

REPORT

Port of Dundee Capital Dredge and Quay Improvement Works

EIA Report Non-Technical Summary

Client: Port of Dundee Limited

Reference: PC6550-RHD-XX-XX-RP-EV-0067

Status: Final/01

Date: 11 July 2025

Project related



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1 Introduction

1.1 Purpose of this Document

This document presents the Non-Technical Summary (NTS) of the Environmental Impact Assessment (EIA) undertaken for the proposed capital dredge and quay improvement works at the Port of Dundee, referred to as 'the Proposed Scheme'. The EIA has been prepared in accordance with the Marine Works (EIA) (Scotland) Regulations 2017 (as amended) (the MWRs).

The purpose of this NTS is to provide an overview, in non-technical language, of the main findings of the EIA. It is important to note that this NTS does not, and is not intended to, convey all of the information relating to the Proposed Scheme and its potential effects on the environment. By necessity, the text provided herein is a summary of the detailed assessments discussed in the EIA Report (EIAR).

1.2 Background

One of the primary uses for the Port of Dundee is to service and support the offshore renewables industry. The port already provides facilities for the transshipment and storage of components, such as wind turbine generators (WTGs) and other component parts associated with wind farm projects. Due to the increasing size of the components and vessels used by the offshore renewables industry, the Port of Dundee Limited is proposing to undertake a suite of works at the Port of Dundee and Lady Shoal approach channel in order to accommodate the increasing needs of the offshore renewables industry.

The suite of works that comprise the Proposed Scheme includes the following (see **Figures 1-1 to 1-3**):

- Capital dredging works to:
 - Deepen the approaches to DunEco Quay and Prince Charles Wharf (PCW) to -6.0m Chart Datum (CD) and -6.5m CD, respectively;
 - Widen the PCW berth pocket to 70m and deepen to -9m CD, extend eastwards by approximately 200m to a depth of -10m CD (called the Prince Charles Wharf Extension (PCWE)); and
 - Deepen a section of the Lady Shoal Approach channel to -6.5m CD.
- Improvement works to the PCW.

It is anticipated that approximately 220,000m³ of material would be removed, approximately 490,000m³ including a 0.5m over-dredge allowance. Disposal would be at the existing Middle Bank disposal site (FO028), as confirmed by the Best Practicable Environmental Option (BPEO) assessment submitted in support of the marine licence application (ref: PC6550-RHD-XX-XX-RP-EV-0061).

1.3 Requirement for Environmental Impact Assessment

The following regulations apply to the Proposed Scheme:

- MWRs; and
- the Town and Country Planning (EIA) (Scotland) Regulations 2017 (as amended) (TCPsRs).

The Proposed Scheme falls under Schedule 2 10(g) of the above regulations, as:

"Construction of harbours and port installations, including fishing harbours (unless included in Schedule 1)."



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Legend:

- Prince Charles Wharf Approach Channel Dredge Area
- DunEco Quay Approach Channel Dredge Area
- Proposed Extension to PCW Berth Pocket
- Existing PCW Berth Pocket
- Lady Shoal Approach Channel Dredge Area
- Quay Improvement Works
- Disposal Site

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Client:	Project:
Port of Dundee Limited	Port of Dundee Capital Dredge and Quay Improvement Works

Title:

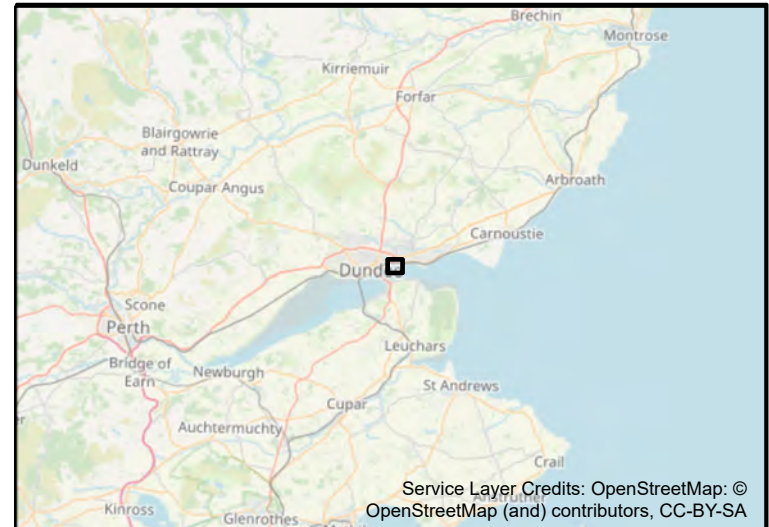
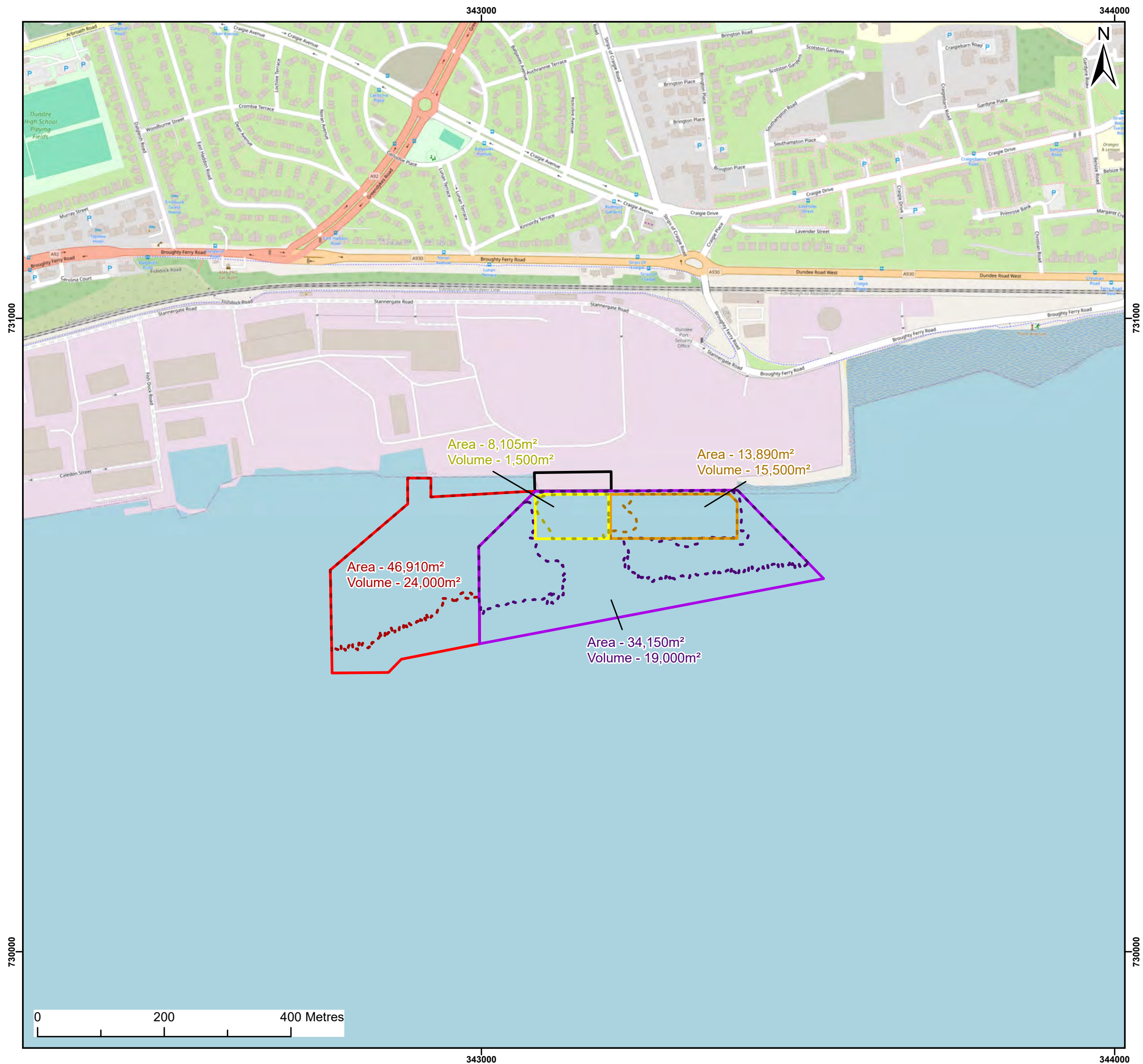
Location Plan showing the Proposed Scheme

