Portrush Harbour
Dredging Works 2024
Habitats Regulations Assessment

March 2024

Ref: JN 355.17b 2024

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1.0 INTRODUCTION

Causeway Coast & Glens Borough Council (CC&GBC) is proposing to undertake maintenance dredging works at Portrush Harbour, Portrush, Irish Grid Reference (IGR) C 85492 40716 (Figure 1a). The works are required to re-establish sufficient water depth at low tide at the entrance to allow safe passage of vessels (including the Portrush Lifeboat) in and out of the harbour. An area of approximately 6,250 m^2 is proposed to be dredged at the entrance of the harbour resulting in 7,000 m^3 of recently deposited sands to be removed (Figure 1b & 1c). The entrance of the harbour is to be dredged to -4.0 m CD with grading at 1 in 3 to tie the dredge level into the existing bed level. A grading of 1 in 5 will be used adjacent to the head of the southern breakwater. Depth of dredge should be up to approximately 3 m. Dredged material will be removed to a DAERA licensed site (Portstewart Bay B: 55^0 17.5'N 06^0 40.0'W), located approximately 9 km north of Portrush Harbour.

Figure 1a: Site Location, Portrush Harbour

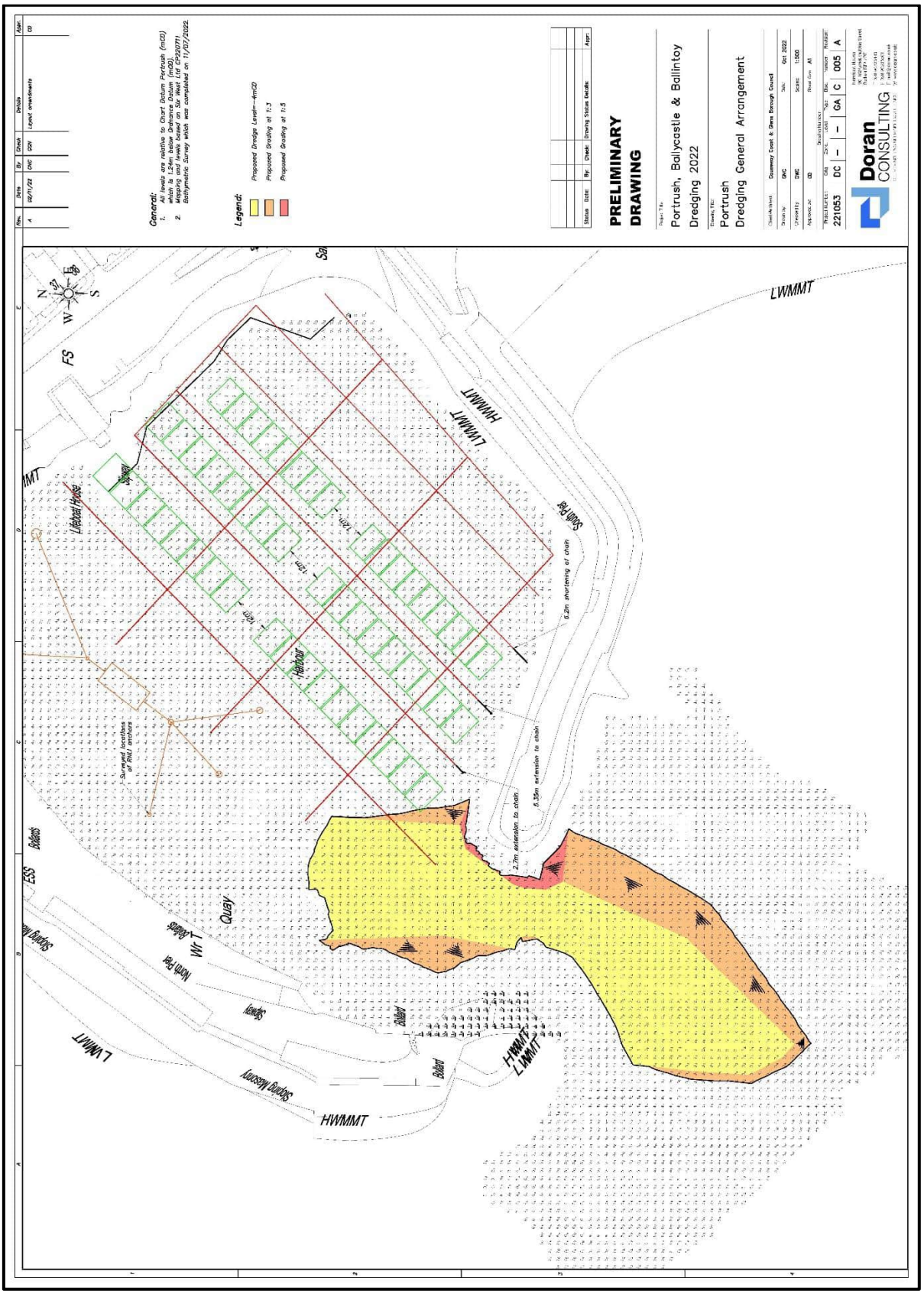

Figure 1b: Portrush Harbour, Dredge Arrangement

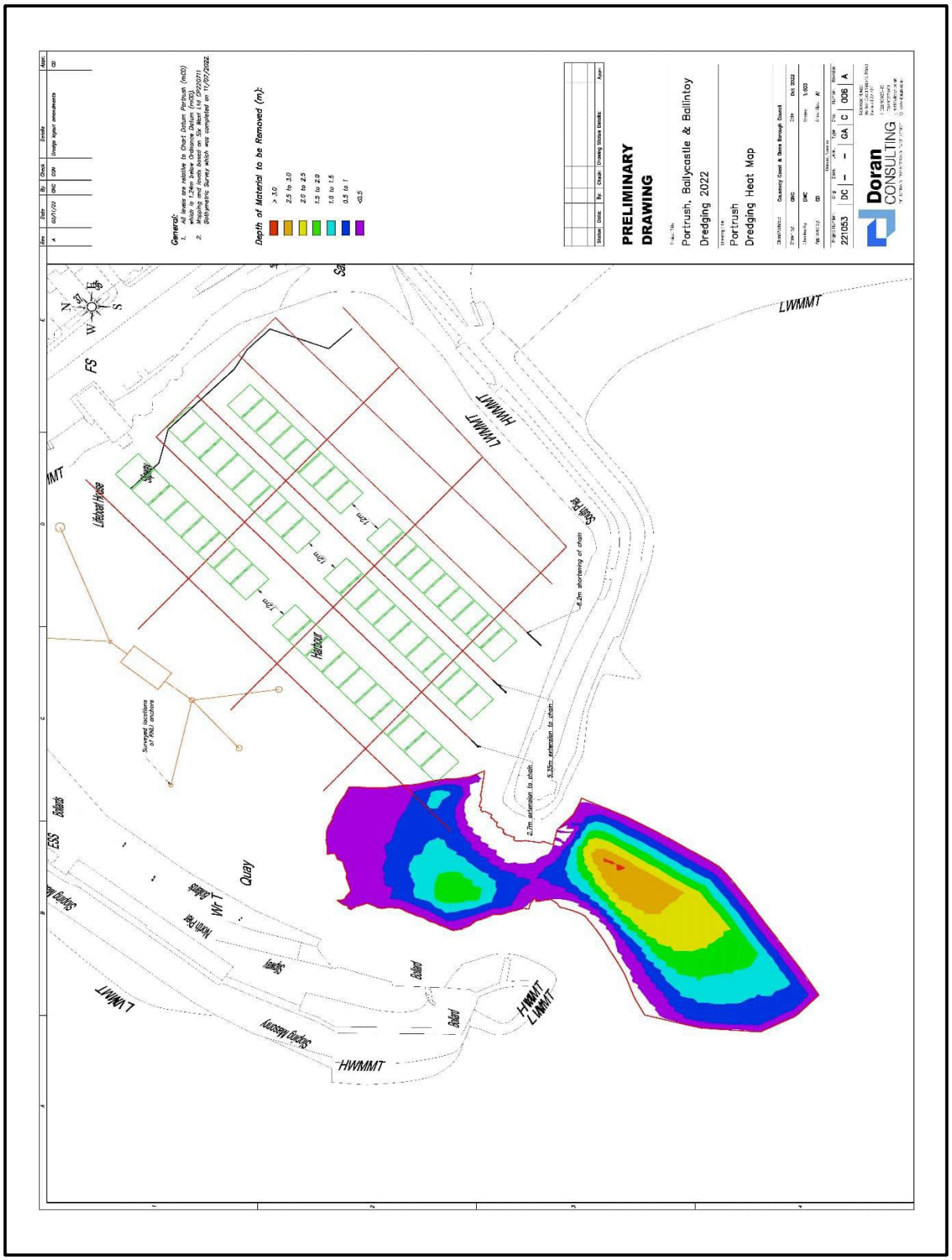

Figure 1c: Portrush Harbour, Dredging Heat Map

This report includes the HRA and acknowledges that the appointed Contractor will implement a robust Dredge Management Plan (Draft included in Section 6.0) considering the following DAERA 'Standing Advice' and Guidance:

- Development that may have an Effect on the Water Environment
- Marine Non-Native Species
- Marine Wildlife Disturbance

The HRA will be submitted in support of a Marine Licence Application for the proposed maintenance dredging works. The HRA is supported by the following summary methodology for the maintenance dredging works at Portrush Harbour. In addition, a Draft Dredge Management Plan is presented in Section 6.0 Supporting Documentation.

MAINTENANCE DREDGING WORKS, PROTRUSH HARBOUR: METHODOLOGY

The methodology below is a preliminary outline and is subject to confirmation by the appointed Contractor.

Dredging will commence within the harbour during the off-season (February - June 2025). Only silts, sands & gravels are to be dredged and dredging operations shall be carried out to the extent indicated on the drawings.

It is anticipated that a long reach excavator will be located on a pontoon with a split hopper barge moored alongside. Dredged material will be placed in the split hopper barge and filled to level. Alternatively, the Contractor may source a self-propelled split hopper barge with a long reach excavator mounted on board.

A 3-dimensional model of the target dredge profile shall be produced and uploaded onto the 3D GPS dig system of the excavator. The excavator will be fitted with several positional sensors on the bucket, stick and boom together with the GPS receivers for positional correction which will ensure the bucket is always dredging to the correct levels. A quayside benchmark will be established with a known position and elevation to enable regular bucket checks to be carried out to confirm the accuracy of the bucket positioning.

A line of buoys will be deployed, in agreement with the Harbour Master, to delineate the dredge works area as a constant visual reminder for the Harbour Users.

The excavator will carefully excavate the material to the required dredge levels taking care not to damage existing structures or create excessive suspended solids.

Dredge plant will maintain a daily electronic dredge log. The dredging log shall be a live document to be updated each day, resulting in a comprehensive record of the entire dredge campaign. The daily dredge log shall, as a minimum, record details of dredging work including:

- Location of dredging in the last 24 hours
- Proposed location of dredging for the next 24 hours
- Dredging times
- Dredged quantity
- Nature of dredge material
- Any notable events

It is anticipated that suitable dredge material will be disposed of at sea, dependent on DAERA granting a Disposal at Sea Licence.

