda (Clonpriest and Pillmore) SAC The saltmarshes at this site are largely Atlantic salt meadows and Mediterranean salt meadows. However a rarer sub-type of Mediterranean salt meadow with Borrer's Saltmarsh-grass (<i>Puccinellia fasciculata</i>) is also present here. This is a very notable population of this rare species which has only been found in small areas along the Barrow Estuary, Wexford and Dublin shorelines since 1960. It is listed on the Flora (Protection) Order 2015 and is also listed in the Red Data book.</p> <p>Assessment Process The Minister for Housing, Local Government and Heritage, is responsible for carrying out environmental screening and any environmental assessments determined as being required following screening, in accordance with the requirements set out in Directive 92/43/EEC (Habitats Directive) and Directive 2009/147/EC (Birds Directive), in respect of applications under the Foreshore Act 1933, as amended.</p> <p>Habitats Directive The Appropriate Assessment process (AA) is an assessment of the potential for adverse or negative effects of a plan or project, in combination with other plans or projects, on the conservation objectives of a European Site (Natura 2000 site). The focus of AA is targeted specially on Natura 2000 sites and their conservation objectives.</p> <p>Article 6(3) and 6(4) of the Habitats Directive place strict legal obligations on Member States to regulate the conditions under which development that has the potential to impact on European Sites can be proceed. It requires that</p>	

Statutory Body	Applicant's Response
<p>an Appropriate Assessment be carried out of plans or projects, not directly connected with or necessary to the management of a site as a European Site, but which are likely to have a significant effect thereon, either individually or in combination with other plans or projects. An AA Screening assessment is carried out to determine whether a plan or project is likely to have a significant effect on a European Site.</p> <ul style="list-style-type: none"> • Article 6.3 states that: “Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.” • Article 6.4 states: “if, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. • Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.” <p>In giving effect to the above as a matter of Irish law, the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of</p>	

Statutory Body	Applicant's Response
<p>2011, as amended) (Birds and Natural Habitats Regulations) provide as follows:-</p> <p>Regulation 42(1) of the Birds and Natural Habitats Regulations states that: <i>“A screening for Appropriate Assessment of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European Site, shall be carried out by the public authority to assess, in view of the best scientific knowledge and in view of the conservation objectives of the site, if that plan or project, individually or in combination with other plans or projects is likely to have a significant effect on the European Sites.”</i></p> <p>Regulation 42(2) provides that: <i>“A public authority shall carry out screening for Appropriate Assessment under paragraph (1) before consenting for a plan or project is given, or a decision to undertake or adopt a plan or project is taken.”</i></p> <p>The Birds and Natural Habitats Regulations further provide as follows at Regulation 42(6) and 42(7):</p> <p><i>6. The public authority shall determine that an Appropriate Assessment of a plan or project is required where the plan or project is not directly connected with or necessary to the management of the site as a European Site and if it cannot be excluded, on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on European site.</i></p> <p><i>7. The public authority shall determine that an Appropriate Assessment of a plan or project is not required where the plan or project is not directly connected with or necessary to the management of the site as a European Site and if it can be excluded on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site.</i></p>	

Statutory Body	Applicant's Response
<p>Furthermore, under section 42A(13) of S.I. No. 293 of 2021 an Appropriate Assessment, including the specified public consultation, must be carried out before the public authority makes a decision to undertake or adopt the proposed plan or project.</p> <p>Risk Assessment for Annex IV Species Article 12 of the Habitats Directive (92/43/EEC) affords strict protection to species listed in Annex IV of the Directive wherever they occur. Outside of designated Natura 2000 sites, the waters around Ireland's coast are a suitable habitat for a number of Annex IV species. Where necessary a risk Assessment for adverse effects of the proposed works on these species must be undertaken and a report produced.</p> <p>The purpose of the Risk Assessment is to examine the possibility that the proposed project either individually or in combination with other plans and projects, may result in the deliberate disturbance or destruction of any of the species listed in Annex IV which may be present in the works area. The Risk Assessment should take into account the status (e.g. as indicated in the latest Article 17 reporting for Ireland, NPWS 2019) and sensitivities of relevant Annex IV species to potential impacts associated with the proposed project.</p> <p>The Risk Assessment for Annex IV Species should be precise, with definite findings, mitigation and conclusions removing all reasonable scientific doubt as to the effects of the proposed project on any Annex IV species. This assessment is separate to that undertaken under Article 6.3.</p> <p>Conclusion/Recommendation In principle I have no objections to this application.</p>	
<p>Department of Housing, Local Government and Heritage – Marine Advisor</p> <p>No observations to make.</p>	<p>The applicant had no further comments to make.</p>
<p>Department of Agriculture, Food and the Marine (DAFM)</p>	<p>The applicant had no further comments to make.</p>

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Statutory Body	Applicant's Response
There are no further comments from the Department of Agriculture, Food and the Marine.	
Marine Institute (MI) The MI has no observations at this time.	The applicant had no further comments to make.
Marine Survey Office (MSO) After careful consideration the Marine Survey Office has no objection to the proposed works in the application from a navigational safety perspective. However the following shall be noted; <ul style="list-style-type: none"><li data-bbox="253 635 1084 756">• A Marine Notice shall be published for the information of all local maritime users detailing the proposed dredging campaign and any associated hazards to navigation arising for the duration of the licence period.	The applicant had no further comments to make.
Inland Fisheries Ireland (IFI) We have no comment to make.	The applicant had no further comments to make.

Table 1.2: Responses from prescribed bodies to the initial consultation (26 July – 24 August 2021)

Statutory Body	Applicant's Response
<p>Marine Advisor of the Department of Housing local Government and Heritage</p> <p>The Marine Advisor noted the findings of his/her inspection of the site took place on 19/10/2021 and that Irish Water have application FS007022 under consideration for a licence to construct a temporary work area which overlaps partially with the proposed dredge area. The Marine Advisor considered that basic sequencing and communications should ensure the works do not conflict. The existing moorings in the harbour are to be lifted and replaced by the mooring holders after the dredging is complete. Leisure users and fishers will have to accept the disruption caused by the dredging by either removing the vessel for the period of dredging or tying up to the pier when weather allows and seeking shelter in Cork Harbour when poor weather is forecast. However, accommodation will have to be made for the lifeboat, as in certain poor weather it cannot remain alongside the pier and it cannot be relocated to Cork Harbour and remain on service. A mooring within the harbour will have to be provided at all times throughout the works to the RNLI's specification and requirements to ensure the lifeboat's lifesaving service is maintained at all times.</p> <p>The Marine Advisor noted there are no known or established claims of private ownership of the foreshore at Ballycotton Harbour or off Power Head. Therefore, the foreshore the subject of the application is currently presumed state owned and proposed development does not conflict with the existing overlapping licences, nor does it significantly injure the public use of, access to and enjoyment of the foreshore. Total area of foreshore the subject of the application: Dredge area: 1.13 ha, Dump site: 377.8ha.</p> <p>The proposed works are to ensure the safe operation of the harbour and safe navigation and mooring of vessels within the harbour. Harbours such as Ballycotton are the gateway to the sea and are fundamental infrastructure that supports public access, marine leisure, tourism, sea fishing, communications and the associated local community and economy. Considering this, the Marine Advisor was satisfied that the proposed dredging and disposal at sea are in the public interest.</p>	<p>The Applicant had no objection to the conditions proposed by the Marine Advisor.</p>

Statutory Body	Applicant's Response
<p>The Marine Advisor noted that there are no conflicts with existing leases or licences and the works as proposed are in the public interest. The works, if completed as proposed and in accordance with conditions as set out below, will not have significant adverse impacts on the public use of, access to and enjoyment of the foreshore, navigation, fisheries or the environment (subject to MLVC confirmation).</p> <p>Recommendation The Marine Advisor had no objection to the granting of Foreshore Licence under Section 3 of the Foreshore Act for this application subject to the following conditions.</p> <ol style="list-style-type: none"> 1. The licensee shall use that part of the foreshore, the subject matter of this licence for the purposes as outlined in the application and for no other purposes whatsoever. 2. The following drawings shall be attached to and referenced in the licence document. Foreshore Licence Map 1, Drawing Number: CM1123-BLP-ZZ-DR-C-00004, Date: 22/03/21, Rev: 03, 06/2021, Foreshore Licence Map 2, Drawing Number: CM1123-BLP-ZZ-DR-C-00005, Date: 22/03/21, Rev: 03, 06/2021, 3. A valid Dumping At Sea Permit shall be in place and a copy of the permit shall be submitted to the Marine Planning and Foreshore Section of the Department of Housing, Local Government and Heritage prior to the works proceeding. 4. Irish Water have application ref. FS007022 under consideration for a licence to construct a temporary work area which overlaps partially with the proposed dredge area. If approved the licensee shall coordinate with Irish Water in terms of sequencing to ensure both set of works do not conflict. 5. A fore and aft mooring within the Harbour shall be available at all times throughout the duration of the dredging for the RNLI Trent Class Lifeboat. 	