Figure:	Drawing No:
1-1	PC6550-RHD-XX-ZZ-D-EV-0064

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
P01	10/07/2025	JH	JG	A3	1:50,000

Co-ordinate system: British National Grid

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Legend:

- Remedial Quay Works
- DunEco Quay Approach Channel**
 - Dredge Area
 - Dredge Footprint
- Prince Charles Wharf Approach Channel**
 - Dredge Area
 - Dredge Footprint
- Proposed Extension to PCW Berth Pocket**
 - Dredge Area
 - Dredge Footprint
- Existing PCW Berth Pocket**
 - Dredge Area
 - Dredge Footprint

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Client:	Project:
Port of Dundee Limited	Port of Dundee Capital Dredge and Quay Improvement Works

Title:
Proposed Works at the Port of Dundee

Figure: 1-2		Drawing No: PC6550-RHD-XX-ZZ-DR-Z-0002			
Revision:	Date:	Drawn:	Checked:	Size:	Scale:
P02	10/06/2025	JH	RG	A3	1:6,000
P01	10/12/2024	GC	RG	A3	1:6,000

Co-ordinate system: British National Grid



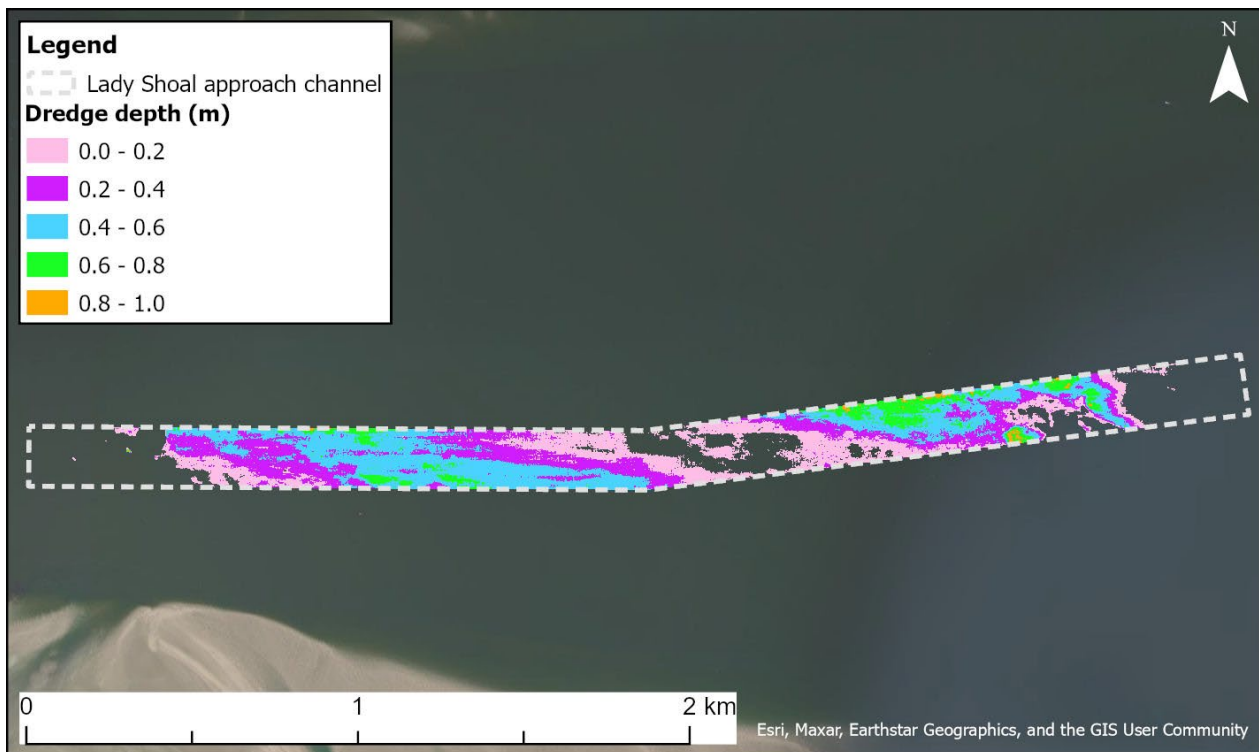


Figure 1-3 Lady Shoal Approach Channel Dredge Area

Thus, an EIA Screening Report was submitted to both the Dundee City Council (DCC) and Marine Directorate (MD-LOT) along with requests for Screening Opinions on in January 2025. DCC's Screening Opinion was received on the 14th February, which determined that the Proposed Scheme was not EIA development in accordance with the TCPRs and Circular 1/2017.

MD-LOT provided their Screening Opinion on the 3rd April 2025. Consultation undertaken to inform MD-LOT's Screening Opinion determined the Proposed Scheme to not be EIA development with the exception of NatureScot, who recommended an EIA should be undertaken. For this reason, MD-LOT determined that the Proposed Scheme was EIA development under the MWRs. Consequently, an EIA is required to support the Marine Licence application under the MWRs.

2 Need for the Proposed Scheme

The Proposed Scheme is an essential component in Scotland's economic recovery and energy transition plans, and in the achievement of Scotland's net zero carbon emissions targets. The Proposed Scheme represents a further £24m private sector investment that will ensure that the Port of Dundee can continue to meet the ever-increasing requirements of the offshore renewables industry.

The 2025 Draft Sectoral Marine Plan for Scotland highlights that offshore wind energy is one of Scotland's greatest assets with a potential capital value of around £100 billion, given full deployment of the potential pipeline. There are a range of substantial projected benefits linked to the growth of offshore wind in Scotland including job creation, economic regeneration, technology development and investment in marine environment recovery and enhancement.

Renewable energy is critical to the decarbonisation effort to achieve net zero greenhouse gas emissions. It plays a significant role in safeguarding energy security that has been highlighted due to recent events around the globe, and which has caused a supply crunch in the oil market, further exacerbating the volatility of energy prices.

Dundee has been identified as one of Scotland's top locations to support the renewables industry by Scottish Enterprise under the National Renewables Infrastructure Plan, and is within the Scottish Government's Low Carbon Renewables East Enterprise Area. The Port of Dundee plays a critical part in this, being ideally located to on-going and proposed offshore renewable developments, and by providing a range of facilities and proven expertise in the provision of operational services to the renewable energy markets, including extensive storage areas, warehousing and deep-water berths, alongside a heavy lift quayside

The increasing size of components and vessels being used by the offshore renewables industry means that improvement works to the Port of Dundee and deepening of its approaches are required if it is to continue to support the industry and provide the full flexibility necessary for the arrival and departure of vessels used in the delivery of offshore renewables infrastructure projects.

3 Description of the Proposed Scheme

3.1 Construction Phase

3.1.1 Capital Dredging

The capital dredging works would be carried out as follows:

- Deepen the approach to DunEco Quay to -6m CD (red outline on **Figure 1-2**);
- Deepen the approach to the PCW to -6.5mCD (purple outline on **Figure 1-2**);
- Widen the PCW berth pocket to 70m and deepen to -9m CD (orange outline on **Figure 1-2**);
- Extend the berth pocket 200m to the east along the PCWE and deepen to -10m CD (**Figure 1-2**); and
- Deepen a section of the Lady Shoal Approach channel to -6.5m CD (see **Figure 1-3**).