All material to be removed will need to be deemed suitable for disposal at sea under the 'Disposal at Sea' licence conditions. If any material encountered is however considered unsuitable for disposal at sea, the Contractor shall bring ashore for testing, processing and appropriate disposal.

The proposed disposal site is 'Portstewart Bay B' (55^0 17.5'N, 06^0 40.0'W) located 9 km from the coast (Figure 1d).

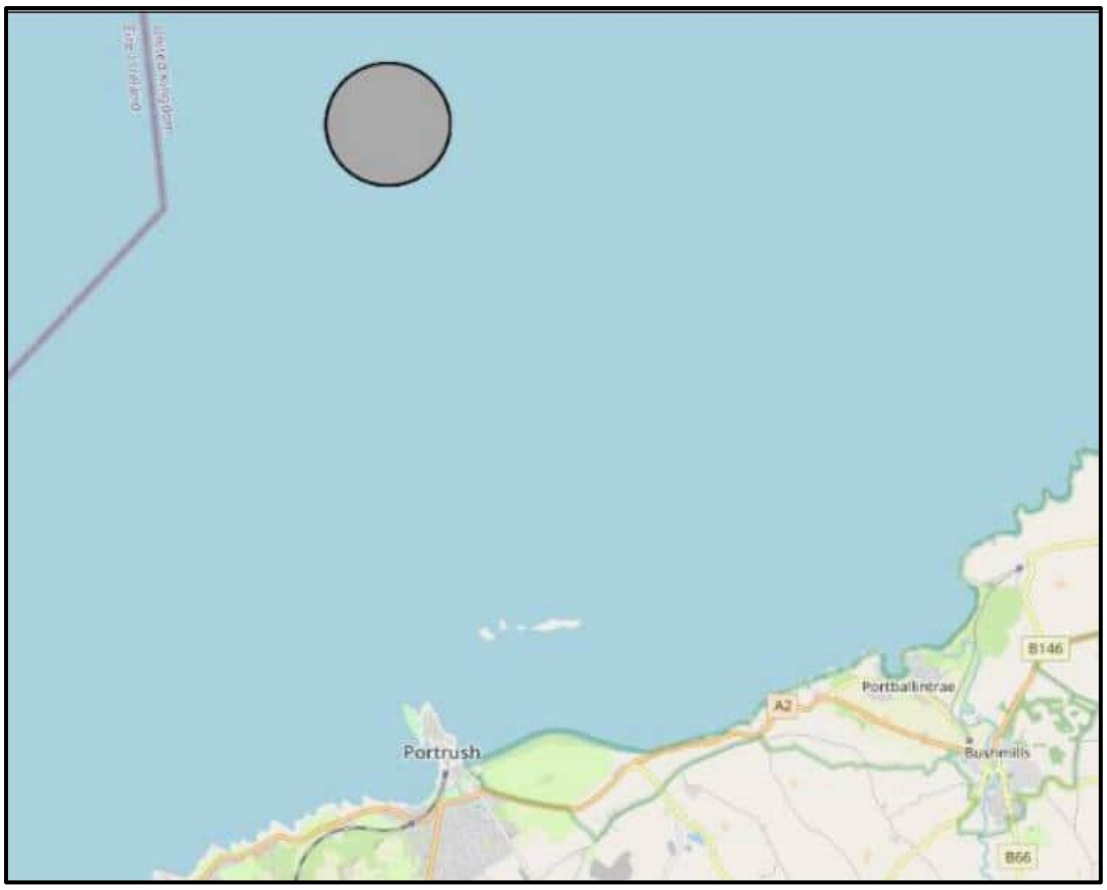

Figure 1d: Portstewart Bay B Disposal Site

The disposal operations will include:

- The split hopper barge will be towed to a designated disposal site. The dredge material will be released through the hull of the split hopper barge while the vessel is in motion to aid the dispersion of sediments over the full dump site area.
- It should be noted that no overtopping of barges or decanting of water from the barges back into the tidal waters will be allowed. Any such event shall be dealt with as a spillage of dredge material.
- The route of the sea disposal vessel shall be recorded as required by DAERA. The volume of material to be discharged per day, frequency of trips per-day and the estimated traveling time will be confirmed by the Contractor prior to Award.

An electronic disposal log will be maintained as a live document showing a comprehensive record of the disposal campaign. The log shall record and report as a minimum the following:

- The name of the vessel
- The source of the substance/ material
- The date, time and position at which the voyage for the purposes of dumping began
- The date, time and position at which the loading began
- The date, time and position at which the loading ended
- The date, time and position at which dumping began
- The date, time and position at which dumping ended
- The quantity, stated in metric tonnes, of the substance or material dumped
- The date, time and position at which the vessel completed the voyage for the purpose of dumping
- Logged vessel track record data

The Contractor must have operational and active AIS vessel tracking during all operations.

Any vessel deployed shall be serviced in accordance with good marine practice and must be fit for that purpose.

All vessels are to be clearly marked with a vessel number and fitted with a VHF Radio, horn and be suitably lit in accordance with the International Maritime Standards.

A notice to mariners shall be issued prior to commencement of the activities to advise all vessels entering or leaving Portrush Harbour that the works are taking place.

The works do not involve piling and a Marine Licence is being applied for.

2.0 HRA PROCESS

Where a proposal involves a project with potential to affect an area that contributed to the UK National Site Network, such as a Special Area of Conservation (SAC) or Special Protection Area (SPA), the appointed competent authority is legally obliged to carry out a HRA. SACs and SPAs contribute to a UK National Site Network on land and at sea, including both the inshore and offshore marine areas.

A HRA is a tool put in place to ensure that a project will not have an adverse effect on the integrity of any SAC and SPA sites and must be undertaken if there is any potential for the designated site to be affected. The outcome of the assessment is the responsibility of the competent authority.

In respect of this proposed project, the developer is a designated competent authority and therefore this submission is a HRA.

The first step under the HRA procedure is what is commonly referred to as The Test of Likely Significance or Screening Test and this is presented in Section 3.0. Where the competent authority deems a project not likely to have a significant effect on any SAC or SPA, either alone or in combination with other plans or projects, then the HRA procedure is complete. Where the competent authority deems that a project is likely to have a significant effect on any SAC or SPA then a further stage in the HRA process must take place. This involves conducting an Appropriate Assessment (AA) where the implications of the project must be considered in respect of the relevant designated sties' conservation objectives. The competent authority may then agree to the project if it decides that it will not adversely affect the integrity of the relevant SAC and SPA sites, having considered the mitigation measures proposed by the developer. For this proposed project an AA is presented in Section 4.0.

This HRA has been prepared in accordance with Regulation 43(1) of the Conservation (Natural Habitats, etc.) (Northern Ireland) 1995 (as amended). It takes cognisance of the HRA requirement to take into account mitigation measures along with all legally enforceable obligations designed to avoid environmental effects. It also reflects the requirement for the competent authority to apply the precautionary approach set out in Commission Guidance: Managing Natura 2000 Sites and as required by the European Court of Justice in C 127/02 (Waddenzee).

3.0 STAGE 1: TEST OF LIKELY SIGNIFICANCE (SCREENING)

Screening Matrix

Name of Project or Plan:
Maintenace Dredging Works, Portrush Harbour

The site is located at Portrush Harbour, Portrush, County Antrim IGR C 85492 40716 (Figure 1a, Section 1.0). The works are required to re-establish sufficient water depth at low tide at the entrance to allow safe passage of vessels (including the Portrush Lifeboat) in and out of the harbour. An area of approximately 6,250 m^2 is proposed to be dredged at the entrance of the harbour resulting in 7,000 m^3 of recently deposited sands to be removed (Figure 1b & 1c, Section 1.0). The entrance of the harbour is to be dredged to -4.0 m CD with grading at 1 in 3 to tie the dredge level into the existing bed level. A grading of 1 in 5 will be used adjacent to the head of the southern breakwater. Depth of dredge should be up to approximately 3 m. Dredged material will be removed to a DAERA licensed site (Portstewart Bay B: 55^0 17.5'N 06^0 40.0'W), located approximately 9 km north of Portrush Harbour (Figure 1d, Section 1.0). The Maintenance Dredging Works will be undertaken by an appointed Contractor, who will be required to implement a robust Dredge Management Plan (Draft included in Section 6.0) considering the following DAERA 'Standing Advice' and Guidance: *Development that may have an Effect on the Water Environment; Marine Non-Native Species; Marine Wildlife Disturbance.* In respect of potential water pollution risk, the appointed Contractor will work to strict protocols in respect of chemicals, hazardous materials and fuelling arrangements.

Recognising that there are currently approximately 100 invasive non-native freshwater and marine species established in Northern Ireland, strict protocols will be in place in respect of plant and equipment used on-site. These protocols will be based on the 'Inspect, Remove, Clean, Dispose & Report' approach promoted by DAERA and Invasive Species NI. Plant and equipment will be subject to the following prior to leaving its previous location:

- **Inspect** all equipment that has been in a waterbody (boats, trailers, engines, outboards, dredgers, weed cutting or harvesting boats, cruisers or even clothing) or terrestrial site for attached vegetation, contaminated soil or obvious animal life before moving to another waterway, catchment or site
- **Remove** any adhering plant, soil or animal material from your equipment for disposal before relocating to another watercourse, section of waterway or site. Ensure that all water is drained from your boat and equipment before transportation to another site and all soil is removed from machinery, as this may contain seed or plant fragments
- **Clean** all equipment with a power hose away from the waterbody. Use hot water (>60 degrees centigrade) where possible
- **Dispose** of all plant and animal material in bags or containers for disposal in bins. Do not throw them back into the water or leave them lying at the water's edge
- **Report** and take photos of species you think may be an INNS on INNI website

The above will also be applied to plant and equipment prior to removal from site on completion of works. The works do not involve piling and a Marine Licence is being applied for.