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Statutory Body	Applicant's Response
<p>This shall require coordination and agreement of the RNLI to relocate their mooring as the dredging works proceed or as otherwise agreed with the RNLI.</p> <p>6. The licensee shall notify the Marine Planning and Foreshore Section of the Department of Housing, Local Government and Heritage at least 14 days in advance of the commencement of any works on the foreshore. This notification shall include an up to date Programme of Works for the completion of the project.</p>	
<p>Marine Institute</p> <p>Chemical analysis of sediments to be loaded was carried out and presented with the application. The results of sediment analysis indicated approximately 1,500 tonnes* are contaminated and it is proposed that these sediments will be separately removed to land and disposed in a suitably licenced facility. The remaining material, (which is considered clean and suitable for disposal at sea) will be dredged and loaded for disposal at a site South of Power Head, 16km southwest of Ballycotton.</p> <p>It should be noted that the assessment guidelines for Dumping at Sea are not used for bringing the sediment on land. The sediment to be brought up on land will need to be assessed using the Waste Assessment Criteria. It is the understanding of the Marine Institute that the EPA issues waste licences for this activity.</p> <p>The Marine Institute noted that the risk to conservation features associated with the proposed activity was communicated in the NIS report. The Marine Institute considered that the interactions identified are appropriate and assuming the mitigation measures proposed are implemented in full, the likely interactions are not considered significant to conservation features. The Marine Institute agrees with the conclusions communicated in the NIS.</p> <p>Interaction with Fisheries and Aquaculture operations: The Marine Institute noted that the closest licenced aquaculture sites to the proposed development are in Cork Harbour (approx. 16km line of sight) or</p>	<p>The Applicant had no objection to the conditions proposed by the Marine Institute.</p>

Statutory Body	Applicant's Response
<p>Ballymacoda Bay (approx. 11 km line of sight). The closest shellfish growing water is Ballymacoda Bay at approx. 11km.</p> <p>On the basis of the information provided in the application and supporting documents the Marine Institute concluded that the proposed development is unlikely to impact on any licenced aquaculture activities or shellfish growing waters.</p> <p>Interactions with fisheries interests are likely in the harbour. The Marine Institute recommended full engagement with users of the pier and suggests it is carried out on an ongoing basis until the works are completed.</p> <p>On this basis, and considering the information above, the Marine Institute concluded that impacts on aquaculture and sea fishing from the proposed activity are not considered likely.</p> <p>*Arup notes that the quantity to be separately removed to land and disposed in a suitably licenced facility is 1500m³.</p>	
<p>Inland Fisheries Ireland</p> <p>Inland Fisheries Ireland noted that the proposed works are not within known proximity of sensitive fisheries location or fish spawning grounds.</p> <p>The nearest significant river, in terms of potential use by anadromous fish species to the proposed dredge site is the Munster Blackwater, approximately 18km (hydrologically) from Ballycotton harbour. This river is designated for <i>Salmo salar</i> (Salmon), <i>Petromyzon marinus</i> (Sea lamprey), <i>Lampetra fluviatilis</i> (River Lamprey) and <i>Alosa fallax</i> (Twaite Shad) as habitat for Annex II migratory fish species. The proposed works have the potential to affect these species as they migrate along the coast by way of suspended sediment, pollution via drift of contaminated sediment or by accidental oil/fuel spills during works.</p> <p>Inland Fisheries Ireland pointed out that the mitigation measures and guidance of NPWS in regard to marine mammals are not transferrable to fish species. The fish remain invisible to any shore- or boat-based observer.</p>	<p>The Applicant had no objection to the conditions proposed by Inland Fisheries Ireland.</p>

Statutory Body	Applicant's Response
<p>Mitigation measures should aim to reduce the sound generated, in intensity and duration for the fish species present. The use of soft-start and ramp-up procedures for any sound-generating surveys undertaken – both on a day-to-day basis and on re-start after any stoppages within any day should be undertaken. This measure should be a condition of the foreshore licence. The estimated zone of influence (ZOI) extending from the dredging works is approximately 3km and is a relatively small distance that migratory species may avoid if suspended sediment levels are inhospitable during works.</p> <p>Inland Fisheries Ireland noted that the Marine Institute was consulted in relation to environmental testing of proposed dredge material within the harbour and provided sediment site-specific sampling and disposal recommendations for the contaminated and non-contaminated sediment, which should limit any impact from contaminated dredged material to the environment.</p> <p>The application has a detailed methods statement with mitigation measures outlined for various risks highlighted. To avoid the possibility of accidental spillage of oil/fuel associated with machinery or inshore shallow water vessels, a series of mitigation measures are to be implemented, as described in the Natura Impact Statement. These mitigation measures should be a condition of the Foreshore licence. Inland Fisheries Ireland concluded that, given the localised nature of the project, including the ZOI and notwithstanding the past history of the dumping site, southwest of Ballycotton, the proposed works are not considered deleterious to migratory fish species in the long term. The local IFI office in Macroom should be informed in advance of works starting.</p>	
<p>Underwater Archaeology Unit of the Department of Housing, Local government and Heritage – Observation No 1</p> <p>The Underwater Archaeology Unit noted that archaeological monitoring is to be carried out during dredging works and for the works at the pier. The pier is a Protected Structure, registered on the Local Authority's List of Protected Structures (RPS Reg. No. 20824038). Similarly, Ballycotton has a substantial record of shipwrecking events, with the potential being high for</p>	<p>The Applicant respectfully requested that Underwater Archaeology Unit review the proposed condition:</p> <p><i>“As part of the Finds Retrieval Strategy in the methodology, if the material is being brought ashore, 25% of the dredged material removed is to be spread and metal detected to assess the artefacts-bearing potential. If large quantities of artefacts are present, then the percentage of material being assessed may be increased. Similarly, if, after an agreed period of time, there is minimal artefactual evidence, the archaeological assessment of the</i></p>

Statutory Body	Applicant's Response
<p>the remains of wrecks or artefactual material associated with such events still extant in the near harbour area awaiting discovery.</p> <p>The Underwater and Archaeology Unit proposed that monitoring shall take the following format to ensure the continued preservation (either in situ or by record) of our underwater cultural heritage and all associated features, objects and structures:</p> <p>The services of a suitably qualified and suitably experienced underwater archaeologist (with experience in the archaeological monitoring of marine dredging operations) shall be engaged to carry out the archaeological monitoring of all works.</p> <p>The archaeological monitoring shall be licensed by this Department and a detailed method statement is to accompany the licence.</p> <p>The method statement shall set out the monitoring strategy for the dredging works.</p> <p>A communication strategy is to form part of the monitoring strategy to ensure full communication is in place between the monitoring archaeologist and the plant operators at all times during works.</p> <p>The archaeological personnel undertaking the monitoring will be in a position to monitor directly all elements of the dredging works, to ensure they have unobstructed views of the dredging plant head, and the plant and machinery operators shall be prepared to facilitate the archaeological personnel in the undertaking of their monitoring work.</p> <p>No works at the pier should damage the existing protected structure and all provisions shall be made to ensure that the historic pier structure is protected from all potential impacts. This to include the pier itself and any pier furniture, features, etc. The archaeological monitoring strategy shall include the plan for the protection of the historic pier.</p>	<p><i>dredged spoil may be scaled down. The methodology should seek to have a representative percentage assessed from all areas."</i></p> <p>The material which is proposed to be disposed of at Sea will be loaded directly into a barge and towed to the proposed disposal site, south of Power Head.</p> <p>It is proposed to dispose the material which has been identified as contaminated in a suitably licensed landfill facility. There is insufficient space available on Ballycotton pier to spread the dredge material in order to assess the artefact bearing potential while also ensuring the pier remains operational for fishing vessels.</p> <p>Sufficient archaeological personnel shall be in place to monitor all aspects of the proposed dredge works including the loading of contaminated dredge material directly into covered tipper trucks on the pier.</p>