All dredging at the Port of Dundee, with the exception of a very small area in the south-west corner of the dredge footprint, is within the Port of Dundee Limited's licenced maintenance dredge area. The proposed dredging would generate approximately 60,000m³ of material (105,000m³ with an over-dredge allowance of 0.5m). The dredge depth would be between approximately 0.5m to 1m, and up to 2.5m within the PCWE berth pocket dredge area. The dredge depth in the Lady Shoal Approach channel would mostly be less than 1m and would generate approximately 160,000m³ of material (385,000m³ with an over-dredge allowance of 0.5m). The actual dredging works would take place within the dredge footprints within the dredge areas, as shown on **Figure 1-2** and **Figure 1-3**.

Total volume of dredged material would therefore be approximately 220,000m³ (490,000m³ with an over-dredge allowance of 0.5m). All dredging would be undertaken by back-hoe dredger, with the material being transported to the Middle Bank disposal site (see **Figure 1-1**) using barges. A summary of the proposed dredging can be seen in **Table 3-1**.

Table 3-1 Details of proposed dredge areas

Dredge location	Approximate Area (m ²)	Volume m ³ (without over-dredge allowance)	Volume m ³ (with 0.5m over-dredge allowance)
Approach to DunEco Quay	46,910	24,000	45,750
Approach to PCW	34,150	19,000	35,700
PCW berth pocket	8,105	1,500	1,800
PCWE berth pocket	13,890	15,500	21,750
Lady Shoal approach channel	458,000	160,000	385,000
Total	561,455	220,000	490,000

3.1.2 Improvement works to the PCW

A new piled wall would be installed immediately in the front of the existing PCW to reinforce the quay structure, consisting of 48 main piles, infilled with sheet-piles, and extending for 106m along the sea face of the quay (see **Figure 3-1** and **Figure 3-2** with new piles being shown in red). Piling would be undertaken using a combination of vibro- and impact-piling.

Project related

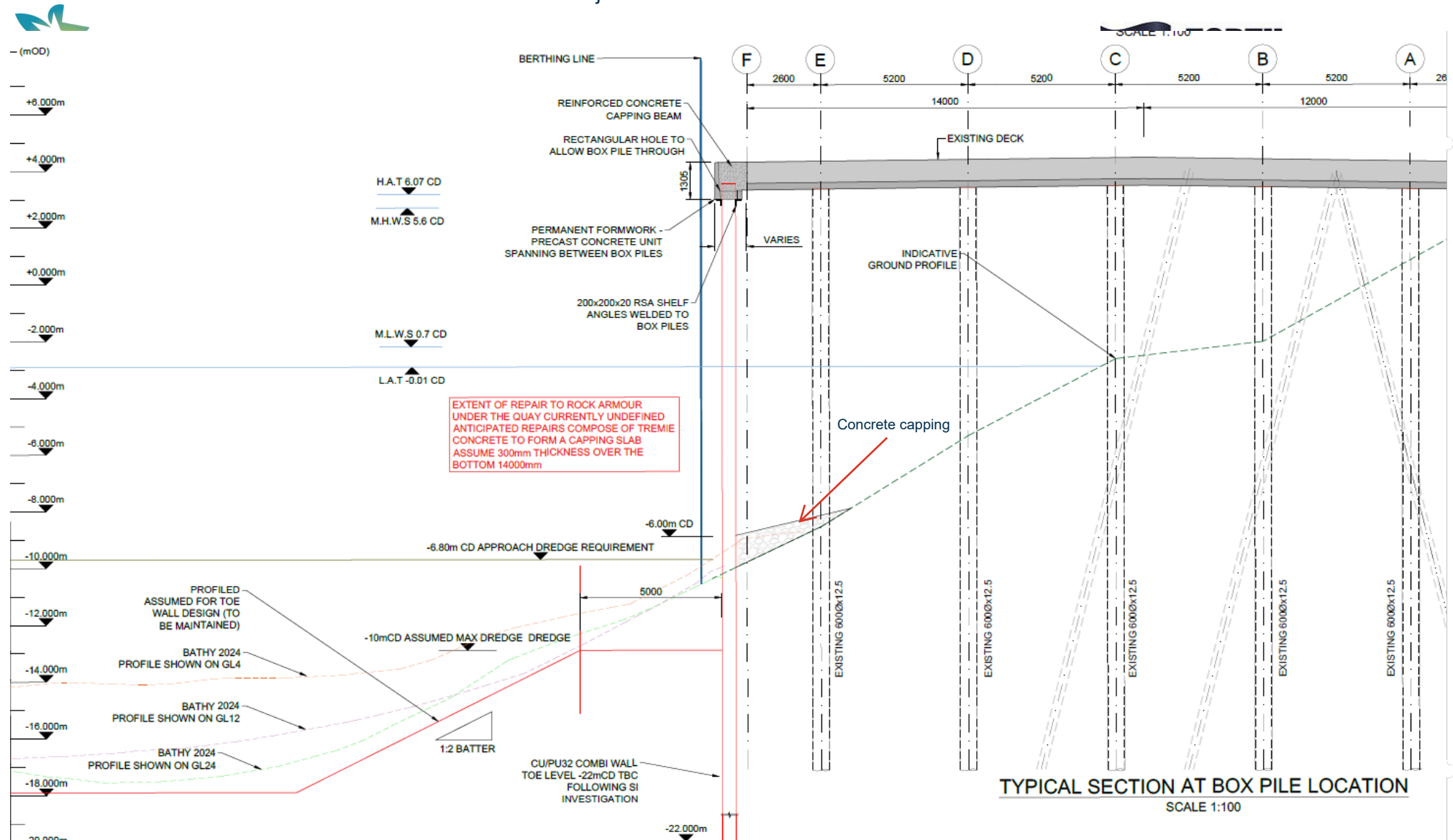


Figure 3-1 Typical cross section of the improvement works to the PCW (proposed new pile shown in red)



Localised excavation around the base of the existing quay wall may be required to remove any obstructions, using either land-based long reach excavators or dredging equipment, as appropriate, backfilling as required to maintain to a level in front of the wall of -10m CD. There is potential for concrete capping at the toe of the rock armour below the PCW where it meets the new wall of up to 300mm, which would not extend past the existing extent of rock armour (**Figure 3-1**).

A new beam will be installed at the head of the piles to facilitate the pile being tied into the existing PCW deck. Existing fenders would be cut off at existing pile locations, retained and welded back on following installation of wall. Existing ladders would be replaced (**Figure 3-2**).

3.1.3 Anticipated Construction Programme

The proposed improvement works to the PCW would take up to two months to complete, within which piling works would take approximately 35 days. The proposed dredging and disposal activities would take up to seven weeks to complete. The proposed works are planned to commence in December 2025.

3.2 Operational Phase

The Proposed Scheme would not change the number or type of vessels berthing at the Port of Dundee, rather it will ensure that the Port can continue to accommodate the vessels being used by the offshore renewables industry and components used in the construction of offshore wind farms. The Proposed Scheme would not result in any changes to the existing operations being carried out at the Port.

The proposed deepening works would not change the maintenance dredge requirement at the Port of Dundee, nor would dredging be required to maintain the deepened Lady Shoal approach channel dredge area.

In light of the above, with the exception of any changes to estuarine processes as a result of the Proposed Scheme there are no operational effects during the operational phase.

3.3 Consideration of Alternatives

The 'do-nothing scenario' (i.e. if the Proposed Scheme was not implemented) would mean that the Port of Dundee would have a reduced capacity or be unable to receive the larger drafted vessels on which the offshore energy sector is becoming increasingly reliant. This would likely make the Port less viable to support the offshore renewables industry. Consequently, the do-nothing scenario has been discounted.