Name and Location of National Site Network site:

Skerries & Causeway SAC; North Antrim Coast SAC; Bann Estuary SAC; Magilligan SAC; Maidens SAC (Grey Seal only); North Channel SAC (Harbour Porpoise only). *In respect of the features, conservation objectives and connection distances no conceivable effects on the following designated sites are envisaged: Rathlin Island SAC; Rathlin Island Coast SPA and Rathlin MCZ.*

National Site Network site features (Figure 3a – 3f):

Skerries & Causeway SAC
Sandbanks which are Slightly Covered by Sea Water all the Time
Reefs
Submerged or Partially Submerged Sea Caves
Harbour Porpoise

North Antrim Coast SAC
Fixed Dunes with Herbaceous Vegetation ("grey dunes")
Species-rich Nardus Grassland, on Siliceous Substrates in Mountain Areas
Annual Vegetation of Drift Lines
Atlantic Salt Meadows (Glauco-Puccinellietalia maritimae)
Shifting Dunes along the Shoreline with Ammophila arenaria ("white dunes")
Vegetated Sea Cliffs of the Atlantic and Baltic Coasts
Vertigo angustior

Bann Estuary SAC
Fixed coastal dunes with herbaceous vegetation ("grey dunes")
Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
Embryonic shifting dunes
Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")

Magilligan SAC
Fixed dunes with herbaceous vegetation ("grey dunes")
Dunes with Salix repens ssp. argentea (Salicion arenariae)
Humid dune slacks
Embryonic shifting dunes
Euphydryas (Eurodryas, Hypodryas) aurinia (Marsh fritillary butterfly)
Petalophyllum ralfsii (Petalwort)
Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")

Maidens SAC
Grey Seal

North Channel SAC
Harbour Porpoise

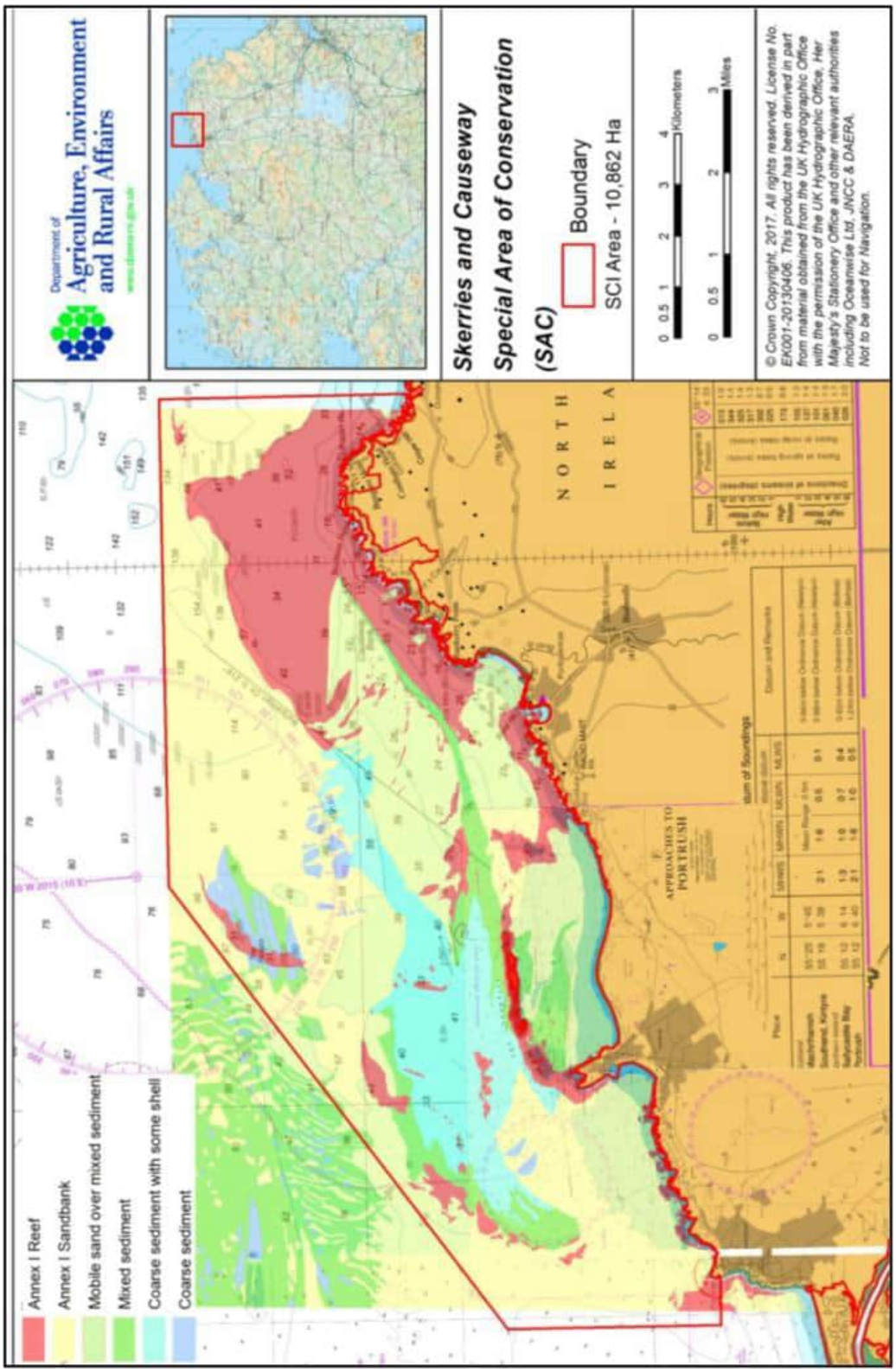

Figure 3a: Skerries & Causeway SAC Boundary (DAERA)

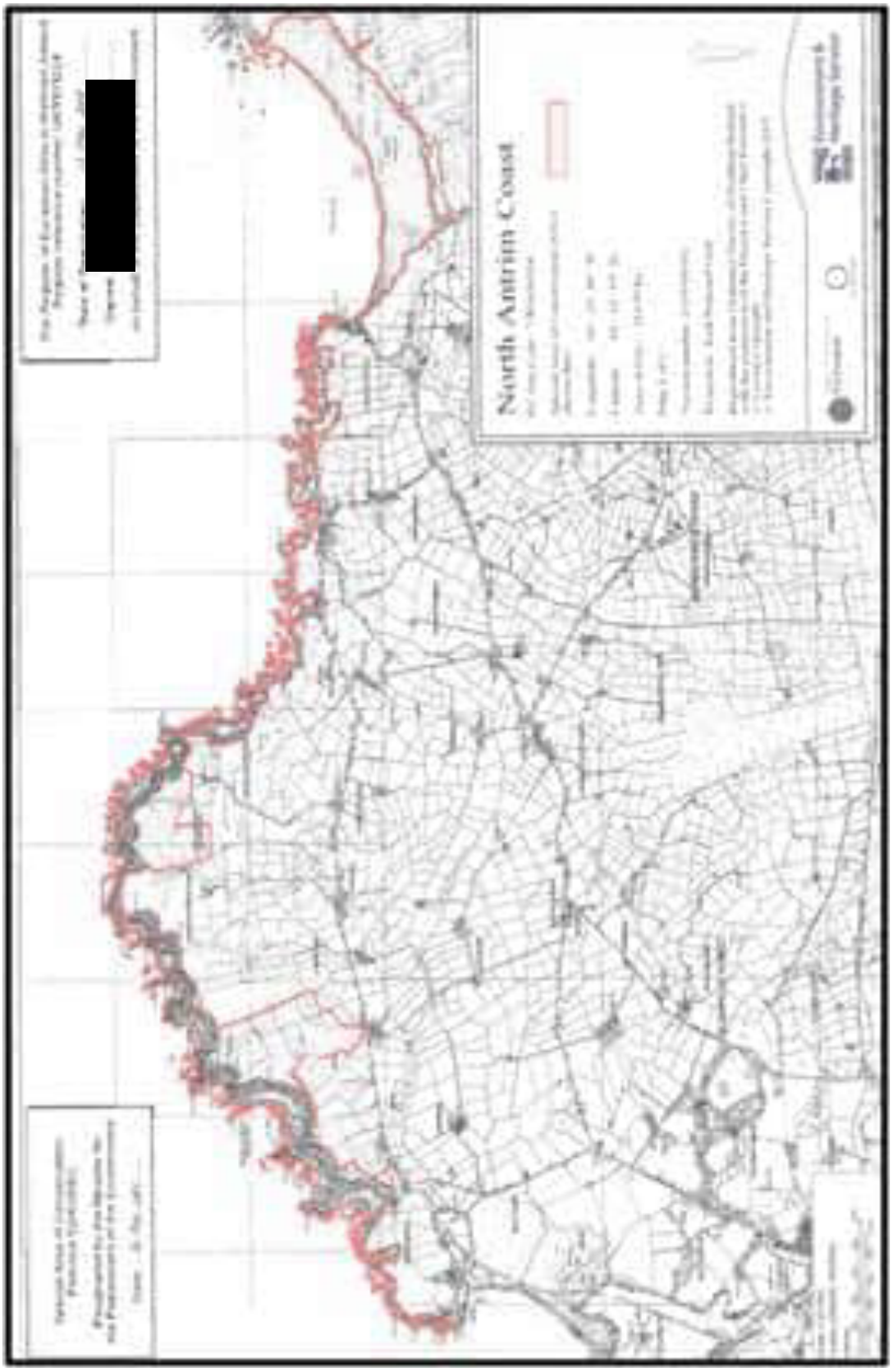

Figure 3b: North Antrim Coast SAC Boundary (DAERA)

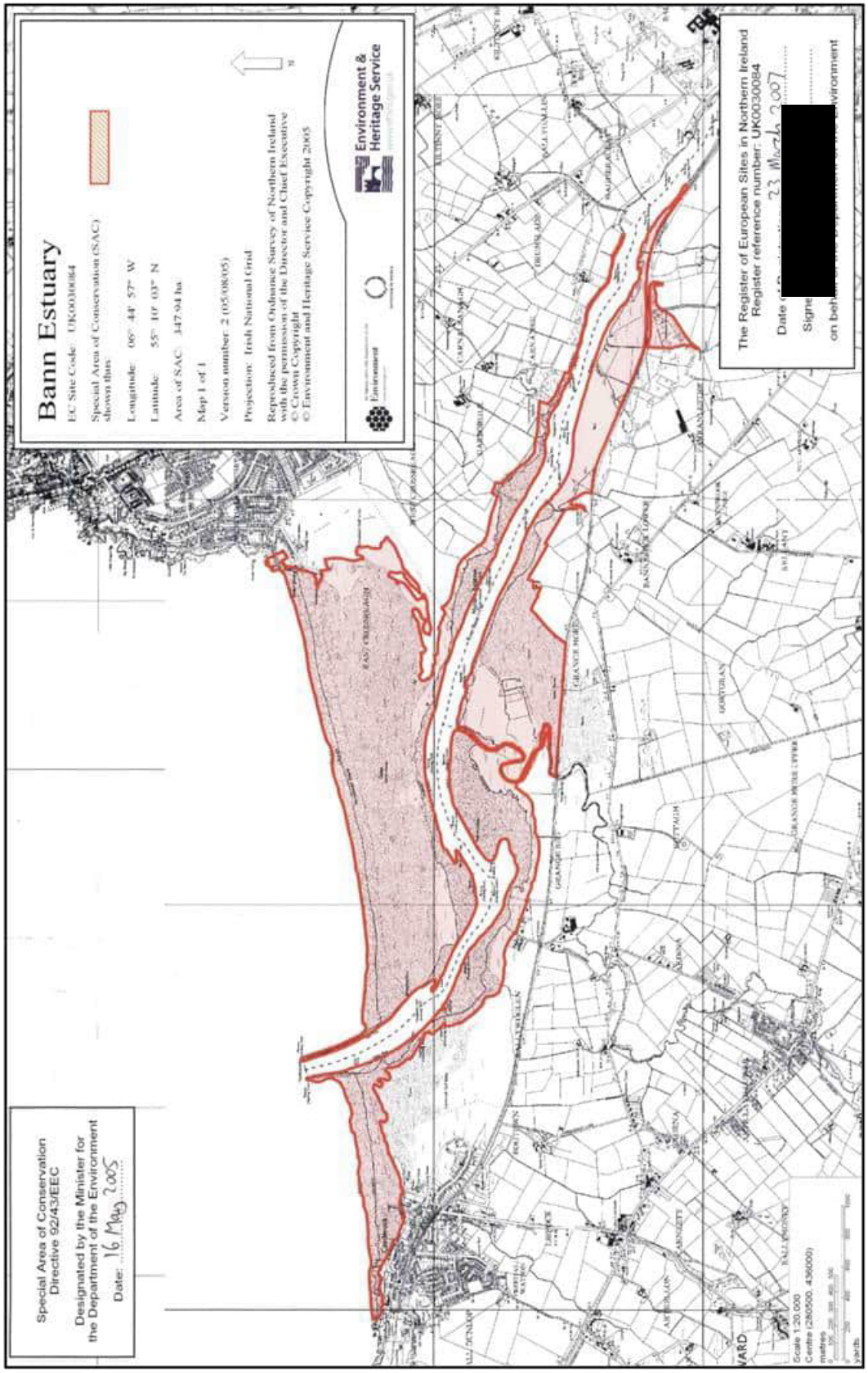

Figure 3c: Bann Estuary SAC Boundary (DAERA)