Statutory Body	Applicant's Response
<p>As part of the Finds Retrieval Strategy in the methodology, if the material is being brought ashore, 25% of the dredged material removed is to be spread and metal detected to assess the artefacts-bearing potential. If large quantities of artefacts are present, then the percentage of material being assessed may be increased. Similarly, if, after an agreed period of time, there is minimal artefactual evidence, the archaeological assessment of the dredged spoil may be scaled down. The methodology should seek to have a representative percentage assessed from all areas.</p> <p>Sufficient archaeological personnel will be in place to cover all aspects of the monitoring and assessment of the dredging and pier works.</p> <p>Should potential archaeology be identified during the dredging or pier works, then the dredging is to be suspended in that location pending full resolution of the archaeology, which may include archaeological assessment, testing, avoidance/preservation in situ or full excavation.</p> <p>In the event that potential archaeology is identified and dredging works have to be suspended, the Underwater Archaeology Unit shall be contacted immediately to ensure the least delays to works are incurred.</p>	
<p>Underwater Archaeology Unit – Observation No 2</p> <p>The Underwater Archaeology Unit noted that the applicant's proposals re. disposal of dredged material, are acceptable to them and they await submission of the archaeological licence application. The services of a suitably qualified and suitably experienced underwater archaeologist (with experience in the archaeological monitoring of marine dredging operations) shall be engaged to carry out the archaeological monitoring of all works. The archaeological monitoring shall be licensed by their Department and a detailed method statement is to accompany the licence application. The method statement shall set out the monitoring strategy for the dredging works.</p>	<p>The Applicant had no objection to the conditions proposed by the Underwater Archaeology Unit.</p>
<p>National Parks and Wildlife Service</p> <p>The National Parks and Wildlife Service noted that the proposed dredging application for Ballycotton Harbour had been evaluated by a Natura Impact</p>	<p>The Applicant had no objection to the conditions proposed by the National Parks and Wildlife Service.</p>

Statutory Body	Applicant's Response
<p>Statement (NIS) and other documents. The conclusion of the Natura Impact Statement document is that the proposed works are unlikely to pose a significant likely risk to nature conservation interests in the vicinity. It is noted that potential interaction with marine mammals can be ameliorated by the application of "Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters".</p> <p>National Parks and Wildlife Service concurred with this conclusion and requested that mitigation outlined in Section 7.1 of the NIS document is implemented in full.</p>	
<p>Department of Agriculture, Food and Marine</p> <p>The department propose that the following should be included in any licence that issues:</p> <p>The Marine Institute recommends full engagement with users of the pier and suggests it is carried out on an ongoing basis until the works are completed.</p>	<p>The Applicant had no objection to the conditions proposed by the Department of Agriculture, Food and the Marine.</p>
<p>Sea Fisheries Protection Authority</p> <p>Sea Fisheries Protection Authority stated that the application is limited to the internal boundaries of the harbour foreshore and therefore will not interfere with any sub-tidal wild fisheries. Some temporary disturbance regarding an increase in turbidity immediately outside of the harbour is likely but it should be short in duration.</p> <p>Fisheries control activities by the SFPA may be restricted due to the restriction of access at times during the construction of the proposed works, the expected timeframe is detailed within the foreshore application of 8 weeks of dredging activity within the harbour.</p> <p>Sea Fisheries Protection Authority noted that there are no classified shellfish production areas in the area of the proposed works.</p> <p>Sea Fisheries Protection Authority stated that seafood safety issues, caused by the proposed works, are not expected. The operators should be aware of the notification process should a pollution incident take place during the</p>	<p>The Applicant had no objection to the conditions proposed by the Sea Fisheries Protection Authority.</p>

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Statutory Body	Applicant's Response
three month works period. The SFPA office with responsibility for Ballycotton is Clonakilty and should be contacted directly on 023 88559300 or sfpaclonakilty@sfpa.ie	
<p>Marine Survey Office</p> <p>After a comprehensive review of this application the MSO had no comment with regard to the safety of navigation.</p> <p>A local Marine Notice shall be published for the information of all local maritime users detailing the proposed dredging campaign and any associated hazards to navigation arising for the duration of the license period.</p>	The Applicant had no objection to the conditions proposed by the Marine Survey Office.

1.4 Legislative context

The *Foreshore Act 1933* (as amended), requires that a lease or licence must be obtained from the Minister for Housing, Local Government and Heritage for the carrying out of works or placing structures or material on, or for the occupation of or removal of material from, State-owned foreshore.

The 1992 EU Habitats Directive (Council Directive 92/43/EC) and Birds Directive (2009/147/EC) are transposed into Irish law by Part XAB of the *Planning and Development Act 2000* (as amended) and the *European Communities (Birds and Natural Habitats) Regulations 2011* (as amended). The latter outlines the requirements for screening for AA and AA under Regulation 42:

42. (1) A screening for Appropriate Assessment of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European Site, shall be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that plan or project, individually or in combination with other plans or projects is likely to have a significant effect on the European site.

(2) A public authority shall carry out a screening for Appropriate Assessment under paragraph (1) before consent for a plan or project is given, or a decision to undertake or adopt a plan or project is taken.

(6) The public authority shall determine that an Appropriate Assessment of a plan or project is required where the plan or project is not directly connected with or necessary to the management of the site as a European Site and if it cannot be excluded, on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site.

(9) Where a public authority is required to conduct an Appropriate Assessment pursuant to paragraph (6) in relation to a plan or project that it proposes to undertake or adopt, it shall —

(a) prepare a Natura Impact Statement,

(b) compile any other evidence including, but not limited to, scientific evidence that is required for the purposes of the Appropriate Assessment, and

(c) submit a Natura Impact Statement together with evidence compiled under subparagraph (b) to the Minister not later than six weeks before it proposes to adopt or undertake the plan or project to which the Natura Impact Statement and evidence relates.

(11) An Appropriate Assessment carried out under this Regulation shall include a determination by the public authority under this Regulation pursuant to Article 6(3) of the Habitats Directive as to whether or not a plan or project would adversely affect the integrity of a European site and the assessment shall be carried out by the public authority before a decision is taken to approve, undertake or adopt a plan or project, as the case may be.

(12) In carrying out an Appropriate Assessment under paragraph (11) the public authority shall take into account each of the following matters —

(a) the Natura Impact Statement,

(b) any other plans or projects that may, in combination with the plan or project under consideration, adversely affect the integrity of a European Site,

(c) any supplemental information furnished in relation to any such report or statement,

(d) if appropriate, any additional information sought by the authority and furnished by the applicant in relation to a Natura Impact Statement,

(e) any information or advice obtained by the public authority,

(f) if appropriate, any written submissions or observations made to the public authority in relation to the application for consent for proposed plan or project,

(g) any other relevant information.

A Screening for Appropriate Assessment has been carried out and determined that it could not be excluded, on the basis of objective scientific information, that the proposed works, individually or in combination with other plans or projects, will have a significant effect on a European site. This report details the Stage 2 Appropriate Assessment of the Project.

Relevant guidance informing the AA includes that at a European (European Commission 2019, European Commission 2021) and national (OPR 2021, DoEHLG 2010) level.

SECTION 2 - DESCRIPTION OF PROPOSED WORKS

2.1 Proposed works

The works which will comprise a single dredging programme, are summarised below.

- Dredge the area outlined in orange in Figure 2.1 to bedrock or -3.5m below Chart Datum whichever is shallowest.
- Dredge remainder of the harbour outlined in purple to bedrock or -2.5m below Chart Datum whichever is shallowest.
- Disposal of suitable dredged materials at the previously used dumping site to the south of Power Head, 16km southwest of Ballycotton (Figure 2.2).
- Dispose of contaminated dredged material outlined in cyan to a licensed landfill facility.

2.2 Sediment analyses

Cork County Council's agent consulted with the Marine Institute' environmental chemist regarding their plans to submit both Foreshore licence and Dumping at Sea Permit applications. The Marine Institute provided a site-specific sampling and analyses plan for the material to be dredged. Sediment sampling was undertaken in two rounds, in October 2020 and January 2021. Five samples were taken in the first round and 10 in the second round. The sediment samples were analysed by Socotec, an accredited laboratory which is based in Burton-upon-Trent in the UK.