Given that the elements of the Proposed Scheme are dictated by the requirements of the vessels that would visit the Port of Dundee, no alternatives are considered to be viable.

3.4 Embedded Mitigation

Embedded mitigation are measures that are implemented within the design or construction of the Proposed Scheme to prevent environmental effects from the start. The Port of Dundee Limited is committed to the use of best practice techniques and due diligence regarding construction projects. Pollution prevention guidelines are relevant to the Proposed Scheme and will be adhered to during dredging / disposal and construction. As such the risk of accidental leaks and spills would be reduced as far as possible and therefore has not considered further.

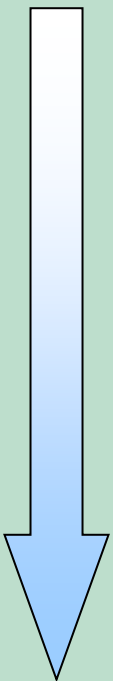
4 The EIA Process

4.1 What is EIA?

In accordance with Scottish law, certain projects must be the subject of a particular process of environmental assessment due to their size, nature and the likelihood that they will have significant effects upon the environment. This assessment process is known as EIA.

EIA provides a valuable opportunity to avoid and reduce potential environmental impacts through design refinement. Environmental constraints and issues were identified through consultation, extensive environmental surveys and technical assessments. The information gathered has informed decision-making throughout the design process, providing opportunities to address potentially significant effects where practicable, for example by refinement of the Proposed Scheme design or by the incorporation of measures to avoid or reduce potential adverse effects. The process is outlined in **Table 4-1**.

Table 4-1 The EIA Process

Stage	Task	Aim/objective	Work/output (examples)
Screening report	Screening	To formally confirm route for EIA and lead responsible authority.	Appropriate level of information on proposals and approach.
Scoping study (optional)	Scoping	To identify the potentially significant direct and indirect impacts of the Proposed Scheme.	Preliminary consultation with key consultees. Targets for specialist studies (e.g., bird survey).
EIA 	Consultation	Consult with statutory and non-statutory organisations and individuals with an interest in the area and the Proposed Scheme.	Local knowledge and information.
	Primary data collection	To characterise the existing environment.	Background data including existing literature and specialist studies.
	Specialist studies	To further investigate those environmental parameters which may be subject to potentially significant effects.	Specialist reports.
	Impact assessment	To evaluate the existing environment, in terms of sensitivity. To evaluate and predict the impact (i.e., magnitude) on the existing environment. To assess the significance of the predicted impacts.	Series of significant adverse and beneficial impacts.
	Mitigation measures	To identify appropriate and practicable mitigation measures and enhancement measures.	The provision of solutions to minimise adverse impacts as far as possible. Feedback into the design process, as applicable.
	EIAR	Production of the EIAR in accordance with EIA guidance.	EIAR.

4.2 Screening

As described in **Section 1.13**, the Proposed Scheme was determined not be an EIA development by DCC for the following reasons:

- The proposal does not constitute Schedule 1 development under the Regulations; and
- While the proposal does falls within the definition of ‘Schedule 2 development’ (10g with a site area exceeding 1ha) having screened it against the selection criteria outlined in Schedule 3 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017; including the characteristics of the development, location, sensitivities and characteristics of the potential impacts, any adverse impact on the receiving environment, whilst possible, **is not considered likely to be significant**.

Consultation undertaken to inform MD-LOT’ Screening Opinion determined the Proposed Scheme to not be EIA development with the exception of NatureScot, who considered that the Proposed Scheme had the potential to result in significant impacts specifically to:

- Benthic priority marine features such as blue mussel beds;
- European sites (Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)); and,
- European Protected Species (EPS) that are not specifically protected by relevant European sites, for example otter, minke whale or harbour porpoise.

NatureScot recommended that an EIA should be undertaken that focuses on the above receptors and, for this reason, MD-LOT determined that the Proposed Scheme was EIA development under the MWRs. Consequently, an EIA is required to support the Marine Licence application under the MWRs.

4.3 Scoping

The scope of this EIA has been informed by the EIA screening exercise, the Habitats Regulations Appraisal (HRA) process which has been undertaken in parallel with this EIA, and discussions with key stakeholders, including MD-LOT and NatureScot.

The topics to be considered by the EIA are those identified in MD-LOT’s Screening Opinion and the same as those that are the focus of the HRA. Discussions with NatureScot have confirmed the topics to be assessed and scope of work required to inform the shadow HRA that has been developed in support of this marine licence, and therefore these discussions have been used to confirm the scope of the EIA. The following topics have been scoped into this EIA:

- Estuarine processes;
- Marine water and sediment quality;
- Marine and coastal ecology;
- Fish and shellfish ecology;
- Ornithology;
- Marine mammals; and
- Cumulative Impacts.

The assessments have been informed by the following surveys and investigations:

- Hydrodynamic and sediment dispersion numerical modelling;
- Sediment sampling and analyses;
- Benthic ecology survey;
- Bird surveys, comprising:
 - One year long survey undertaken April 2023 to March 2024; and
 - Additional overwintering bird survey including goose flight surveys, October 2024 to April 2025;
- Otter survey; and
- Underwater noise modelling

4.4 Consultation

Initial contact was made with NatureScot via email on the 12th September 2024, supported by a project briefing note which included a summary of the Proposed Scheme as it was understood at the time and proposed specification of surveys required to inform the EIA. This was followed by a meeting on 24th September 2024. Following the meeting, NatureScot provided comments on 15th October, as summarised below:

- potential impacts that should be considered on designated sites and their qualifying interests;
- comments on survey specifications for marine mammals, benthic habitats and ornithology, namely the addition of an overwintering bird survey to include the marine area in front of the Port of Dundee; and
- requirement to confirm whether maintenance dredging of the Lady Shoal approach channel would be required.

During the meeting with MD-LOT, it was confirmed that Pre-Application Consultation does not apply as the construction area of the Proposed Scheme within the marine area (i.e. the improvement works to the PCW) is less than 1,000m².

Consultation has also been undertaken with National Gas due to assets in the vicinity of the Proposed Scheme. National Gas were notified of the proposed dredging work in January 2024 and provided the Port of Dundee with their asset location data in July 2024 and an update in February 2025. The Port of Dundee met with National Gas on 11th February 2025, whereby National Gas confirmed it had no concerns over the anticipated methodology or location of the proposed work. National Gas noted that it may require a National Gas representative be in attendance in localised locations during the works.

Consultation will continue to be undertaken with both the public and stakeholders as part of the statutory Marine Licencing process.

4.5 Impact Assessment Methodology

The approach to determining the significance of an effect follows a systematic process for all impacts. This involves identifying, qualifying and, where possible, quantifying the sensitivity and value of all receptors and magnitude of all impacts which have been scoped into this assessment. Using this information, a significance of each potential effect has been determined.

Mitigation measures are then proposed in those cases where significant adverse effects are identified. Whilst mitigation for minor or negligible impacts may not be specifically defined as a matter of course, industry standard or 'embedded' mitigation often applies in these cases. Where mitigation measures have

been identified, the significance of the residual environmental effect (i.e. the post-mitigation effect) has been assessed.

4.6 Reporting

This NTS presents a summary of the EIA Report, including key aspects of the Proposed Scheme and the associated beneficial and adverse impacts considered to be of particular importance. Further details about the likely significant impacts of the Proposed Scheme can be found within the full text of the EIAR. The EIAR has been provided in the following documents:

- NTS;
- EIAR; and,
- Technical Appendices
 - Appendix 1-1 EIA Screening Report
 - Appendix 1-2 DCC's Screening Opinion
 - Appendix 1-3 MD-LOT's Screening Opinion
 - Appendix 6-1 Port of Dundee Project Introduction
 - Appendix 7-1 Hydrodynamic Modelling Report
 - Appendix 8-1 Sediment Sampling Plan and MD-LOT's Approval
 - Appendix 8-2 Sediment Analyses Results
 - Appendix 9-1 Benthic Survey Report
 - Appendix 10-1 Underwater Noise Modelling Report
 - Appendix 11-1 Port of Dundee Overwintering Bird Surveys 2023/24: Survey Report
 - Appendix 11-2 Port of Dundee Overwintering Bird Surveys 2024/25 Distribution and abundance maps.