Figure 3d: Magilligan SAC Boundary (DAERA)

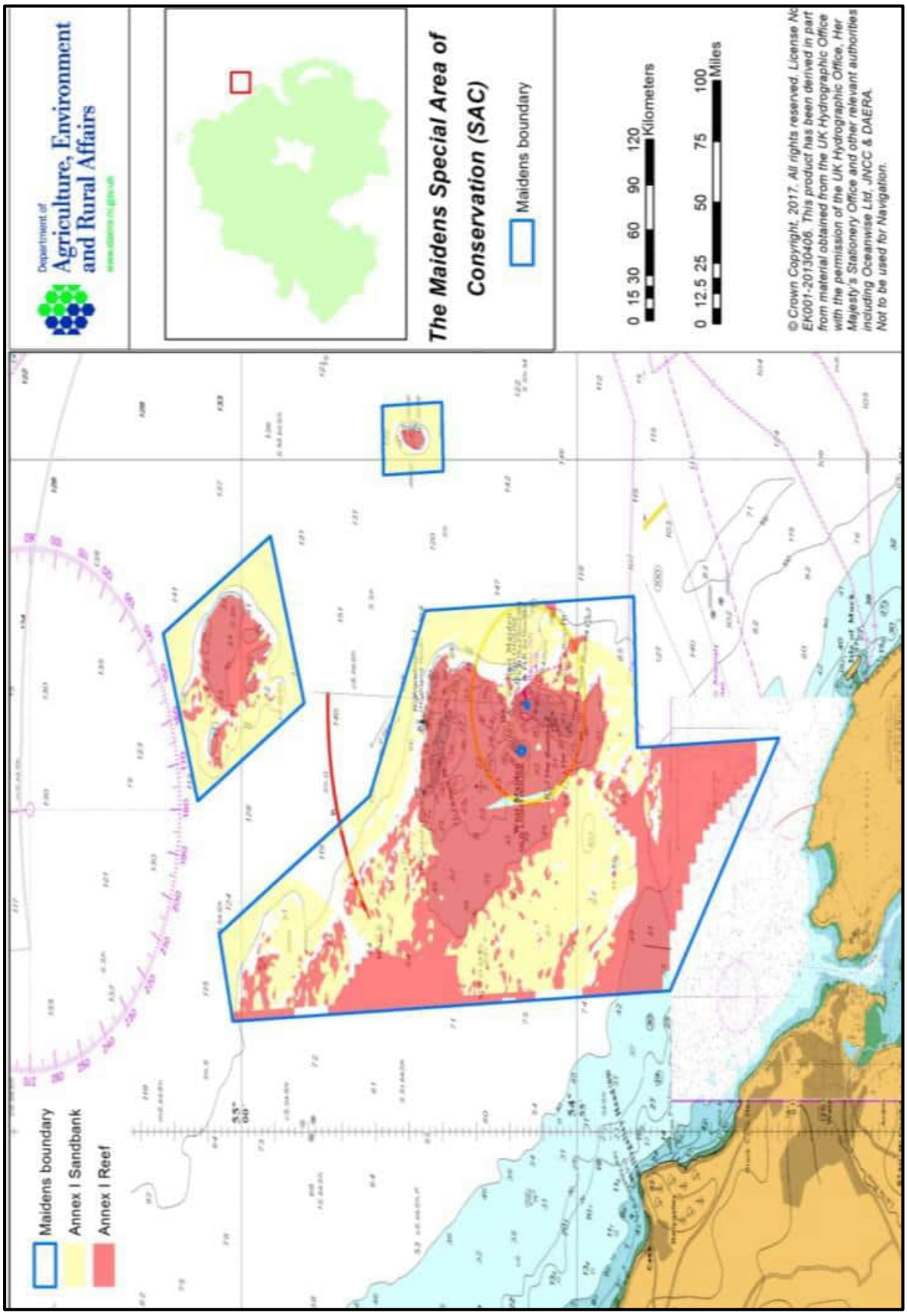

Figure 3e: The Maidens SAC Boundary (DAERA)

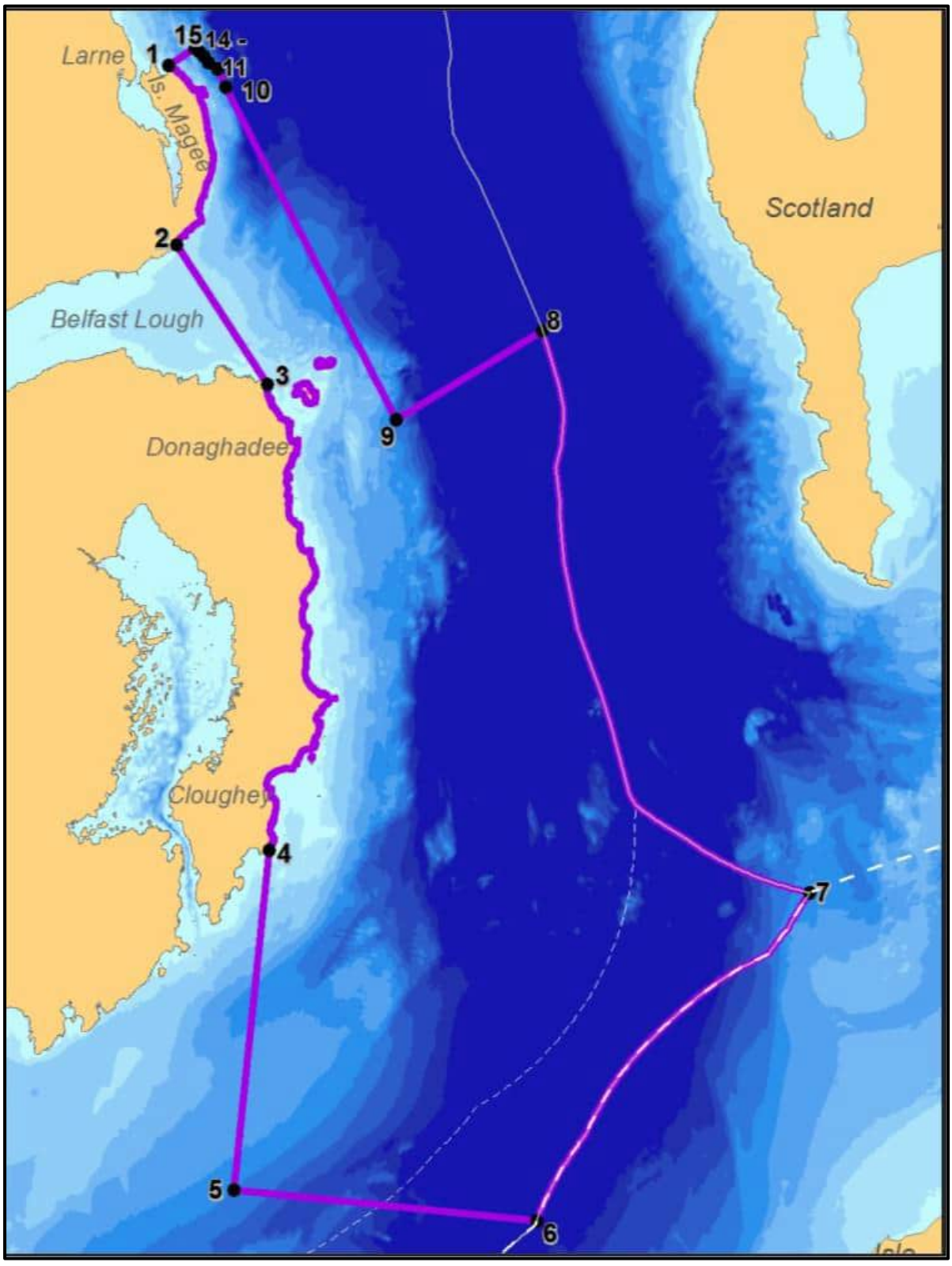

Figure 3f: North Channel SAC Boundary (DEFRA & JNCC)

Marine Habitats

Skerries and Causeway SAC is a 30 km wide embayment on the North Coast of Northern Ireland comprising an area of 10,862 ha. The site is bordering the coastline, which the towns of Portrush, Portstewart, Bushmills and the Giants Causeway World Heritage site reside. Within the SAC lies the Skerries Islands, located off Portrush. The marine habitats of the SAC are influenced by the warm Gulf Stream and strong currents which run through the North Channel, to which the SAC is exposed. The site is highly exposed to wave action as a result of its location, and regions of the SAC also experience a significant freshwater influence with large influxes from the River Bann and the River Bush. Skerries and Causeway was designated an SAC on the following features: reef, sandbanks slightly covered by seawater at all times, submerged or partially submerged sea caves and harbour porpoise. The closest Annex 1 marine habitats include reef (adjacent), submerged sandbanks (~0.15 km) and mudflats & sandflats not covered by seawater at all times (~0.15 km). The reefs of Skerries and Causeway SAC is sand scoured by the nearby sedimentary habitats, and supports rare and priority species. The sandbank habitats have eelgrass communities and in some regions are comprised of large banks, up to 30 m high. Harbour porpoises are residents of the Skerries and Causeway SAC throughout the year. The Skerries islands within the SAC boundary are a breeding habitat for seabirds and also provide shelter to a bed of eel grass Zostera marina. The associated subtidal habitats are known to support species which normally only occur in more southern areas, because of the increased temperatures produced by the Gulf Stream. The following Marine invasive non-native species have been recorded in the vicinity of the proposed development site: *Colpomenia peregrine* (Oyster thief); *Sargassum muticum* (Japanese wireweed); *Corella eumyota* (Orange-tipped sea-squirt); *Tricellaria inopinata* (A bryozoan).

Given the nature and scale of the proposed Maintenance Dredging Works and the proximity of Skerries & Causeway SAC, there is potential for adverse impact from the project on water quality and spread of invasive species. Therefore, potential risk to the achievement of the conservation objectives.