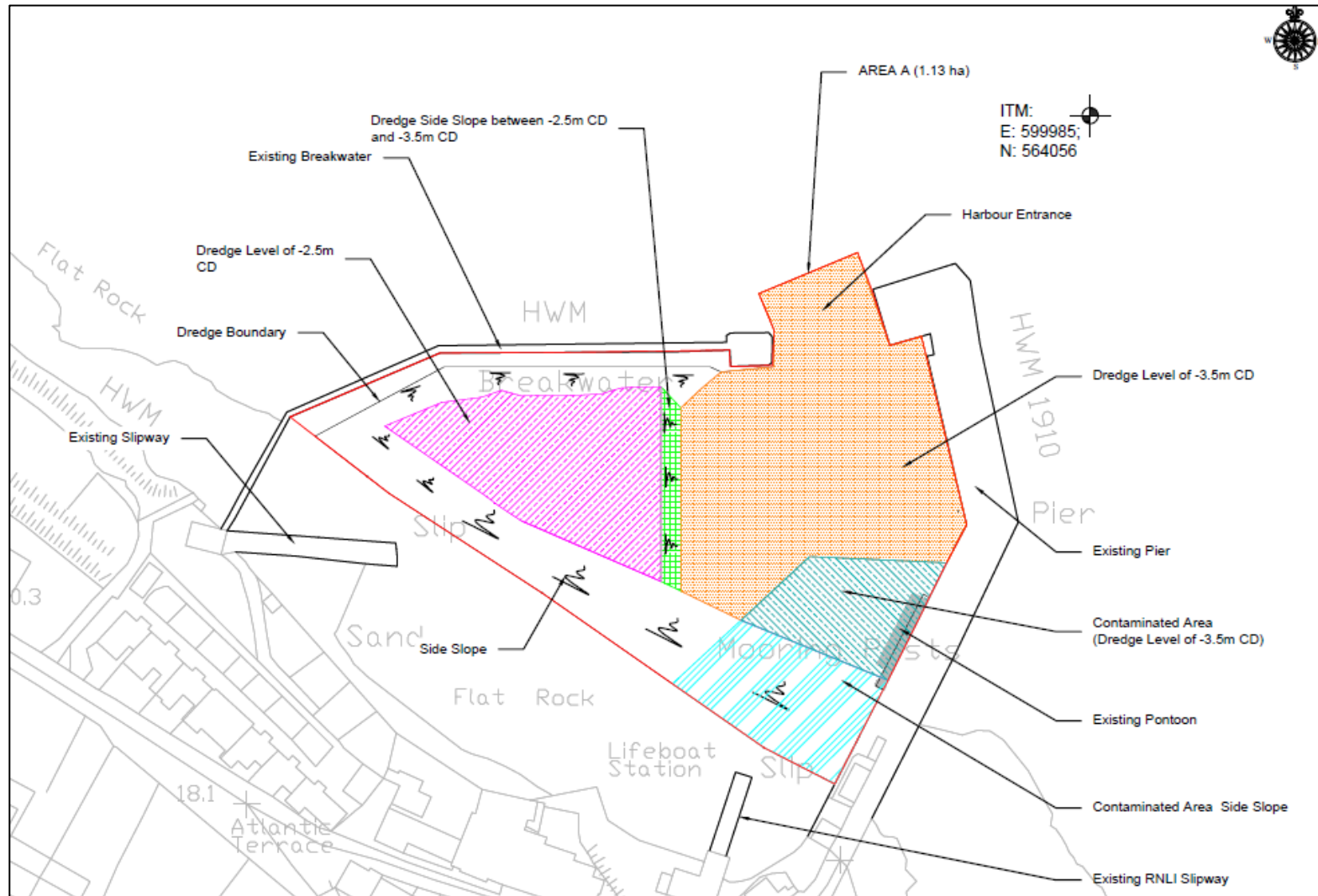
The five samples from the first round were analysed for a very wide range of parameters including 10 heavy metals, organochlorines, total extractable hydrocarbon, tributyl tin (TBT) and dibutyl tin (DBT), and 16 polycyclic hydrocarbons (PAH). Following consultation with the Marine Institute, the second round of sampling was undertaken, and the samples were analysed for copper, lead, TBT/DBT and PAH. The sampling and analyses plan and analyses results are provided in appendices to the Cork County Council Ballycotton Harbour Dredging Foreshore Application Report, Byrne Looby Partners, 2021.

The results of the analyses were compared with the Marine Institute guidelines (Cronin *et al.* 2006). The guidelines established threshold levels for upper and lower levels of sediment contamination and define three classes of material as follows:

Class 1	Contaminant concentrations less than level 1 and level 2; Uncontaminated: no biological effects likely.
Class 2:	- Contaminant concentrations between Level 1 and Level 2. - Marginally contaminated. - Further sampling & analysis necessary to delineate problem area, if possible.
Class 3	- Heavily contaminated - Very likely to cause biological effects / toxicity to marine organisms. - Alternative management options to be considered.

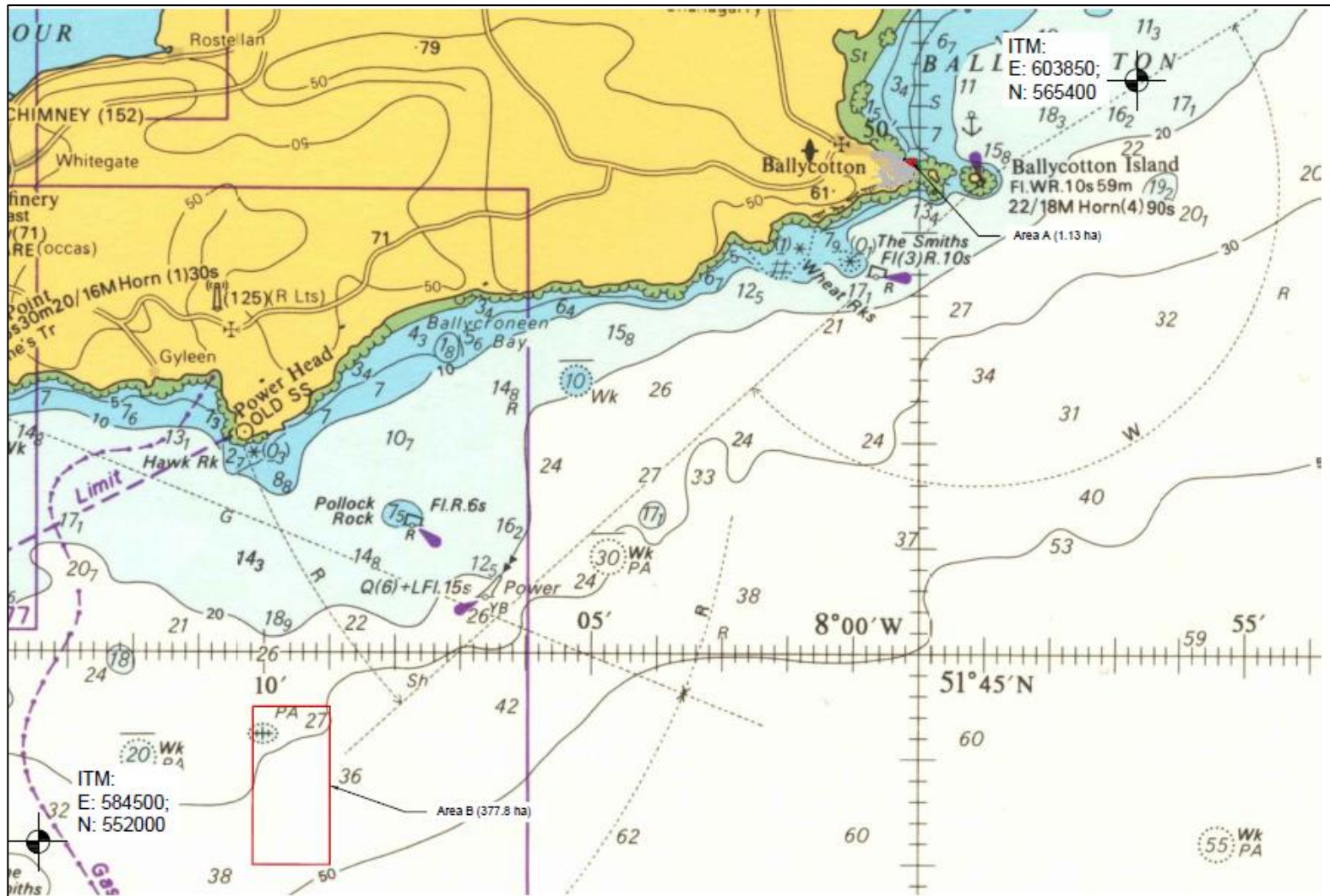
The analyses results indicated low levels of contamination in several of the samples. Class 2 levels of lead were found between the pontoon and the head of the pier. The contamination level did not preclude the option of disposing the dredged material at sea. Class 2 and 3 levels of TBT/DBT were found adjacent to the RNLI slipway. This material is not suitable for disposal at sea. This area is indicated in cyan in Figure 2.1.