5 Summary of Predicted Environmental Effects

5.1 Estuarine Processes

Capital dredging changes the shape of the seabed, which can change the speed and direction of currents, and which in turn can change erosion and accretion patterns (these are terms estuarine processes). Dredging and disposal activities also releases sediment into the water column, increasing the amount of suspended sediment in the water.

To consider the potential effects of the Proposed Scheme on estuarine processes, current speeds and suspended sediment levels were recorded at two locations within the Firth of Tay. The data obtained were used to calibrate a numerical model, which was then used to predict changes in estuarine processes that could arise during and following the dredging and disposal activities

The modelling showed that the highest levels of sediment released into the water column during dredging and disposal activities would be localised to the dredge and disposal activities (see **Figure 5-1**), and only last for a short time, returning to background levels between 30 mins and 1.5 hours. The potential effects were therefore assessed as being **negligible** which is **not significant in EIA terms**.

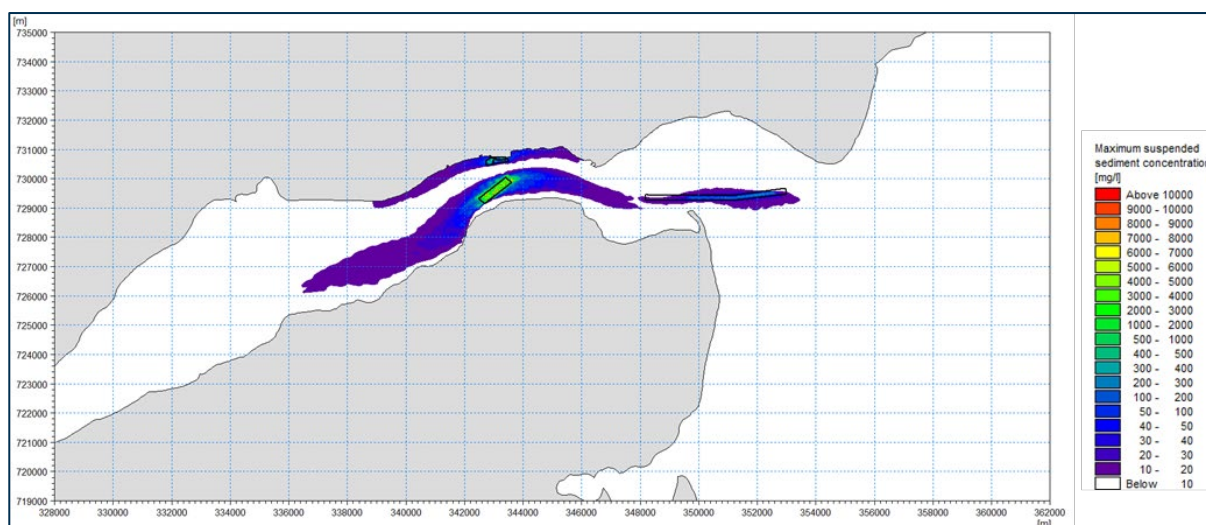


Figure 5-1 Predicted maximum increases in suspended sediment during the dredging and disposal near the surface

The modelling also predicted that sediment that falls onto the seabed would remain within the area being dredged, and mostly within the existing disposal site (see **Figure 5-2**). After disposal has ceased, the sediment would be continually re-suspended to gradually reduce the thickness. The potential effect therefore assessed as being **negligible** which is **not significant in EIA terms**.

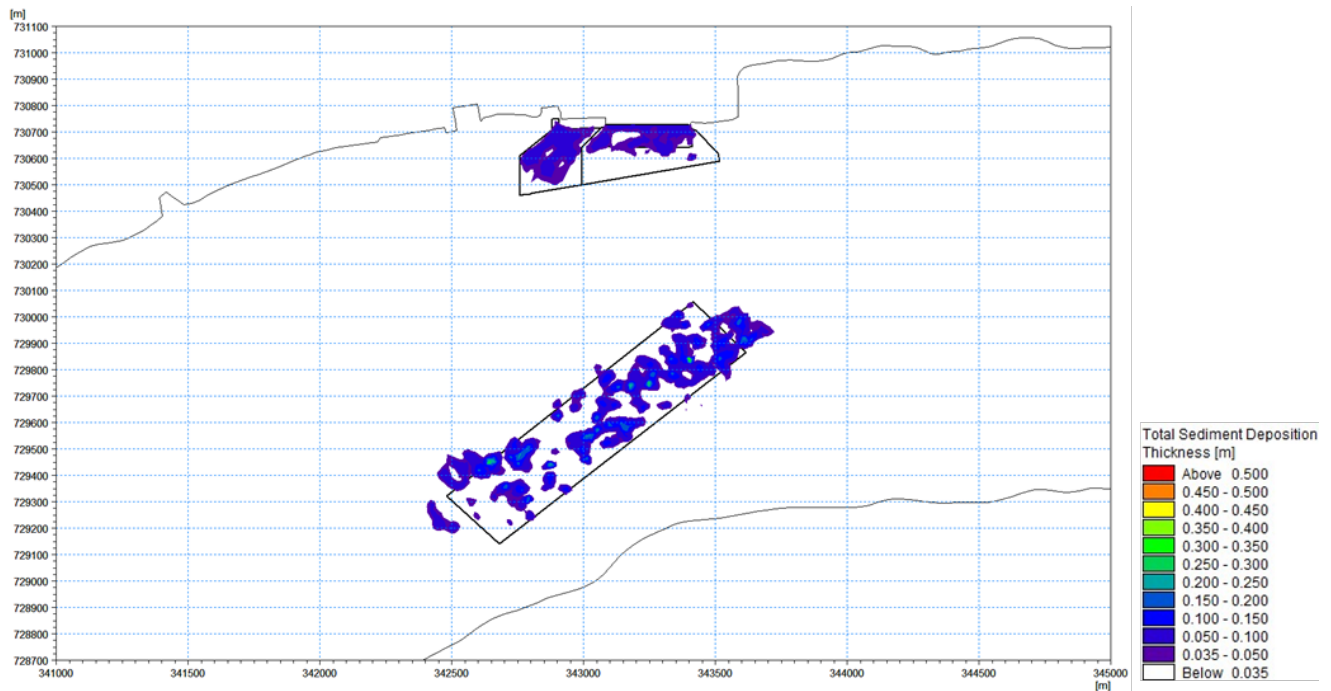


Figure 5-2 Predicted bed level change at the Port of Dundee and Middle Bank disposal site

Once the Proposed Scheme has been completed, the modelling predicts that the dredged areas would remain at the depth that they have been dredged to as the high current speeds will prevent sediment from settling on the seabed. As a result, it has been determined that there would be no change to the maintenance dredging requirements at the Port of Dundee, and there would be no requirement for maintenance dredging in the Lady Shoal approach channel to maintain the new depth.

5.2 Marine Water and Sediment Quality

The Proposed Scheme is located within the Lower Tay Estuary transitional waterbody (ID: 200438) which holds a chemical status of 'Pass', an ecological status of 'Good' and an overall status of 'Good'. There are two Bathing Waters within 2km the Proposed Scheme: Broughton Ferry (Excellent) and Monifieth (Excellent). There are no Shellfish Waters within the Firth of Tay.