Marine Mammals

Harbour porpoise is a selection feature of the adjacent Skerries & Causeway SAC and has been consistently recorded during more than 140 dedicated effort watches at six sites within the proposed boundary. These records span every month of the year, including months outside of the breeding and calving seasons and confirm the continuous presence of harbour porpoise within this area. Continuous or regular presence is graded A (excellent conservation). The SAC also contains non-qualifying Annex II species, grey seal, common seal, and bottlenose dolphin. Harbour porpoise is also a selection feature of North Channel SAC (~83 km), while grey seal is a selection feature of Maidens SAC (~71 km). The nearest Grey and Harbour seal haul-outs is approximately 3.75 km.

There will be no piling operations associated with the works. Therefore, there is no requirement to apply the JNCC, NRW, DAERA and Natural England '*Guidance for assessing the significance of noise disturbance against Conservation Objectives of Harbour Porpoise SACs.* Given the nature of the proposed Maintenance Dredging Works, the working harbour location, and the absence of piling, the impact on harbour porpoise and other marine mammals is insignificant.

Coastal Processes & Climate Change

These are Maintenance Dredging Works required to maintain access to the harbour (including for the Portrush Lifeboat). The harbour area is designated as 'low' in respect of the NI Coastal Erosion Risk Appraisal (DAERA Marine Map Viewer). There will be no land-take or impact on flood risk. Therefore, the proposed Maintenance Dredging Works are deemed not to represent a detrimental impact on coastal processes, taking into account future sea level rise and coastal erosion.

Other Relevant Designations

In addition to SPA & SAC features, CC&GBC is aware that the project site is close to Portrush West Strand Area of Special Scientific Interest (ASSI). The ASSI is important because of the underlying geology. The area is underlain by layers of peat and dune sands that reflect a complex pattern of coastal changes in the area dating from at least 7,300 years ago. This means that the site allows us to understand better, and date, sea level changes on the north coast since the last ice age. The lowest of the buried dune sands are potentially some of the earliest known post-glacial dunes in the British Isles. The West Strand peat was first studied in 1949 by the pioneer Danish environmental scientist Professor Knud Jessen. In summary, the site suggests the following environmental history. More than 7,300 years ago low sand dunes developed at the site. As sea level began to rise waterlogging occurred between the dunes encouraging peat formation and growth. The peat was mainly formed from Common Reed but also contains abundant fossil wood especially of Alder and Birch. At its maximum height, some 5,900 years ago, the sea-level rose above the surface of the peat and deposited the beach sand. Following the subsequent fall in relative sea level, windblown sands were deposited inland, forming part of the old dune series east of the site. A borehole put down through the beach near Castle Erin has shown that an even older peat is present some 4.5 m below the beach. The evidence from the borehole confirms that this site can contribute further to our understanding of environmental change since the last Ice Age.

Ramore Head & The Skerries has been declared an ASSI because of its fauna and geological features. The site is located just north of Portrush Harbour.

Given the location (within a working harbour), nature and scale of the proposed Maintenance Dredging Works, and notwithstanding the proximity of Portrush West Strand ASSI and Ramore Head & The Skerries ASSI, potential impacts on the key ASSI features are deemed insignificant.

Description of the Project or Plan:

Size and scale

A methodology has been prepared for the proposed Maintenance Dredging Works at Portrush Harbour and is included in the Draft Dredge Management Plan (Section 6.0) and summarised in Section 1.0.

The works are required to re-establish sufficient water depth at low tide at the entrance to allow safe passage of vessels (including the Portrush Lifeboat) in and out of the harbour. An area of approximately 6,250 m^2 is proposed to be dredged at the entrance of the harbour resulting in 7,000 m^3 of recently deposited sands to be removed. The entrance of the harbour is to be dredged to -4.0 m CD with grading at 1 in 3 to tie the dredge level into the existing bed level. A grading of 1 in 5 will be used adjacent to the head of the southern breakwater. Depth of dredge should be up to approximately 3 m. Dredged material will be removed to a DAERA licensed site (Portstewart Bay B: 55^0 17.5' N 06^0 40.0' W), located approximately 9 km north of Portrush Harbour (Figure 1d, Section 1.0). The works will commence in the harbour between February and June 2025. The relevant engineering drawings are presented in Figure 1b and 1c (Section 1.0). The Maintenance Dredging Works will be undertaken by an appointed Contractor, who will be required to implement a robust Dredge Management Plan (Draft included in Section 6.0) considering the following DAERA 'Standing Advice' and Guidance:

1. Development that may have an Effect on the Water Environment
2. Marine Non-Native Species
3. Marine Wildlife Disturbance

The works do not involve piling and a Marine Licence is being applied for.

Land-take

There will be no land-take within any designated site.

Distance from National Site Network site or key features of the site

The proposed Maintenance Dredging Works are adjacent to and within Skerries & Causeway SAC at the entrance to Portrush Harbour. The site is approximately 6 km north east of Bann Estuary SAC, approximately 8 km south west of North Antrim Coast SAC, approximately 10 km north east of Magilligan SAC, approximately 71 km north west of Maidens SAC and approximately 83 km north west of North Channel SAC.

Resource requirements (water abstraction etc.)

There are no resources required for the proposed works.

Emission (disposal to land, water or air)

There will be no emissions during the proposed works.

Excavation requirements

The works are required to re-establish sufficient water depth at low tide at the entrance to allow safe passage of vessels in and out of the harbour. An area of approximately 6,250 m^2 is proposed to be dredged at the entrance of the harbour resulting in 7,000 m^3 of recently deposited sands to be removed. The entrance of the harbour is to be dredged to -4.0 m CD with grading at 1 in 3 to tie the dredge level into the existing bed level. A grading of 1 in 5 will be used adjacent to the head of the southern breakwater. Depth of dredge should be up to approximately 3 m. Dredged material will be removed to a DAERA licensed site (Portstewart Bay B: 55^0 17.5' N 06^0 40.0' W), located approximately 9 km north of Portrush Harbour. In February 2024, a Best Practicable Environmental Option (BPEO) Report was prepared by Envirocentre in support of the Marine Licence Application. This report considered data from sediment analysis undertaken by Geotechnical Environmental Services Ltd in July 2023. From 15 samples, one sample exceeded Existing Action Level (EAL) 1 for Chromium and Nickel only and none exceeded EAL 2. The BPEO Report concluded:

> *'Given that the averaged concentrations, which account for the dredge as a single volume for disposal do not exceed the Effects Range Low (ERL) or Probable Effects Level (PEL), significant adverse effects on marine organisms are considered to be unlikely. Any potential impacts on water quality as a result of the disposal activity are considered to be both localised and temporary, with the potential for dilution in the open waters beyond the disposal site is considerable. It is assumed that the allocated disposal site will be dispersive in nature. The key risk to water quality is considered to be an increase in turbidity/suspended solids during the disposal activity (i.e. placement on the seabed at the disposal site). Although this is likely to cause localised increase in suspended solids at the disposal site, it is considered that this will be both local and temporary in nature. On the basis of the further assessment of the parameters which exceeded EAL1, significant adverse effects on the marine environment are considered unlikely as a result of the proposed dredging and disposal activity.'*

The critical Report finding is that sea disposal is the BPEO for the Portrush dredging project.

Transportation requirements

It is anticipated that a long reach excavator will be used by the Contractor to dredge the material. The excavator will be located on a pontoon with a split hopper barge moored alongside. It is envisaged that the pontoon and excavator will be set in place by crane from the harbour, under suitable traffic and pedestrian access arrangements. There will be no significant on-land transportation issues.

Duration of construction, operation, decommissioning etc.

The Maintenance Dredging Works will take place between February and June 2025.

Other: N/A

Is the Project or Plan directly connected with or necessary to the management of the site (provide details)?

No The proposed works are to ensure safe vessel movements to and from the working harbour (including for Portrush Lifeboat).

Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to effects on the SAC/SPA site:		
Feature affected:	**Likely direct, indirect effects to the feature arising as a result of:**	**Significant/Not Significant (inc. explanation):**
Sandbanks which are Slightly Covered by Sea Water all the Time	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	**Potentially Significant: Contractor required to adhere to Dredge Management Plan**
Reefs	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	**Potentially Significant: Contractor required to adhere to Dredge Management Plan**
Submerged or Partially Submerged Sea Caves	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	**Potentially Significant: Contractor required to adhere to Dredge Management Plan**
Harbour Porpoise	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted (No piling or rock breaking)
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)
Grey Seal	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted (No piling or rock breaking)
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)

Feature affected:	Likely direct, indirect effects to the feature arising as a result of:	Significant/Not Significant (inc. explanation):
Fixed Dunes with Herbaceous Vegetation ("grey dunes")	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)
Species-rich Nardus Grassland, on Siliceous Substrates in Mountain Areas	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)
Annual Vegetation of Drift Lines	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)
Atlantic Salt Meadows (Glauco-Puccinellietalia maritimae)	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)
Shifting Dunes along the Shoreline with Ammophila arenaria ("white dunes")	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)

Feature affected:	Likely direct, indirect effects to the feature arising as a result of:	Significant/Not Significant (inc. explanation):
Vegetated Sea Cliffs of the Atlantic and Baltic Coasts	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)
Vertigo angustior	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)
Embryonic shifting dunes	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)
Dunes with Salix repens ssp. argentea (Salicion arenariae)	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)
Humid dune slacks	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)

Feature affected:	Likely direct, indirect effects to the feature arising as a result of:	Significant/Not Significant (inc. explanation):
Euphydryas (Eurodryas, Hypodryas) aurinia (Marsh fritillary butterfly)	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)
Petalophyllum ralfsii (Petalwort)	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality & Coastal Processes	Not Significant: feature not impacted (Contractor required to adhere to Dredge Management Plan)

Describe any potential effects on the National Site Network site as a whole in terms of: interference with the key relationships that define the structure or function of the site	**Effect considered significant/non-significant: Finding of No significant effects Matrix**
Potential impact from dredging activities in respect of pollution risk and spread of invasive species in open water taking cognisance of hydrological linkage to Skerries & Causeway SAC.	Potentially significant - due to risk of pollution and spread of invasive species.
Provide details of any other projects or plans that together with the project or plan being assessed could (directly or indirectly) affect the site.	**Provide details of any likely in-combination effects and quantify their significance -**
None	None
Is the potential scale or magnitude of any effect likely to be significant?	
Alone?	**No** ☐ **Yes** ☒
In-combination with other projects of plans?	**No** ☒ **Yes** ☐
List of Agencies Consulted: Provide contact name and telephone or email address.	DAERA Marine Conservation & Reporting Team
Summary of response to consultation received	Potential significant impacts identified
Conclusion: Is the proposal likely to have a significant effect on an NSN site?	**No** ☐ **Yes** ☒

Who carried out the assessment?	MARENCO Environmental Consultants
Sources of data	DAERA (Consultation & data provision) Doran Consulting (Project design)
Level of assessment completed	Test of Likely Significance & Appropriate Assessment Report
Where can the full results of the assessment be accessed and viewed?	Doran Consulting Norwood House 96-102 Great Victoria Street Belfast BT2 7BE
Summary of response.	Potential impact from dredging activities in respect of pollution risk and spread of invasive species in open water taking cognisance of hydrological linkage to Causeway & Skerries SAC.