Figure 2.1: Proposed Foreshore licence area (in red) for dredging



Source: Byrne Looby Partners, Foreshore Consent Application Ref. FS007037

Figure 2.2: Proposed Foreshore Licence area (in red) for dredge disposal



Source: Byrne Looby Partners, Foreshore Consent Application Ref. FS007037

2.3 Dredging methodology

A pre-condition survey of the site will be carried out by the contractor to determine the suitability of the plant proposed. It is proposed that the following equipment will be mobilised to the site for the dredging elements of the works:

- Long-reach back-hoe excavator
- Dredge barge
- 1,000m³ hopper barge
- Tugboat
- Articulated dump trucks
- Safety boat
- Road sweeper

A site compound will be set up on site. Appropriate fencing will be erected around the perimeter of the compound. The size of the site compound will be minimised to limit obstructions to the normal operation of the port. The compound will incorporate a site office, canteen, welfare facilities and storage.

All existing swing moorings will be removed from the seabed before commencing dredging works. All swing moorings will be stored off site in a location agreed with Cork County Council while dredging works take place. Swing moorings will be reinstalled on completion of dredging works. The pontoon and gangway shall be removed by the dredging contractor, stored and reinstated on completion of the works.

A bathymetric survey will be carried out to determine the exact seabed levels prior to dredging. A dredge barge will be towed to the harbour by a tugboat.

For the contaminated material, indicated in cyan in Figure 2.1, a long-reach excavator, mounted on the dredge barge, will use a dig control system to determine the dredge level achieved. The excavated material will be placed in a hopper barge. This material will then be transferred to tipper trucks, which will transport it to a suitably licensed facility for disposal.

For uncontaminated material, the excavated material will be placed in a hopper barge and towed to the disposal site, south of Power Head (Figure 2.2), for disposal at sea. Storage of the material will not take place on the quay. It is likely that dredging activities will take place 24hrs per day, 7 days per week to achieve the maximum production rates within tidal envelopes.

It is not anticipated that there will be any requirement to dredge rock from the harbour. Table 2.1 indicates the estimated volumes of dredge materials.

Table 2.1: Estimated dredge volumes

Material to be dredged	Volume (m ³)	Mass (tonnes)
Silt, Sands & Gravels	19,500	35,743
Assume bulk density is 1,300kg/m ³		

It is estimated that 18,000m³ of gravel, silt and sand will be disposed of at sea. The remaining 1,500m³ of contaminated gravel, silt and sand will require disposal at a suitably licensed site.

2.4 Expected schedule

It is anticipated that overburden (gravel, silt and sand) will have a maximum dredging rate of 500m³ per 24 hours. It is estimated that the haulage contractor would dispose of overburden material over 12 hours per day. The expected programme is indicated in Table 2.2 with an expected duration for the project of two months.

Table 2.2: Proposed works programme

Activity	Duration
Mobilisation	2 weeks
Removal of existing moorings	1 week
Dredging	8 weeks
Mooring reinstallation	2 weeks
De-mobilisation	1 week

SECTION 3 - STAGE 2 APPROPRIATE ASSESSMENT

3.1 Stage 1 AA screening outcome

The screening determined that a likely significant effect from accidental pollution could not be ruled out for the following sites:

- Ballymacoda (Clonpriest and Pillmore) SAC (Mudflats and sandflats not covered by seawater at low tide)
- Blackwater River (Cork/ Waterford) SAC (Estuaries, Mudflats and sandflats not covered by seawater at low tide, Perennial vegetation of stony banks, *Salicornia* and other annuals colonising mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritima*), Mediterranean salt meadows (*Juncetalia maritimi*), Freshwater Pearl Mussel (*Margaritifera margaritifera*), Sea Lamprey (*Petromyzon marinus*), River Lamprey (*Lampetra fluviatilis*), Twait Shad (*Alosa fallax fallax*), Salmon (*Salmo salar*))
- Ballycotton Bay SPA (teal, ringed plover, golden plover, grey plover, lapwing, black-tailed godwit, bar-tailed godwit, curlew, turnstone, common gull, lesser black-backed gull, wetland and waterbird assemblage)
- Ballymacoda Bay SPA (wigeon, teal, ringed plover, golden plover, grey plover, lapwing, sanderling, dunlin, black-tailed godwit, bar-tailed godwit, curlew, redshank, turnstone, black-headed gull, common gull, lesser black-backed gull, wetland and waterbird assemblage)
- Blackwater Estuary SPA (wigeon, golden plover, lapwing, dunlin, black-tailed godwit, bar-tailed godwit, curlew, redshank, wetland and waterbird assemblage)
- Cork Harbour SPA (little grebe, great crested grebe, cormorant, grey heron, shelduck, wigeon teal, pintail, shoveler, red-breasted merganser, oystercatcher, golden plover, grey plover, lapwing, dunlin, black-tailed godwit, bar-tailed godwit, curlew, redshank, black-headed gull, common gull, lesser black-backed gull, common tern, wetland and waterbird assemblage)
- Sovereign Islands SPA (cormorant)

3.2 Assessment of impact on European sites

The applicant indicated in Section 6.1.3 of their Screening for Appropriate Assessment (Section 6.1.3) that inshore working vessels, jack-up barges and equipment had the potential to lead to localised impacts on marine and coastal species and birds resulting from accidental spillage of hydrocarbons. The applicant noted that due to the limited use and size of these vessels and platforms the use of hydrocarbons was relatively low.

It is noted that the applicant did not specify the use of a jack-up barge in their project description rather a dredge barge and hopper barge (Section 2.3 of this report). The use of a jack-up barge would result in direct disturbance to the seabed associated with spud can placement which was not considered by the applicant. However, the sediment disturbance footprint would be small and limited to within the confines of the harbour and therefore would fall within the 3km zone of influence for dredging: sediment disturbance and mobilisation used by the applicant to screen in relevant receptors and sites.

With respect to potential pollution, the applicant noted that the extent of dispersal of hydrocarbons in marine waters was governed by a number of factors including spreading, drifting, evaporation, dissolution, photolysis, biodegradation and formation of both oil-in-water and water-in-oil emulsions. Diesel and petrol are light, refined petroleum products with a relatively narrow boiling range, meaning that, when spilled on water, most of the oil will evaporate or naturally disperse within a few days or less. Wave or swell action may lead to

some of the oil dispersing into the water column. Oil dispersed in the water column can adhere to fine-grained suspended sediments which then settle out and get deposited on the seafloor. The applicant noted this process was more likely to occur in estuaries and near river mouths where fine-grained sediment was present. It was less likely to occur in open marine settings. The area of impact of accidental fuel spills will be dependent on the volume spilled, weather and dispersion conditions. The volume of such fuel likely to be carried by jack-up barges and small vessels could potentially be in the order of 4-5 tonnes (equivalent to ca. 5-6m³).

The applicant provided a limited assessment of the potential impact of accidental pollution in their NIS, only noting that there was no potential for impact or else no potential for impact with mitigation (see Section 3.3) against the qualifying interests of the relevant sites. The following is based on details provided at the screening stage, augmented where relevant with additional information that the applicant could have referred to, and considering the proposed mitigation measures.

3.2.1 Benthic habitats and species

Relevant sites (and qualifying interests):

- Ballymacoda (Clonpriest and Pillmore) SAC (Mudflats and sandflats not covered by seawater at low tide)
- Blackwater River (Cork/ Waterford) SAC (Estuaries, Mudflats and sandflats not covered by seawater at low tide, Perennial vegetation of stony banks, *Salicornia* and other annuals colonising mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritima*), Mediterranean salt meadows (*Juncetalia maritimi*))
- Ballycotton Bay SPA (Wetland habitat)
- Ballymacoda Bay SPA (Wetland habitat)
- Blackwater Estuary SPA and Cork Harbour SPA (Wetland habitat)

The applicant indicated that the accidental spillage of hydrocarbons from small vessels, jack-up barges and plant operating in the area could have the potential to lead to temporary impacts on benthic habitats in the event of any accidental spillage or leakage. It was considered that this may have the potential to result in significant effects on benthic habitats, including wetland habitat for waterbirds within a 20km zone surrounding the proposed project.