Potential impacts to marine water and sediment quality during construction of the Proposed Scheme could arise from increases in SSCs, explain in **Section 5.1** above, and the potential release of contaminants during dredging and disposal activities. No potential impacts during operation were identified.

To inform the assessment on the potential release of contaminants, sediment samples were collected from within the proposed dredge areas, sent for chemical analysis, and compared against MD-LOT's Action Levels (ALs). When averaged, the sediment to be dredged does not contain significantly elevated concentrations of contaminants. There are a number of poly aromatic hydrocarbons which, when averaged, still exceed AL1; however, these have been shown to not pose a risk of harm to the marine environment and are within levels that have been disposed of at Middle Deep in the past. As such, the material is considered suitable for offshore disposal with regards to its contaminant content.

Overall, potential impacts to marine water and sediment quality are predicted as being of **minor adverse significance** due to the localised extend of the affected area, the rapid rate of dispersion and the non-

continuous nature of the activities. No mitigation measures are considered necessary. The residual impact would be of **minor adverse significance, which is not significant in EIA terms**.

5.3 Marine and Coastal Ecology

There are a number of sites designated for nature conservation that could directly and indirectly be affected by the Proposed Scheme. European sites (SACs and SPAs) and Ramsar sites are considered in the shadow HRA that has been produced in support of the marine licence application.

A survey of the seabed was undertaken to map the habitats and seabed (benthic) communities within and surrounding the proposed dredge areas. The survey identified blue mussel beds in three locations, two within the Port of Dundee dredge area and one to the south-east of Lady Shoal approach channel dredge area, outside of the dredge area itself. The survey data was supplemented with acoustic mapping of the seabed, which identified a potential mussel bed near to the Port of Dundee, and a bed within the Lady Shoal approach channel dredge area, thought to be an extension of the mussel bed that was recorded during the survey (see **Figure 5-3** and **Figure 5-4**). In addition, an otter survey was undertaken at the Port of Dundee, including camera monitoring, which recorded one non-breeding holt and one potential holt / couch within the Port.

Capital dredging can result in direct loss of benthic habitats as well in-direct impacts on benthic habitats, from increases in SSC and subsequent settling of sediment onto the seabed, and release of contaminants. The proposed works to the PCW can result in disturbance to otter and to impacts to nearby benthic communities from the underwater noise generated during the impact piling activities.

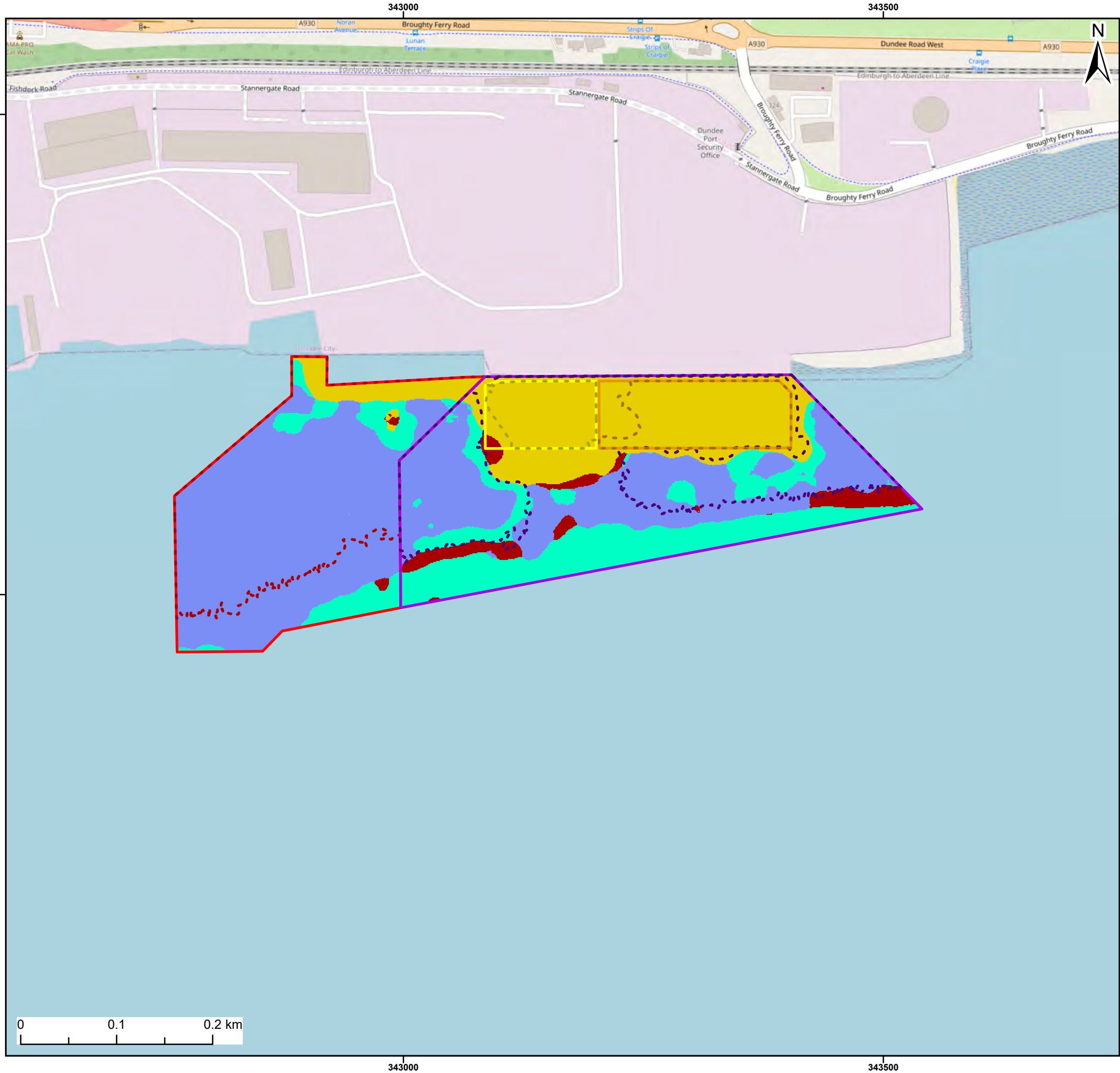
The majority of habitats within the proposed dredge areas are considered to have a low to medium sensitivity to direct loss. Given the potential blue mussel beds what would be lost form part of larger beds within the Tay, and the fact that that there is no requirement for maintenance dredging, the ability for the beds to recover is considered to be high. As such the direct loss of habitats would be **minor adverse** which is **not significant in EIA terms**.

Benthic communities present around the proposed dredge areas and disposal site may experience some limited settlement of sediment from the water column as a result of the released sediment. As the disposal site is an existing designated disposal site by the Marine Directorate, benthic communities surrounding the disposal site will be tolerant of sediment disposal activities. The settlement of material following dredging would occur within the dredge areas themselves; therefore, the potential impact from the settlement of sediment onto benthic communities would be **minor adverse** which is **not significant in EIA terms**.

As the dredged material has been considered suitable for disposal at sea, the potential impact from the release of sediment bound contaminants would be **minor adverse** which is **not significant in EIA terms**.

Benthic communities identified near to the Port of Dundee are considered to have a low sensitivity to underwater noise; therefore, the potential impact would be **negligible**, which is **not significant in EIA terms**.

Otters present at the port will be used to the level of activities typically associated with a busy port. In addition, the recorded holts are a substantial distance from the proposed piling activity; therefore, the potential impact would be **minor adverse**, which is **not significant in EIA terms**. A sensitive lighting scheme will be implemented during the proposed works to minimise any disturbance to otter.