4.0 STAGE 2: APPROPRIATE ASSESSMENT

Assessment of Effects of the Project or Plan on the Integrity of the Site	
Describe the elements of the project or plan (alone or in combination with other projects or plans) that are likely to give rise to significant effects on the site (from screening assessment)	Dredging activities present potential risk of pollution and spread of invasive species.
Set out the Conservation Objectives of the site	From *SKERRIES & CAUSEWAY SAC, UK0030383 CONSERVATION OBJECTIVES, DAERA 20th March 2017*: For Sandbanks which are slightly covered by sea water all the time: *To maintain (or restore where appropriate) to favourable condition and to:* 1. *Maintain the extent and volume of sandbanks which are slightly covered by sea water all the time, subject to natural processes.* 2. *Allow the natural processes which determine the development, structure and extent of sandbanks which are slightly covered by sea water all the time, to operate appropriately.* 3. *Maintain and enhance, as appropriate, the viability, distribution and diversity of typical species within this habitat.* For Reefs: *To maintain (or restore where appropriate) to favourable condition* and to 1. *Maintain and enhance, as appropriate the extent of the reefs.* 2. *Allow the natural processes which determine the development, structure, function and distribution of the habitats associated with the reefs, to operate appropriately.* 3. *Maintain and enhance, as appropriate, the viability, distribution and diversity of typical species within this habitat.* For Sea Caves: *To maintain (or restore where appropriate) to favourable condition* and to 1. *Maintain and enhance, as appropriate the extent of the sea caves.* 2. *Allow the natural processes which determine the development, structure, function and distribution of habitats associated with the sea caves, to operate appropriately.* 3. *Maintain and enhance, as appropriate, the viability, distribution and diversity of typical species within this habitat.* For Harbour Porpoise: *To maintain (or restore where appropriate) to favourable condition* and to*:* 1. *Ensure the species is a viable component of the site* 2. *Ensure there is no significant disturbance of the species* 3. *Ensure the supporting habitats and processes relevant to Harbour Porpoises and their prey are maintained.*

Describe how the project or plan will affect key species, key habitats and the integrity of the site (determined by structure and function and conservation objectives). Acknowledge uncertainties and any gaps in information.	Potential impact from dredging activities in respect of pollution risk and spread of invasive species in open water taking cognisance of hydrological linkage to Skerries & Causeway SAC.
Describe what mitigation measures are to be introduced to avoid or reduce the adverse effects on the integrity of the site. Acknowledge uncertainties and any gaps in information.	1. Full adherence to Marine Licence 2. Full adherence to Contractors Method Statement and Dredge Management Plan, ensuring the following DAERA 'Standing Advice' and Guidance are fully considered: • Development that may have an Effect on the Water Environment • Marine Non-Native Species • Marine Wildlife Disturbance 3. Full adherence to Marine Non-Native Species 'Inspect, Remove, Clean, Dispose & Report' approach 4. Full adherence to Disposal Site Conditions

Appropriate Assessment: Mitigation Measures			
List measures to be introduced	**Explain how the measures will avoid the adverse effects on the integrity of the site.**	**Explain how the measures will reduce the adverse effects on the integrity of the site.**	**Provide evidence of how they will be implemented and by whom.**
(i) Full adherence to Marine Licence	Marine Licence will impose appropriate conditions to protect SAC site designation features during dredging phase.	Conditions will minimise potential for adverse pollution impacts.	Contractor will be required to adhere to all statutory licence conditions.
(ii) Full adherence to Dredge Management Plan	Comprehensive Dredge Management Plan established to maintain an ethos of environmental best practice throughout the project.	Procedural control over identified potential environmental risks.	Project Contractor will be required to retain evidence that Dredge Management Plan is fully implemented and that appropriate 'Tool-Box Talks' have been delivered.
(iii) Full adherence to Marine Non-Native Species 'Inspect, Remove, Clean, Dispose & Report' approach	Dredge Management Plan will include specific reference to marine non-native species.	Specific procedural control over marine non-native species risks.	Project Contractor will be required to retain evidence that Dredge Management Plan is fully implemented and that appropriate 'Tool-Box Talks' have been delivered (including in relation to marine non-native species).
(iv) Full adherence to Disposal Site Conditions	Conditions for Disposal Site use will impose appropriate protections on SAC site designation features during dredging and disposal phase.	Conditions will minimise potential for adverse pollution impacts.	Contractor will be required to adhere to all statutory licence conditions.

Appropriate Assessment: Mitigation Measures			
List mitigation measures (as above)	**Provide evidence of the degree of confidence in their likely success**	**Provide time-scale, relative to the project of plan, when they will be implemented**	**Explain the proposed monitoring scheme and how any mitigation failure will be addressed**
(i) Full adherence to Marine Licence	Statutory compliance will be a key requirement for Project Contractor.	Clear instruction on all statutory compliance issues will be delivered prior to commencement of works and will be audited during dredging phase. Statutory Agencies will conduct site inspections at their discretion.	Project Contractor will be audited by Design Engineers. Issues identified will be subject to immediate corrective action.
(ii) Full adherence to Dredge Management Plan	The specific Dredge Management Plan procedures for pollution control and invasive species, including mitigation, represent current best practice techniques for pollution prevention.	The Dredge Management Plan has been established prior to commencement of works.	The Dredge Management Plan will be subject to appropriate review. Issues identified will be subject to immediate corrective action.
(iii) Full adherence to Marine Non-Native Species 'Inspect, Remove, Clean, Dispose & Report' approach	This approach is recommended by DAERA to ensure the risk of spread of marine non-native species is negligible.	This approach will be embedded in Dredge Management Plan which has been established prior to commencement of works.	The Dredge Management Plan will be subject to appropriate review. Issues identified in respect of marine non-native species will be subject to immediate corrective action.
(iv) Full adherence to Disposal Site Conditions	Statutory compliance will be a key requirement for Project Contractor.	Clear instruction on all statutory compliance issues will be delivered prior to commencement of works and will be audited during dredging phase. Statutory Agencies will conduct site inspections at their discretion.	Project Contractor will be audited by Design Engineers. Issues identified will be subject to immediate corrective action.

5.0 CONCLUSIONS

A Stage 1 Test of Likely Significance (Section 3.0) found that the proposed maintenance dredging works at Portrush Harbour would result in:

> *'Potential impact from dredging activities in respect of pollution risk and spread of invasive species in open water taking cognisance of hydrological linkage to Skerries & Causeway SAC.'*

Consequently, a Stage 2 Appropriate Assessment (AA) was conducted (Section 4.0). This AA concentrated on the Skerries & Causeway SAC.

Conservation objectives relevant to the designated site selection features were considered, current site information assessed, and the precautionary principle applied. In addition, potential impacts were considered alone and in combination with other relevant projects.

In respect of potential water pollution risk, the critical BPEO Report finding is that sea disposal is the best option for the Portrush Harbour dredging project. The works will be subject to Marine Licence and Disposal at Sea Licence conditions. In addition, the appointed Contractor will work to the requirements of the Dredge Management Plan (Draft included in Section 6.0) that takes into account DAERA 'Standing Advice' and Guidance and requires that strict protocols be in place for chemicals and hazardous materials.

Recognising that there are currently approximately 100 invasive non-native freshwater and marine species established in Northern Ireland, strict protocols will be in place in respect of plant and equipment used on-site. In accordance with DAERA 'Standing Advice' on Marine Non-Native Species, these protocols will be based on the 'Inspect, Remove, Clean, Dispose & Report' approach promoted by DAERA and Invasive Species NI. Plant and equipment will be subject to the following prior to leaving its previous location:

- **Inspect** all equipment that has been in a waterbody (boats, trailers, engines, outboards, dredgers, weed cutting or harvesting boats, cruisers or even clothing) or terrestrial site for attached vegetation, contaminated soil or obvious animal life before moving to another waterway, catchment or site
- **Remove** any adhering plant, soil or animal material from your equipment for disposal before relocating to another watercourse, section of waterway or site. Ensure that all water is drained from your boat and equipment before transportation to another site and all soil is removed from machinery, as this may contain seed or plant fragments
- **Clean** all equipment with a power hose away from the waterbody. Use hot water (>60 degrees centigrade) where possible
- **Dispose** of all plant and animal material in bags or containers for disposal in bins. Do not throw them back into the water or leave them lying at the water's edge

- **Report** and take photos of species you think may be an INNS on the Invasive Species NI website

The above will also be applied to plant and equipment prior to removal from site on completion of works.

The AA concludes that in consideration of the appropriate mitigation measures proposed, there will be no adverse impact on the integrity of Skerries & Causeway SAC or any other designated site.

6.0 SUPPORTING DOCUMENTATION

Draft Dredge Management Plan

DRAFT DREDGE MANAGEMENT PLAN

PORTRUSH

CCGBC DREDGING

23 April 2024

Doran CONSULTING

DELIVERING ENGINEERING EXCELLENCE

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Electronic Copy

CONSULTING ENGINEERS

Civil Engineering
Structural Engineering
Traffic & Transportation
Project Management
CDM Services

DRAFT DREDGE MANAGEMENT PLAN

PORTRUSH

23 April 2024

Job no	Prepared by	Checked by	Approved by	Status	Issued to	No of copies	Date
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NI Reg No. NI055181

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1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

1.1.1 Causeway Coast and Glens Borough Council (CCG) are planning to carry out maintenance dredging works at Portrush Harbour in Spring 2025.

1.1.2 Portrush Harbour is located on the North Coast of Ireland approximately 20km east of the entrance to Lough Foyle. It is situated on the west side of a mile long promontory known as Ramore Head. Immediately to the west lies the small Portrush Bay, a wide bay leading to the entrance to Lough Foyle

1.1.3 The objective of the dredging is to re-establish sufficient water depth at low tide at the harbour entrance, to allow safe passage of vessels in and out of the harbour.

1.1.4 The works will involve the dredging of recently deposited sands/silts with a backhoe excavator. A detailed construction method statement will be prepared by the appointed Contractor.

1.2 DREDGE MANAGEMENT PLAN (DMP)

1.2.1 This document has been prepared by Doran Consulting to provide a framework for the management of the proposed dredging operations. Although this document has been produced by Doran Consulting, Doran Consulting do not accept any responsibility for the contents of assessments, plans or construction procedures that are carried out or added by other parties. This document is considered to be 'Draft' and will be developed by the Contractor upon appointment of the contract.

1.2.2 The DMP will specify how dredging practices and procedures should be designed to ensure any actual or potential adverse effects on the receiving environment are avoided, or otherwise mitigated to the greatest extent practicable.

1.2.3 Mitigation will be implemented to ensure there is minimal impact resulting from the proposed activities on the receiving environment within Portrush Bay.