The applicant could have noted the variation in the potential scale of effect depending on the location of any spill, for example, while it is much more likely to take place at the dredging location, the scale of effect would be different should such a spill occur further out to sea, for example at or on route to the disposal site, which would likely limit any interaction with Natura 2000 sites due to enhanced dispersal in the offshore environment.

Benthic habitats and species may be sensitive to deposition of hydrocarbons following a spill, however, as noted above, the nature of the dominant inventory of hydrocarbons is diesel, which will largely evaporate or naturally disperse. Evidence of effects on benthos from diesel spills is limited, a notable example being the Florida Barge spill, however this was of 700m³ which is over 100 times that of the inventory noted for vessels used as part of the Ballycotton dredging (ca. 5-6m³). Some long-term presence of oil was noted in relation to the deep anoxic and sulphate-depleted layers of local salt marsh sediments (Reddy *et al.* 2002, Peacock *et al.* 2005), but substantial biodegradation of aromatic hydrocarbons in saltmarsh sediments was also noted (Teal *et al.* 1992). The ecological consequences of residual contamination are unclear, although remobilisation of sediment-bound contaminants through bioturbation or storm events would be expected to result in rapid aerobic biodegradation.

Should a spill occur at the location of the dredging works, the wetland habitat of the Ballycotton Bay SPA (0.7km from the dredge site) could be affected and there could also be direct effects on the non-breeding waterbird SCI listed for the site (see Section 3.2.3 below). The conservation objective for the wetland habitat is to maintain the favourable conservation condition of the habitat as a resource for the regularly occurring migratory birds that utilise it. The target is that the permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 281 ha, other than that occurring from natural patterns of variation (NPWS 2014a). Similar targets have been defined for Ballymacoda Bay SPA (wetland habitat – 602ha, NPWS 2015a), Blackwater Estuary SPA (871ha, NPWS 2012a) and Cork Harbour SPA (2,587ha, NPWS 2014b), although these sites are 10km, 18km and 12km from the dredge site, respectively.

Ballymacoda (Clonpriest and Pillmore) SAC and Blackwater River (Cork/ Waterford) SAC are ca. 8km and 17km from the dredge site, respectively. General information (primarily from Kirby *et al.* 2018) on the sensitivity of relevant qualifying interests (see above) to marine oil spills is presented below.

The vulnerability and sensitivity to oil spills of intertidal sediments (e.g. Mudflats and sandflats not covered by seawater at low tide, Estuaries) is influenced by a number of physical and biological factors; including wave exposure, shore topography, sediment composition, height of water table, presence of large burrows, abundance and diversity of infauna and use of the shore by birds for feeding and roosting. Wave exposed, clean sandy shores are often considered to have a low vulnerability and sensitivity due to the natural cleaning of the waves and the relative sparsity of fauna present in the sediment. However, a sheltered muddy gravel shore with a high biodiversity, may have a high vulnerability and sensitivity. NPWS (2015b) notes with respect to the sand with polychaetes and bivalve community complex that is present within the relevant Mudflats and sandflats not covered by seawater at low tide habitat of the Ballymacoda (Clonpriest and Pillmore) SAC that, “*The exposed aspect of the beach and shallow subtidal results in a highly mobile sediment, as a result the distinguishing species exhibit a variable distribution and generally occur in low abundances.*” Based on the information presented above, this community complex would appear to be of low sensitivity to oil pollution. It is also noted that the Mudflats and sandflats not covered by seawater at low tide and Estuaries habitats of the Blackwater River (Cork/ Waterford) SAC are within a fairly enclosed estuary (NPWS 2012b).

Saltmarsh habitats (e.g. *Salicornia* and other annuals colonising mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritima*), Mediterranean salt meadows (*Juncetalia maritimi*), are generally considered to be very vulnerable to oil spills as they form in the upper part of sheltered muddy shores where oil may become concentrated and cause long-term contamination. As above, it is noted that the distribution of saltmarsh habitats within the Blackwater River (Cork/ Waterford) SAC (Appendix I of NPWS 2012c) are within very sheltered areas of a fairly enclosed estuary.

Habitats above the level of spring high tides such as Perennial vegetation of stony banks, are not normally vulnerable to marine oil spills (Kirby *et al.* 2018).

Given the nature of the sites and their distance from the dredge site (8 and 17km), and the nature of the hydrocarbons that could be spilled, the potential for significant effects on the qualifying interests is limited.

The size of the vessels to be used in the works are such that they are not likely to be covered by mandatory controls (e.g. under MARPOL); a number of mitigation measures are proposed by the applicant (Section 3.3) which would reduce the spill risk in the absence of such controls. Any accidental event is not a planned part of project activities, and in view of the mitigation

measures proposed, an adverse effect can be discounted for the relevant sites considered above. That is, that avoiding spills through the implementation of those measures will not undermine the conservation objectives to maintain the favourable conservation condition of the qualifying interests of the sites, or to restore certain qualifying interests (e.g. the Atlantic salt meadows of Blackwater River (Cork/ Waterford) SAC). The draft Construction Environmental Management Plan (CEMP) will be finalised as required prior to the commencement of the works and will incorporate the mitigation measures outlined by the applicant, and will include any additional requirements pursuant to conditions attached to statutory consents.

3.2.2 Fish

Relevant site (and qualifying interests):

- Blackwater River (Cork/ Waterford) SAC (Freshwater Pearl Mussel, Sea Lamprey, River Lamprey, Twaite Shad, Salmon)

It is noted that the Blackwater River (Cork/ Waterford) SAC is 17km from the proposed dredge site. The site's conservation objectives for salmon, sea lamprey, river lamprey and twaite shad are to maintain the favourable conservation condition of these species within the freshwater habitat of SACs where they are designated for these species, other than for Blackwater River (Cork/ Waterford) SAC, for which the objective is to restore sea lamprey, twaite shad, and by association with Atlantic salmon, freshwater pearl mussel to favourable conservation status; note that the applicant did not indicate that restore objectives were in place for these features. These five species have a marine phase in their life cycle and while the conservation objectives set for these species, in all Irish SACs, relate to the freshwater phase of their life cycle, the proposed project has the potential to affect these species ex-situ during their marine phase by way of pollution in the unlikely event of hydrocarbon spillage. Fish are at greatest risk from contamination by oil spills when the water depth is very shallow or enclosed. In open waters deeper than 10m, the likelihood that contaminant concentrations will be high enough to affect fish populations is very small (Kirby *et al.* 2018).

As noted above in relation to benthic habitats, in the absence of mandatory requirements under MARPOL for the vessels to be used as part of the works (e.g. to carry an approved Shipboard Oil Pollution Emergency Plan (SOPEP)), the adoption of the mitigation measures noted in Section 3.3 would reduce the spill risk in the absence of such controls, such that adverse effects would not occur.

3.2.3 Birds

Relevant sites (and Special Conservation Interests (SCI)):

- Ballycotton Bay SPA (teal, ringed plover, golden plover, grey plover, lapwing, black-tailed godwit, bar-tailed godwit, curlew, turnstone, common gull, lesser black-backed gull, wetland and waterbird assemblage)
- Ballymacoda Bay SPA (wigeon, teal, ringed plover, golden plover, grey plover, lapwing, sanderling, dunlin, black-tailed godwit, bar-tailed godwit, curlew, redshank, turnstone, black-headed gull, common gull, lesser black-backed gull, wetland and waterbird assemblage),
- Blackwater Estuary SPA (wigeon, golden plover, lapwing, dunlin, black-tailed godwit, bar-tailed godwit, curlew, redshank, wetland and waterbird assemblage)
- Cork Harbour SPA (little grebe, great crested grebe, cormorant, grey heron, shelduck, wigeon teal, pintail, shoveler, red-breasted merganser, oystercatcher, golden plover, grey plover, lapwing, dunlin, black-tailed godwit, bar-tailed godwit, curlew, redshank, black-headed gull, common gull, lesser black-backed gull, common tern, wetland and waterbird assemblage)

- Sovereign Islands SPA (cormorant)

Seabirds are considered vulnerable components of the ecosystem to oil spills in offshore and coastal environments, because of their close association with the sea surface. Mechanisms of impact on seabird populations include oiling of plumage and loss of insulating properties, and ingestion of oil during preening causing liver and kidney damage (Furness & Monaghan 1987). Oil spillages can have serious implications for seabirds. Cook and Burton (2010) describe that even a small spill can have a serious effect on seabird populations. Oiling rates are higher for species which spend more time swimming, such as guillemots, razorbills and also seaducks and divers. For this reason impacts from accidental hydrocarbon spillage have the potential to impact on the conservation objectives of bird species associated with SPAs.