Legend:

Proposed Extension to PCW Berth Pocket

- Dredge Area
- Dredge Footprint

Existing PCW Berth Pocket

- Dredge Area
- Dredge Footprint

Prince Charles Wharf Approach Channel

- Dredge Area
- Dredge Footprint

DunEco Quay Approach Channel

- Dredge Area
- Dredge Footprint

Eunis Habitat (2022)

- MB5/MC5 - (Infralittoral/Circalittoral sand (Dredged Area)
- MC2235 - Mytilus edulis beds on Atlantic circalittoral sediment
- MC32 - Atlantic circalittoral coarse sediment
- MC42 - Atlantic circalittoral mixed sediment

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Client:	Project:
Port of Dundee Limited	Port of Dundee Laydown Area and Quay Improvement Works

Title:

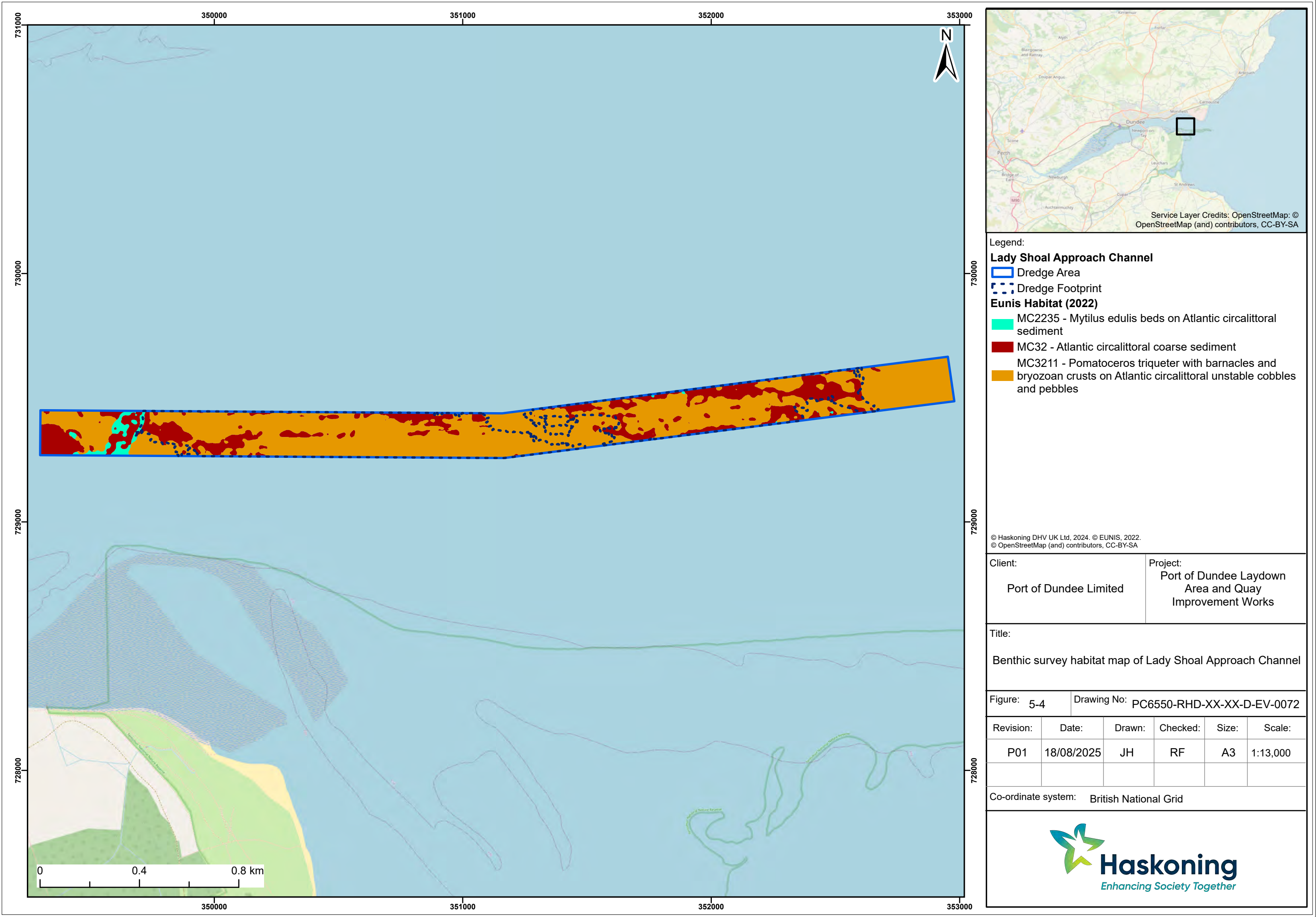
Benthic survey habitat map of Port of Dundee

Figure: 5-3 Drawing No: PC6550-RHD-XX-XX-D-EV-0071

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
P01	18/08/2025	JH	RF	A3	1:4,000

Co-ordinate system: British National Grid





Legend:

Lady Shoal Approach Channel

- Dredge Area
- Dredge Footprint

Eunis Habitat (2022)

- MC2235 - Mytilus edulis beds on Atlantic circalittoral sediment
- MC32 - Atlantic circalittoral coarse sediment
- MC3211 - Pomatoceros triqueter with barnacles and bryozoan crusts on Atlantic circalittoral unstable cobbles and pebbles

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Client:	Project:
Port of Dundee Limited	Port of Dundee Laydown Area and Quay Improvement Works

Title:

Benthic survey habitat map of Lady Shoal Approach Channel

Figure:	5-4	Drawing No:	PC6550-RHD-XX-XX-D-EV-0072
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Revision:	Date:	Drawn:	Checked:	Size:	Scale:
P01	18/08/2025	JH	RF	A3	1:13,000

Co-ordinate system: British National Grid



5.4 Fish and Shellfish Ecology

The Firth of Tay supports a number of fish and shellfish species, include migratory fish such as Atlantic salmon, sea lamprey, river lamprey, European eel, European smelt and sea trout. Underwater noise from impact piling has the potential to injure or even kill fish should they be present close to the works, whilst also causing a barrier to migrating fish. An increase in fine sediment in the water column has the potential to have a negative effect on fish and shellfish, and also act as a barrier to migrating fish. Fish and shellfish can be directly affected by habitat loss and smothering from the settlement of sediment onto the seabed.

Underwater noise modelling was carried out on the migratory fish to predict the potential impact from underwater noise generated by the proposed piling and dredging works. Potential impacts were assessed as being **minor adverse** which is **not significant in EIA terms** for salmon, sea trout, smelt and European eel, and **negligible** which is **not significant in EIA terms** for the lamprey species. Soft start procedures would be adhered to in order to allow any fish within close proximity to the piling activities to move away from the works and avoid injury.

The Firth of Tay at the location of the Proposed Scheme is approximately 1.5km wide and the underwater noise modelling and modelled sediment plume does not present a substantial obstruction or 'barrier effect' to migrating species. As such, the potential impact would be **minor adverse** which is **not significant in EIA terms**.

The potential impact on benthic habitats, **Section 5.3**, has been shown to be not significant and as such the potential impacts on fish and shellfish ecology would be **negligible**, which is not **significant in EIA terms**.

5.5 Ornithology

There are a number of sites designated for their ornithological interest that have the potential to be indirectly affected by the Proposed Scheme. SPAs and Ramsar sites are considered in the shadow HRA that has been produced in support of the marine licence application.

The assessment on ornithology was informed by the bird surveys described in **Section 4.3**. During the 2023/2024 survey, only 13 estuarine bird species of relevance to the SPAs and Ramsar site were interacting directly with the survey area. Of the species observed, the pink-footed goose and herring gull were the most abundant, with peak counts of 238 and 66, respectively; the pink-footed goose was only observed in December and only in flight high over the vantage point.

During the 2024/25 survey, only 11 species of relevance to surrounding SPAs and Ramsar site were recorded. Of these species, black-headed gull and herring gull were the most abundant, with peak counts of 70 and 25, respectively; both were observed flying, roosting and loafing in the survey area. The distribution of all bird recorded during the survey can be seen in **Figure 5-4**.