1.3 LEGISLATIVE REQUIREMENTS

1.3.1 The Maintenance Dredging Works will be undertaken by an approved contractor, who will be required to prepare and implement a robust Dredge Management Plan considering the following DAERA 'Standing Advice': *Development that may have an Effect on the Water Environment; Marine Non-Native Species; Marine Wildlife Disturbance.* In respect of

potential water pollution risk, the appointed approved Contractor will work to strict protocols in respect of chemicals, hazardous materials and fuelling arrangements.

1.3.2 All proposed dredging and disposal at sea activities are to comply with:

- BS 6349-5:2016 Maritime Works – Code of Practice for dredging and land reclamation
- Dumping at Sea Act 1974
- All Environmental Regulatory requirements;
- ISO Standards (14001, 50001 along with 9001 as appropriate to the context);
- Client Rules and Procedures;
- DAERA dredge license conditions for the Project;
- DAERA disposal license conditions for the Project;
- Industry guidance as appropriate; and
- Local and Community considerations

2.0 DREDGING OPERATIONS

2.1 DREDGE QUANTITIES

2.1.1 The entrance channel of the harbour is to be dredged to a level of -4.0m CD with the side batters grading at 1 in 3. A grading of 1 in 5 will be used adjacent to the head of the southern breakwater. Depth of material removed during the dredging exercise will be up to approximately 3m. The dredge plan is shown in Figure 2.1.

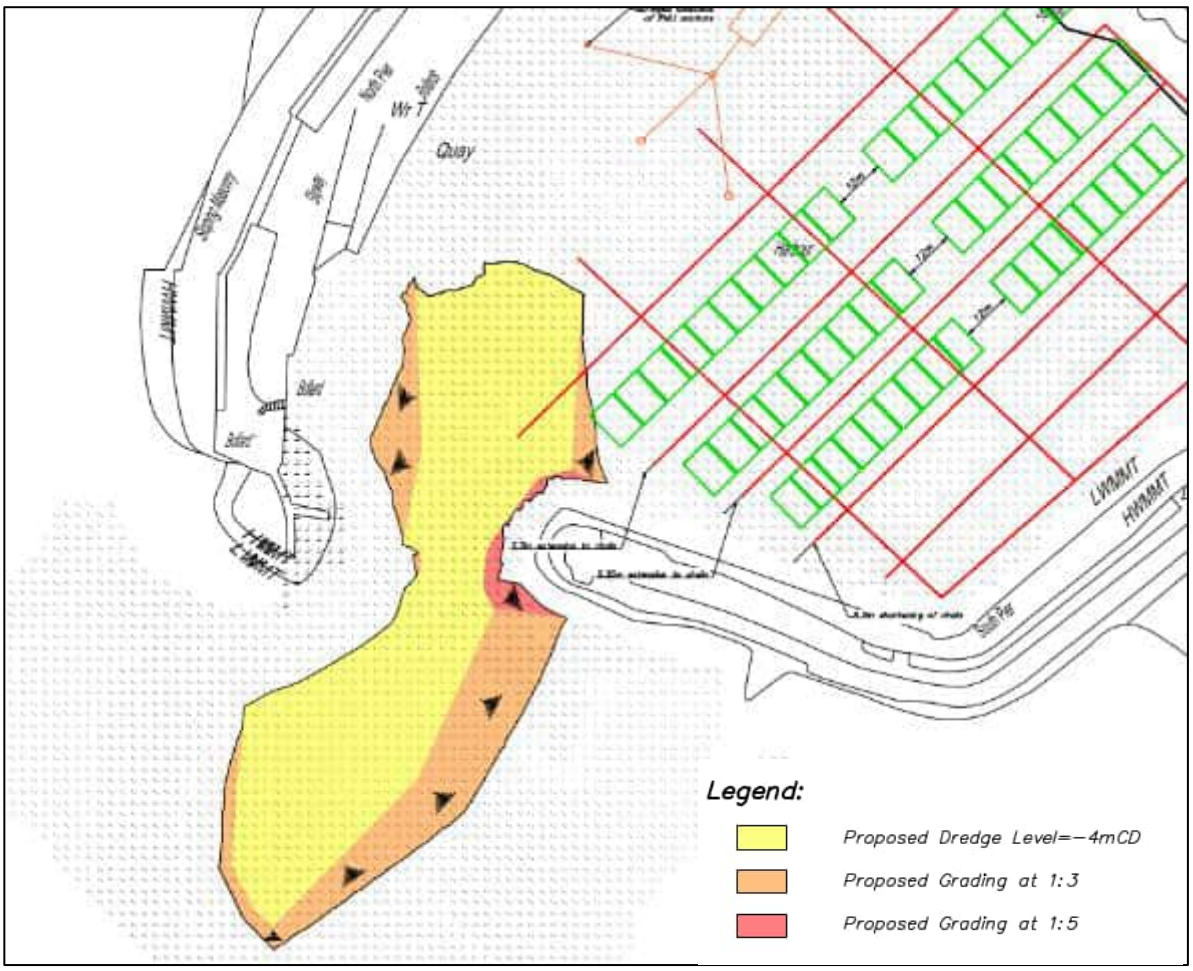

Figure 2.1 – Dredge Extent

2.1.2 The proposed dredge area is approximately 6,250m^2 in plan area. This dredge will result in the removal of approximately 7,000m^3 of recently deposited silts and sands.

2.2 DREDGE METHODOLOGY

2.2.1 The methodology below is a preliminary outline and is subject to confirmation by the appointed Contractor.

- Dredging will commence within the harbour during the off-season. Only silts, sands & gravels are to be dredged and dredging operations shall be carried out to the extent indicated on the drawings.

- It is anticipated that a long reach excavator will be located on a pontoon with a split hopper barge moored alongside. Dredged material will be placed in the split hopper barge and filled to level. Alternatively, the contractor may source a self-propelled split hopper barge with a long reach excavator mounted on board.

- A 3-dimensional model of the target dredge profile shall be produced and uploaded onto the 3D GPS dig system of the excavator. The excavator will be fitted with several positional sensors on the bucket, stick and boom together with the GPS receivers for positional correction which will ensure the bucket is always dredging to the correct levels. A quayside benchmark will be established with a known position and elevation to enable regular bucket checks to be carried out to confirm the accuracy of the bucket positioning.

- A line of buoys will be deployed, in agreement with the Harbour Master, to delineate the dredge works area as a constant visual reminder for the Harbour Users.

- The excavator will carefully excavate the material to the required dredge levels taking care not to damage existing structures or create excessive suspended solids.

2.2.2 Dredge plant will maintain a daily electronic dredge log. The dredging log shall be a live document to be updated each day, resulting in a comprehensive record of the entire dredge campaign.

The daily dredge log shall, as a minimum, record details of dredging work including:

- Location of dredging in the last 24 hours;
- Proposed location of dredging for the next 24 hours;
- Dredging times;
- Dredged quantity;
- Nature of dredge material;
- Any notable events.

2.3 DREGDE DISPOSAL

2.3.1 It is anticipated that suitable dredge material will be disposed of at sea, dependent on DAERA granting a Disposal at Sea License.

2.3.2 All material to be removed will need to be deemed suitable for disposal at sea under the 'Disposal at Sea' license conditions. If any material encountered is however considered unsuitable for disposal at sea, the Contractor shall bring ashore for testing, processing and appropriate disposal.

2.3.3 The proposed disposal site is 'Portstewart Bay B' (55^0 17.5'N, 06^0 40.0'W) located 9km from the coast shown in Figure 2.2.

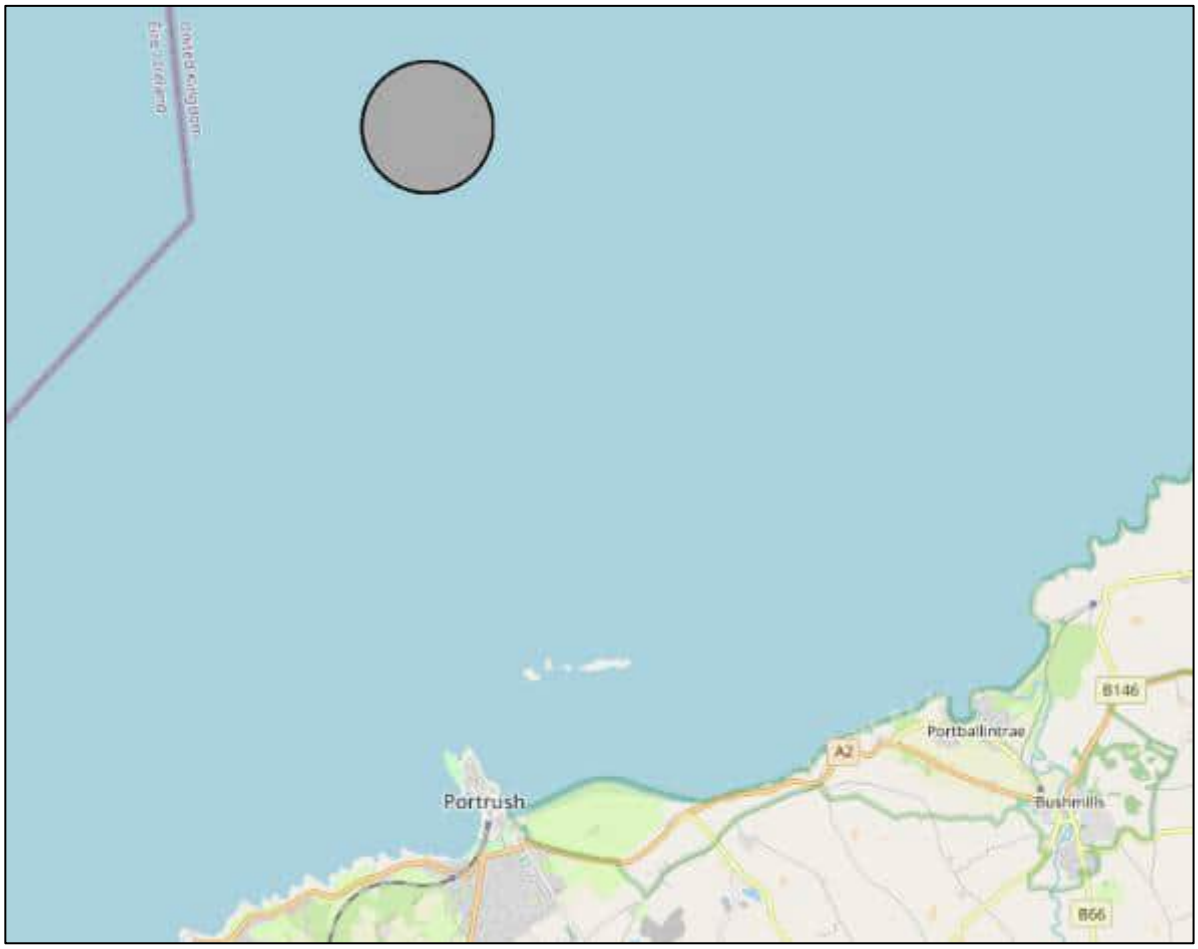

Figure 2.2 Disposal Site Location

2.3.4 The disposal operations will include:

- The split hopper barge will be towed to a designated disposal site. The dredge material will be released through the hull of the split hopper barge while the vessel is in motion to aid the dispersion of sediments over the full dump site area.