There are a limited number of seabird species associated with the relevant sites, with common gull and lesser black-backed gull being qualifying interests of Ballycotton Bay SPA, Ballymacoda Bay SPA and Cork Harbour SPA, and cormorant being a qualifying interest of Sovereign Islands SPA. Cork Harbour SPA also includes black-headed gull (however, this species along with lesser black-backed gull are more likely to, but not exclusively, forage in the terrestrial environment) and common tern. These species could forage within the area of the works (e.g. see foraging ranges in Woodward *et al.* 2019), and within the 20km ZOI identified to screen sites in, and therefore, could potentially interact with any spill should it occur. All of the remaining qualifying interests of the sites are waterbirds. There remains the potential for these to be affected by spills should they come ashore and either cause direct effects on the birds or indirectly through effects on supporting wetland habitat (as covered in Section 3.2.1 above). Inshore waterbirds, such as divers and ducks are extremely vulnerable to surface-borne pollution given the time they spend on the water and it is noted that no diver or duck species are SCI of Ballycotton Bay SPA, the closest site to the dredge works. Wetland birds, including waders, appear to have a relatively low vulnerability to the direct effects of oil spills (Kirby *et al.* 2018). The scale of the potential spill which could occur, noting the inventory of hydrocarbons to be 4-5 tonnes, and for most sites, the distance of the SPAs from the works, reduces the potential for adverse effects.

As noted above in relation to benthic habitats, in the absence of mandatory requirements under MARPOL for the vessels to be used as part of the works (e.g. to carry an approved Shipboard Oil Pollution Emergency Plan (SOPEP)), the adoption of the mitigation measures noted in Section 3.3 would reduce the spill risk in the absence of such controls, such that adverse effects would not occur. That is, that avoiding spills through the implementation of those measures will not undermine the conservation objectives to maintain the favourable conservation condition of the SCI of the sites. The draft Construction Environmental Management Plan (CEMP) will be finalised as required prior to the commencement of the works and will incorporate the mitigation measures outlined by the applicant, and will include any additional requirements pursuant to conditions attached to statutory consents.

3.2.4 In-combination effects

Section 6.4 of the applicant's revised Supporting information for screening for AA and NIS (revision dated 21/1/2022) indicated that as the proposed project was marine based, only additional projects which had a marine component were considered in relation to the potential for cumulative effects.

The applicant indicated in the revised report that a search of Foreshore licence applications on the Department of Housing, Local Government and Heritage website and Applications for Statutory Petroleum Consent on the website of the Department of the Environment, Climate and Communications did not indicate any other current projects within the ZOI of the proposed project. To inform this Appropriate Assessment, the Foreshore applications section of the

DHLGH website² was reviewed (29th September 2022). The following projects were identified within the dredging project's 20km zone of influence (Figure 3.1).

FS007022 Irish Water Temporary Wall and Working Area at Ballycotton Pier

In their response to the initial consultation (Table 1.2), the Marine Advisor of the DHLGH noted that Irish Water have application FS007022 under consideration for a licence to construct a temporary work area which overlaps partially with the proposed dredge area³. The Marine Advisor recommended that if approved the licensee shall coordinate with Irish Water in terms of sequencing to ensure both set of works do not conflict.

The AA Screening for the proposed Irish Water pumping station on Ballycotton Pier (FS007022) concluded that the potential for adverse effects on the Conservation Objectives of Natura 2000 sites by the proposed works could be screened out. Given this, that with the implementation of mitigation (Section 3.3) adverse effects on the integrity of relevant sites is not expected, and the Marine Advisor recommendation above, the potential for any in-combination effects can also be excluded.

FS007126 Port of Cork - maintenance dredging

A Foreshore licence has been applied for the project (23/02/2022) but as yet no AA screening and/or NIS has been published on the DHLGH website⁴. However, a Screening for AA and NIS⁵ was submitted for the project as part of an EPA Dumping at Sea licence application (S0013-03)⁶. The Port of Cork is seeking an 8-year permit (01/01/2023 – 31/12/2030) to dredge and dump at sea, a maximum dredge volume of 4,700,145m³ (including contingency volumes). This consists of both primary and secondary dredging campaigns. The total volume of material to be dredged during primary dredging years equates to ca. 669,855m³ (inclusive of max contingency) compared to a total dredge volume of 356,667m³ (inclusive of max contingency) during secondary dredge years. Historically, the primary dredging campaigns are normally undertaken every 2 to 3 years. The proposed dredge areas extend from the Port of Cork at Cork City, to beyond Roches Point at the entrance to the harbour. The licensed disposal site is located approximately 8km south of Roches Point and appears to be the same site as that proposed for the disposal of Ballycotton Harbour material. Silt dispersion simulations showed that there would be no dredging or dumping plumes carrying sufficient concentrations of suspended sediments to cause significant deposition on the mudflat, sandflat or saltmarsh habitats of Great Island Channel SAC or wetland habitats of Cork Harbour SPA. The modelling showed that almost all the sediment dumped during the primary dredging operation remained within the confines of the licensed disposal site. Beyond the immediate vicinity of the licensed disposal site, change in bed levels did not generally exceed 4mm. The NIS concluded that the project would not adversely affect the integrity of the sites concerned with the application of mitigation measures.

The proposed Ballycotton Harbour dredging will dispose of ca. 18,000m³ of uncontaminated dredge spoil at the disposal site which represents less than 3% of the volume of that will be disposed during a primary dredge year at Port of Cork (and 5% of the secondary dredge volume). This additional volume of dredge material is unlikely to significantly change the findings of the sediment dispersal modelling and given the distance of the closest site to the

² <https://www.gov.ie/en/collection/f2196-foreshore-applications-and-determinations/#2022>

³ <https://www.gov.ie/en/foreshore-notice/4bed4-irish-water-temporary-wall-and-working-area-at-ballycotton-pier/?referrer=http://www.gov.ie/en/publication/f132d-irish-water-temporary-wall-and-working-area-at-ballycotton-pier/>

⁴ <https://www.gov.ie/en/foreshore-notice/917e7-fs007126-port-of-cork-maintenance-dredging/>

⁵ http://epawebapp.epa.ie/licences/lic_eDMS/090151b2807e51b7.pdf

⁶ <https://epawebapp.epa.ie/terminalfour/DaS/DaS-view.jsp?regno=S0013-03>

disposal site (Cork Harbour SPA, 10km), significant in-combination physical disturbance effects associated with sediment deposition are not likely.

FS006916 EirGrid Celtic Interconnector Electricity Cable

The Foreshore licence application for this project has now been determined (27/05/2022)⁷. The AA for this project concluded that with the implementation of mitigation, the potential accidental loss of pollutants associated with operations would not adversely affect the integrity of a number of European sites relevant to the Ballycotton Harbour project (e.g. Blackwater River (Cork/ Waterford) SAC, Ballymacoda Bay SPA, Blackwater Estuary SPA, Ballycotton Bay SPA, Cork Harbour SPA). Potential adverse effects associated with habitat loss/degradation from physical disturbance of the seabed and disturbance due to noise and vibration were excluded with the implementation of mitigation for both Ballymacoda Bay SPA and Blackwater Estuary SPA. Given that the proposed dredging will not result in physical disturbance effects to any site and the mitigation measures proposed to minimising the risk of accidental pollution (Section 3.3), the potential for in-combination effects with the Celtic Interconnector project can be excluded.

Inis Ealga Marine Energy Park (IEMEP) site investigations off County Cork⁸

The applicant's screening for AA⁹ indicated that the proposed site investigations would not have likely significant effects on any Natura 2000 sites relevant to the proposed dredging works and therefore in-combination effects are not expected.

Simply Blue Emerald Site Investigations for possible Floating Offshore Wind project off Kinsale

The applicant's AA screening and AA¹⁰ indicated that the proposed site investigations could have likely significant effects with respect to disturbance from vibration and underwater noise on the twaite shad qualifying interest of the Blackwater River (Cork/ Waterford) SAC. However, implementation of the DAHG 2014 guidelines would ensure that the integrity of the site was not impacted. Given that the site is 17km from the proposed dredge site and the mitigation measures proposed to minimise the risk of accidental pollution (Section 3.3), the potential for in-combination effects to impact the twaite shad qualifying interest can be excluded.