Given the offshore location of the Lady Shoal Approach channel area dredge area, a desk-based assessment was undertaken using publicly available data. Seventeen estuarine bird species were identified in the surrounding area that had the potential to be present within the dredge area.

Airborne noise from the proposed piling works and disturbance by dredging vessels has the potential to impact seabirds and waterbirds. The majority of the estuarine habitat in proximity to the dredging activity would be exposed to noise levels within a range that would be expected to result in minor disturbance. Birds in close proximity to more substantial noise levels as a result of piling activity (e.g. adjacent to the works) would be able to easily relocate to alternative suitable habitats in close proximity. Given the low number of

birds recorded using the Port and surrounding area, the potential impact of disturbance would be **minor adverse**, which is **not significant in EIA terms**.

There is also the potential for indirect impacts to birds through impacts to prey resource. Given no significant impacts would occur to fish/shellfish or benthic habitats, potential indirect impacts would be **negligible** which is **not significant in EIA terms**.

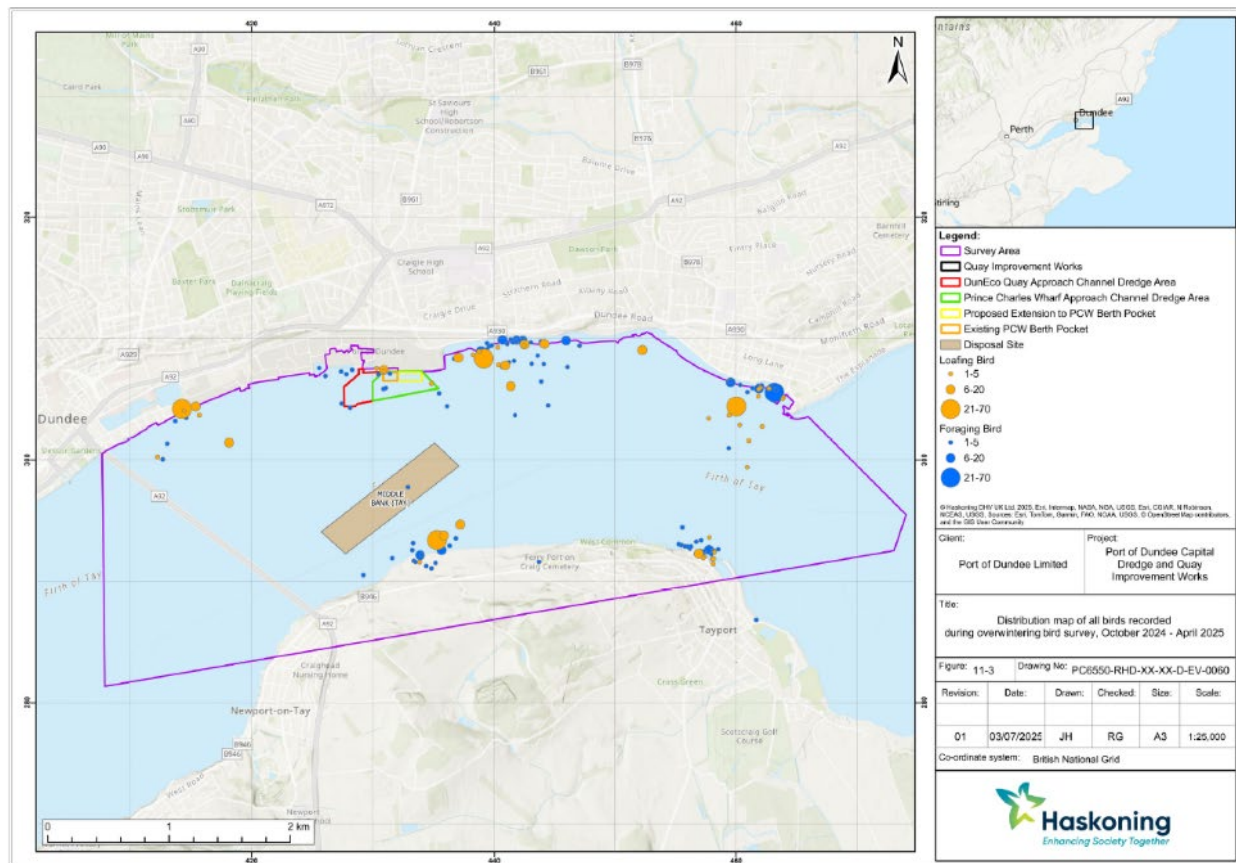


Figure 5-5 Distribution of all birds recorded during estuarine surveys: October 2024 to March 2025

5.6 Marine Mammals

There are a number of sites designated for marine mammals that have the potential to be affected by the Proposed Scheme. SACs are considered in the shadow HRA that has been produced in support of the marine licence application.

A number of marine mammal species are found off the east coast of Scotland, with the most common being harbour porpoise, bottlenose dolphin, grey seal and harbour seal. The deepening of a section of the Lady Shoal approach channel is approximately 340m from the nearest seal haul-out located in the Tayport - Tentsmuir Coast SSSI. Other species include minke whale, with increased presence in the summer periods.

The Proposed Scheme could result in impacts to marine mammals through underwater noise from piling, disturbance from vessel presence and dredging activity, and indirect impacts to prey resource.

The underwater noise modelling has shown that the potential impact of permanent or temporary hearing loss to marine mammals from the proposed piling works would be **minor adverse** which is **not significant in EIA terms**. Soft start procedures would be adhered to in order to allow any fish within close proximity to the piling activities to move away from the works and avoid injury.

Taking into account the existing level of shipping activities within the Tay, marine mammals, including seals at the haul-out site, will be habituated to underwater noise and the presence of vessels; therefore, the potential for disturbance to marine mammals in the Firth of Tay would be **negligible** which is **not significant in EIA terms**. As best practice, vessels used during the construction phase of the Proposed Scheme will adhere to the Scottish Marine Wildlife Watching Code.

Given there are no significant effects on fish / shellfish, or benthic habitats, the potential impact as a result of indirect impacts would be **negligible** which is **not significant in EIA terms**.

5.7 Cumulative Impacts

A Cumulative Impact Assessment (CIA) was undertaken with other projects that could result in cumulative impacts with the Proposed Scheme. **Table 5-1** shows the projects screened into the CIA.

Table 5-1 Projects screened into the CIA

Project	Distance from the Proposed Scheme (approximate)	Screened in for consideration
Port of Dundee proposed extension to laydown area and landside improvements to PCW	0	Yes – ornithology and otter only.
Seagreen OWF operation and maintenance (O&M)	6km	Yes – marine mammals only
Nearrt na Gaoithe O&M	28km	Yes – marine mammals only
Inch Cape OWF - Landfall	57km	No - No EIA required, no pathway for impacts on any feature assessed
Berwick Bank OWF geophysical survey	62km	Yes – marine mammals only
Eastern Green Link Subsea cable construction	67km	Yes – marine mammals only
North Sea Renewables Grid OWF geophysical surveys	112km	Yes – marine mammals only
Moray West OWF O&M	248km	Yes – marine mammals only

With the exception of the 'Port of Dundee proposed extension to laydown area and landside improvements to PCW' project, all other projects are further than 5km from the Proposed Scheme. As such, ornithology, otter, and marine mammals, as highly mobile species with wide ranges, are at risk of cumulative impacts from the other projects. Due to the limited potential for any effect from either a change in water quality or a change in prey availability, this CIA focuses on the potential for cumulative underwater noise impacts only. In addition, as each project is required to provide mitigation for any potential for permanent injury as a result of piling noise onset, therefore the CIA was limited to the potential for disturbance only.

The assessment found that cumulative impacts with other projects would be **minor adverse to negligible**, which is **not significant in EIA terms**.