- It should be noted that no overtopping of barges or decanting of water from the barges back into the tidal waters will be allowed. Any such event shall be dealt with as a spillage of dredge material.

- The route of the sea disposal vessel shall be recorded as required by DAERA. The volume of material to be discharged per day, frequency of trips per-day and the estimated traveling time will be confirmed by the Contractor prior to Award.

2.3.5 An electronic disposal log will be maintained as a live document showing a comprehensive record of the disposal campaign. The log shall record and report as a minimum the following:

- The name of the vessel;
- The source of the substance/ material;
- The date, time and position at which the voyage for the purposes of dumping began;
- The date, time and position at which the loading began;
- The date, time and position at which the loading ended;
- The date, time and position at which dumping began;
- The date, time and position at which dumping ended;
- The quantity, states in metric tonnes, of the substance or material dumped;
- The date, time and position at which the vessel completed the voyage for the purpose of dumping; and
- Logged vessel track record data.

2.4 PLANT AND VESSELS

2.4.1 The Contractor must have operational and active AIS vessel tracking during all operations.

2.4.2 Any vessel deployed shall be serviced in accordance with good marine practice and must be fit for that purpose.

2.4.3 All vessels are to be clearly marked with a vessel number and fitted with a VHF Radio, horn and be suitably lit in accordance with the International Maritime Standards.

2.4.4 A notice to mariners shall be issued prior to commencement of the activities to advise all vessels entering or leaving Portrush Harbour that the works are taking place.

3.0 ENVIRONMENTAL CONSIDERATIONS

3.1 ENVIRONMENTAL MITIGATION

3.1.1 Mitigation measures shall be implemented for the duration of dredging, loading and disposal operations to remove/ reduce the associated environmental risk.

3.1.2 On review of the site environmental sensitivities and proposed construction activities the following topic areas have been identified which specifically require mitigation measures:

- Potential impacts on marine mammals from underwater noise;
- Potential impacts on the water environment; and
- Potential impacts on terrestrial ecology.

3.1.3 The above list is not exhaustive and appropriate mitigation measures shall be identified as required by the Contractor to ensure the environment is protected during their operations.

3.2 WATER QUALITY

3.2.1 There are risks of accidental pollution from the following sources when working in a marine environment:

- Spillage or leakage from oils and fuels from construction machinery, plant, barge etc.;
- Spillage of oil or fuels when re-fueling; and
- Suspended sediments from construction works.

3.2.2 Spillages

- All plant and equipment should be checked daily for oil and fuel leaks and records of checks kept.

- Plant and equipment will be in good working order, kept clean and fitted with drip trays where appropriate.

- Minimise the stored volumes of fuel, lubricants and oil on board the barge. When required they will be stored in a secure area and any spills will be cleaned immediately. Any visible or reasonably suspected fuel, lubricant or hydraulic fluid loss will be treated as an ‘incident’.

- Personnel will be trained in environmental spill response and will be well equipped to clean any spillage should it occur.

- Both oil and chemical spill kits will be available on site and will be held in a location that is accessible to all including on floating plant.

- Refueling of plant and machinery will take place in a designated area away from water or when this is impractical (i.e. floating plant) follow an agreed procedure.

- Vehicles are not to be left unattended during refueling.

- Petrol/Diesel are to be stored in a bunded secure area. Tanks are to be inspected for leaks. Ensure that delivery hoses are in good condition.

- Any leaks from plant releasing diesel/petrol/oil substances will be immediately isolated, contained and cleaned away using the appropriate kit.

- Contaminated spill kit material will be disposed of to a licensed waste facility.

3.2.3 Pollution Prevention and Emergency Spillage Response

- The Contractor is required to do everything practicable to minimise the potential for a spill. A management plan is to be prepared providing site spill responses, emergency contact details, equipment inventories etc.

- Spill kits will be kept on site and the contents should have the capacity to deal with the inventory of products that will be stored and handled on site. Spill kits are likely to contain absorbent mats, drain covers, bilge socks, floating “booms”, oil-absorbent granules, polythene sheeting and bags, blow back refueling collar etc.

- Spill containment equipment for minor hydraulic spills from tools etc. will be located withing the working area. Containment can be effective by the placement of spill kit equipment local to the potential source of an incident which can be effectively cleaned up preventing any environmental risk.

- An Oil Spill Contingency Plan will be drawn up which will be activated for any larger spill occurrence.

- For larger spills or releases, containment equipment should be sufficient to prevent spills or releases contaminating the environment and provide additional time to conduct an effective clean-up operation, with or without the help of specialists.

- A specialist spill contractor will be identified that can be called upon should there be a requirement to control a significant spill.

3.2.4 COSHH

- Prior to use, any potentially hazardous materials will have a COSHH assessment carried out and any required control measures put in place. Anticipated COSHH requirements are, but not limited to, hydraulic oils, diesel fuel, lubricating oil and lithium Grease.

- Storage of all hazardous substances will be controlled in accordance with COSHH Regulations.

- COSHH items are to be stored in a suitable COSHH store. All items should be labelled.

- A register should be maintained containing all harmful substances intended to be used on this project.

3.2.5 Suspended Solids

- The direction of dredging works will be orientated with the current, instead of across the current to minimise the potential for negative effects on water quality.

3.3 ECOLOGY

3.3.1 Appropriate regard for the protection of local habitats, designated sites and protected species will be given during dredging and disposal operations.

3.3.2 Flora & Fauna

- All reasonably practicable measures will be employed to minimise harm to, and disturbance of, wildlife caused by noise, dust, waste and pollution.

- Ensure no activities outside the works zone through clear delineation of the works area, and communication in site inductions.

- Site inductions for all barge crew/ construction personnel covering procedures to be undertaken to minimise disturbance to marine fauna.

- Regular inspections will be undertaken to check that detrimental impacts on ecological features are being minimised.

- Ensure that there are no physical barriers to marine faunal species movement through the water at all times.

3.3.3 Invasive Species

- The following Marine invasive non-native species have been recorded in the vicinity of the dredge site:

  - *Colpomenia peregrine* (Oyster thief)
  - *Sargassum muticum* (Japanese wireweed)
  - *Corella eumyota* (Orange-tipped sea-squirt)
  - *Tricellaria inopinata* (A bryozoan)

- In accordance with DAERA 'Standing Advice' on Marine Non-Native Species strict protocols will be in place in respect of plant and equipment used on-site. These protocols will be based on the 'Inspect, Remove, Clean, Dispose & Report' approach promoted by DAERA and Invasive Species NI. Plant and equipment will be subject to the following prior to leaving its previous location:

  - **Inspect** all equipment that has been in a waterbody (boats, trailers, engines, outboards, dredgers, weed cutting or harvesting boats, cruisers or even clothing) or terrestrial site for attached vegetation, contaminated soil or obvious animal life before moving to another waterway, catchment or site.

  - **Remove** any adhering plant, soil or animal material from your equipment for disposal before relocating to another watercourse, section of waterway or site. Ensure that all water is drained from your boat and equipment before transportation to another site and all soil is removed from machinery, as this may contain seed or plant fragments.

  - **Clean** all equipment with a power hose away from the waterbody. Use hot water (>60 degrees centigrade) where possible.

  - **Dispose** of all plant and animal material in bags or containers for disposal in bins. Do not throw them back into the water or leave them lying at the water's edge.

  - **Report** and take photos of species you think may be an INNS on the Invasive Species NI website.

- The above will also be applied to plant and equipment prior to removal from site on completion of works.

- If the presence of an invasive species is found at or adjacent to the site, an invasive species management plan will be prepared to prevent the introduction or spread of any invasive alien species within the footprint of the works.

- An invasive alien species (IAS) management Plan, will be prepared if required, which will set out best practice control methods, and will consider the following:

  - Invasive Species Northern Ireland website (**https://invasivespeciesni.co.uk/)**; and

  - DAERA Marine Invasive Non-native Species Guidance (**https://www.daera-ni.gov.uk/articles/marine-invasive-non-native-species-guidance).**

3.4 NOISE

3.4.1 The Contractor will follow best practicable means to reduce the noise effect on the local community, ecology and underwater noise on marine mammals in compliance with British Standard BS5228:2009+A1:2014 ± Noise and vibration control on construction and open sites.

3.4.2 A soft start procedure will be adopted for dredging activities to allow any marine mammals present to vacate the area.

3.4.3 Plant & Equipment

- Careful consideration will be given to the appropriate selection of plant, working methods and programming.

- Modern, silenced and well-maintained plant will be used at all times.

- Equipment and vehicles to be shut down when not in use or throttled down to a minimum.

- As far as reasonably practicable, any plant, equipment or items fitted with noise control equipment found to be defective will not be operated until repaired.

3.5 LIGHTING

3.5.1 While security and safety lighting are required, there will be a balance between achieving appropriate lighting levels and avoiding unnecessary light spillage, pollution and glare.

3.5.2 The use of artificial lighting during dredging operations will be minimised to reduce the impact on terrestrial and marine fauna. Temporary lights, if used, will be fitted with shades to prevent light spillage outside the working area.

3.6 WASTE MANAGAMENT

3.6.1 The project will adhere to the principles of sustainable waste management where waste prevention is the priority followed by reuse, recovery and recycling and as such the generation of waste will be minimised.

3.6.2 Each waste type will be classified as inert waste, non-hazardous waste or hazardous waste according to listings from the European Waste Catalogue. Each waste stream will be managed safely and legally, through a combination of re-use (on site or off-site), recycling or disposal.

- Waste containers (bins and skips) are impermeable and will prevent liquid wastes leaching.

- Sufficient space on site has been allocated for waste storage and segregation. Waste containers are clearly labelled for difference waste types to aid in segregation and are checked regularly.

- Separate facilities are provided for hazardous waste.

- Any run-off from the bunded storage area within the construction compound, and wastewater from machinery wash down will drain to foul sewer or to an appropriate water treatment and recycling system.

- Environmental records, including waste management records, will be maintained in accordance with the respective company procedure and legal requirements.

4.0 DREDGE AND DISPOSAL MONITORING

4.1 BATHYMETRY

4.1.1 Prior to the commencement of any works, the Contractor shall arrange to have a bathymetric survey carried out by an independent specialist survey company at both the dredge works area and dump site.

4.1.2 A post works survey of the same nature will be carried out to verify the dredging accuracy and confirm final bed levels.

4.2 ARCHAEOLOGY

4.2.1 It is unlikely archaeological remains will be found during the dredging activities as the harbours have been dredged to the proposed levels previously. However, in the event this occurs the Contractor will seek advice from the Employers Representative as soon as practicably possible.

4.3 WEATHER

4.3.1 Consideration should be given to the possibility of extreme tidal levels occurring including wave action. Weather forecasts should be monitored on a regular basis to ensure timely action can be undertaken to secure the site.

4.3.2 The sea conditions, wind speed and tidal conditions will be monitored and reviewed by the Contractor on a daily basis to determine if the operational weather limitations are exceeded.