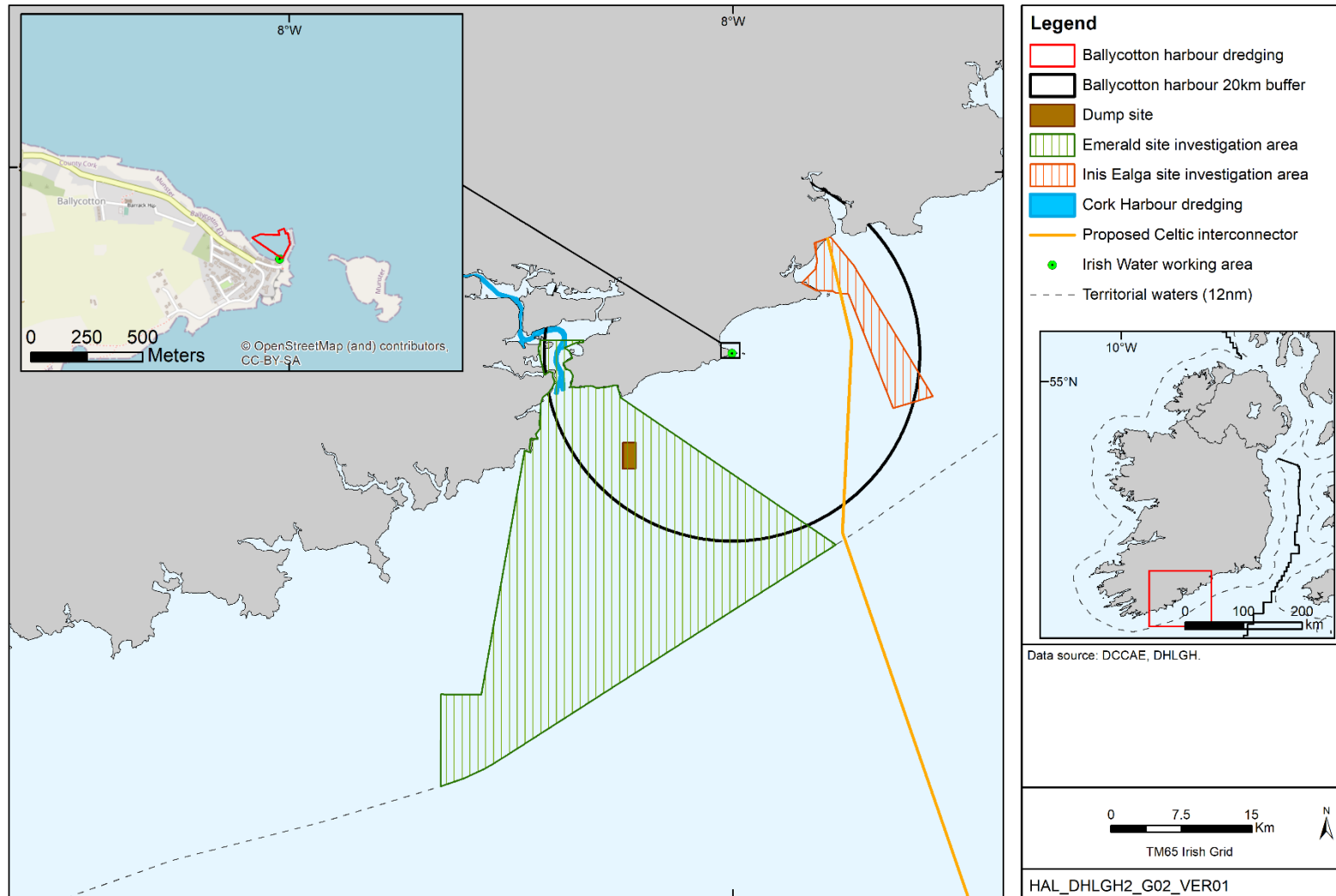
⁷ <https://www.gov.ie/en/foreshore-notice/7bfb1-eirgrid-celtic-interconnector-electricity-cable/>

⁸ <https://www.gov.ie/en/foreshore-notice/8bd37-inis-ealga-marine-energy-park-iemep-site-investigations-off-county-cork/>

⁹ <https://assets.gov.ie/203020/7e78be09-ea75-4413-bc0f-e3493f1207e9.pdf>

¹⁰ <https://assets.gov.ie/101460/69270217-3490-46db-9fda-373a9212a131.pdf>

Figure 3.1: Other projects identified within the applicant's 20km zone of influence



3.3 Mitigation measures

The applicant did not identify any Natura 2000 sites with marine mammal features in their screening assessment for which there was a likely significant effect, however, a number of mitigation measures were identified (Section 7.1 of their NIS) of relevance to such features, largely based on NPWS (2014). While this may be applicable to the Article 12 assessment, they are not considered to be relevant to the AA and are not discussed further.

The only source of effect identified to be relevant to the AA from the screening was accidental spills. To avoid the possibility for accidental spillage of any hydrocarbons associated with the use of plant, machinery or inshore shallow water vessels the applicant indicated that the following mitigation measures will be implemented:

- Vessels should be filled by a licensed operator prior to arriving on-site and no on-site refuelling should take place.
- All plant and machinery and vessels will be regularly checked for leaks (fuel, oil and coolant).
- Drip trays will be used underneath mobile plant and drums whilst in use on site.
- All machinery and vessels to have an on-board spill kit.
- A hydrocarbon oil boom to be available at all times onsite in the event of it needing to be deployed.
- If required, generators to be on a hydrocarbon mat at all times.
- The Contractor will prepare a waste management plan to deal with any waste (domestic and industrial) generated. This will include methods for the safe disposal of all such waste.

The applicant noted that all of the above mitigation measures would be documented in the final Construction Environmental Management Plan (CEMP) and that the project manager should ensure all of the mitigation measures are implemented and communicated to the on-site supervisor/foreman who should be responsible for ensuring they are fully implemented.

The draft Construction Environmental Management Plan (CEMP) will be finalised as required prior to the commencement of the works and will incorporate the mitigation measures outlined by the applicant, and will include any additional requirements pursuant to conditions attached to statutory consents.

3.4 Transboundary effects

No potential transboundary effects were identified.

3.5 AA conclusion

Supporting information
<p>The applicant provides sufficient ecological baseline information and details of the Conservation Objectives for each of the Natura 2000 sites assessed, but this is split between Section 6 of their document (screening for AA) and Section 7 (NIS), and ideally, the NIS would have provided more information on the potential for adverse effects from spills in relation to the qualifying interests. In general the baseline information and that relating to the nature of potential effects (all contained in Section 6 of the report and so not</p>

within the NIS) is objective and scientifically grounded, although in some cases it could have been expanded upon with additional detail and related references.

Consideration of impacts

The tabulation of conservation objectives for the sites in Table 7.1 is useful, but it should have indicated that for some qualifying interests, the objectives are to restore the feature to favourable condition. Additionally, the assessment in the table is a record of the outcome (e.g. no potential for impact or no potential for impact with mitigation); there is no substantial consideration of the potential nature of effects against the conservation objectives of the sites or how the proposed mitigation measures reduce the scale of any effect to allow a conclusion of no adverse effect. In particular, the circumstances in which a hydrocarbon oil boom would be deployed and how this would effectively avoid an impact on any relevant site (also see below), and the frequency of checks for leaks on plant and machinery, would ideally have been set out in the NIS. It is not clear whether this information will be included in the CEMP to be prepared for the project, but for the mitigation measure to be effective, such detail will need to be provided and communicated to those responsible for their implementation.

Mitigation measures

The mitigation measures described in Section 3.3 are sufficient to avoid significant impacts on the relevant sites if clarified in more detail and appropriately implemented as indicated above. It is noted that the applicant also provided mitigation measures for invasive alien species and marine mammals and noise, but these sources of effect were not identified as something to be subject to AA at the screening stage and they have not been considered here.

In-combination effects

No in-combination effects were identified or are considered likely.

Transboundary effects

No transboundary effects were identified or are considered likely.

Appropriate Assessment conclusion

The applicant’s NIS provides sufficient data and information on the proposed works, the relevant sites and analysis of potential effects on those sites, to allow the Competent Authority to complete an AA.

The applicant has shown that the operations will not adversely affect (either directly or indirectly) the integrity of any European site, either alone or in combination with other plans or projects, and there is no reasonable scientific doubt in relation to this conclusion.

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