



Port Kembla Gas Terminal Modification 5

Modification Report

Australian Industrial Energy

01 September 2022

→ **The Power of Commitment**



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Acronyms and definitions

Term	Definition
AIE	Australian Industrial Energy
AIS	Automatic Information Service
AMSA	Australian Maritime Safety Authority
ASS	Acid Sulfate Soils
CSSI	Critical State Significant Infrastructure
CTMP	Construction Traffic Management Plan
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DEMP	Dredge and Excavation Management Plan
DPE	Department of Planning and Environment
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	NSW Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
EPBC Regulations	<i>Environment Protection and Biodiversity Conservation Regulations 2000 (Cth)</i>
EPL	Environment Protection Licence
FSRU	Floating Storage and Regasification Unit
LNG	liquefied natural gas
London Protocol	Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972
Marine Pollution Act	<i>Marine Pollution Act 2012</i>
MARPOL	International Convention for the Prevention of Pollution from Ships
MFO	Marine Fauna Observers
MNES	Matters of national environmental significance
National Law Act	<i>Marine Safety (Domestic Commercial Vessel) National Law Act 2012 (Cth)</i>
PANSW	Port Authority of NSW
Planning Systems SEPP	State Environmental Planning Policy (Planning Systems) 2021
PKGT EIS	Port Kembla Gas Terminal Environmental Impact Statement
PKHD	Port Kembla Height Datum
POMP	Port Operations Management Plan
SAP	Sampling and Analysis
Sea Dumping Act	<i>Environment Protection (Sea Dumping) Act 1981</i>
SHB	split hopper barges
SMEC	SMEC Australia Pty Ltd
SOPEP	Shipboard Oil Pollution Emergency Plan
The project	Port Kembla Gas Terminal
VTS	Vessel Traffic Services

1. Introduction

Australian Industrial Energy (AIE) is developing the Port Kembla Gas Terminal (the project). The project involves the development of liquefied natural gas (LNG) import terminal at Port Kembla, south of Wollongong in NSW.

The project consists of four key components:

- LNG carrier vessels — there are hundreds of these in operation worldwide transporting LNG from production facilities all around the world to demand centres.
- Floating Storage and Regasification Unit (FSRU) — a cape-class ocean-going vessel, which would be moored at Berth 101 in Port Kembla.
- Berth and wharf facilities — including landside offloading facilities to transfer natural gas from the FSRU into an underground natural gas pipeline located on shore.
- Gas pipeline — a Class 900 carbon steel high-pressure pipeline connection from the berth to the existing gas transmission network.

The construction of the project is primarily associated with the establishment of a new berth facility at Port Kembla to enable an LNG carrier to berth alongside the FSRU and new infrastructure to connect the terminal to the existing gas network. Excavation and dredging is required to establish the new berth facility, with spoil deposited in a disposal area (referred to as the 'Emplacement Cell') in the Port Kembla Outer Harbour.

The Emplacement Cell has been designed with capacity to contain all excavated or dredged material generated during construction of the new berth. However there remains uncertainty in the expected bulking factor of the various soil units requiring disposal within the Emplacement Cell.

AIE therefore propose offshore disposal as a contingency plan for up to 50,000 cubic meters of excess dredged material that cannot be placed within the Emplacement Cell. The proposed Spoil Ground is located beyond NSW state waters and requires assessment and approval from the Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the Commonwealth *Environment Protection (Sea Dumping) Act 1981* (Sea Dumping Act).

Offshore disposal was not described in the Port Kembla Gas Terminal Environmental Impact Statement (PKGT EIS) (GHD, 2018) and is not considered generally in accordance with the EIS. AIE seeks to modify their existing Infrastructure Approval SSI 9471 to enable any excess dredged materials to be disposed of offshore as part of the approved project in accordance with an authorisation under a Commonwealth Sea Dumping permit.

1.1 The approved project

The project received Infrastructure Approval SSI 9471 from the then Minister for Planning and Public Spaces on 29 April 2019. The project has been declared Critical State Significant Infrastructure (CSSI) in accordance with section 5.13 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and Schedule 5 of the State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP).

The approved project has been subject to three previous modifications:

- Modification 1 – Capacity Increase (SSI-9471-Mod-1) determined 20 April 2020.
- Modification 2 – Compliance Reporting Guideline (SSI-9471-Mod-2) determined 1 September 2020.
- Modification 3 – Addition to Schedule of Land ((SSI-9471-Mod-3) determined 13 October 2021.

Modification 4 is currently proposed for amendments to the project related to pipeline alignment, mercaptan volume increases, removal of cold vent and installation of an 11kV transmission cable and telecommunications cable within Berth 101. It is anticipated the Modification 4 report will be submitted to the Department of Planning and Environment (DPE) following the submission of this Modification Report.

Construction of the project commenced in January 2022. An overview of the approved project is presented in Figure 1.1.

1.2 Purpose and structure

The purpose of this report is to provide environmental assessment of the proposed modification in support of a request for a Minister's approval under section 5.25 of the EP&A Act.

Prior to the preparation of this modification report a scoping letter was prepared and submitted to the DPE, which set out the relevant environmental matters and their appropriate level of assessment. It was confirmed by DPE that a formal Scoping Report was not required for the proposed modification, and no additional environmental assessment or community engagement other than proposed in the scoping letter would be required.

This modification report has been prepared in accordance with the DCCEEW sea disposal application, scoping letter, subsequent correspondence from DPE and the *State significant infrastructure guidelines – preparing a modification report* (DPIE, 2021).

The structure and content of this report is as follows:

- Section 2 – explanation of strategic context
- Section 3 – description of proposed modification
- Section 0 – explanation of relevant statutory context
- Section 5 – consultation
- Section 6 – environmental assessment of proposed modification
- Section 7 – justification and conclusion including summary of key findings.



LEGEND

- Pipeline Alignment Corridor
- Gas Pipeline Alignment
- Gas Pipeline Alignment (HDD Sections)
- Wharf Design
- Disposal area
- T Railway Station
- Railway
- Waterways



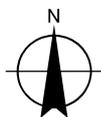
Paper Size ISO A4

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56



**Australian Industrial Energy
Port Kembla Gas Terminal**

Project No. **21-27477**
Revision No. **A**
Date **19 Feb 2019**

Project layout

Figure 1-1

2. Strategic context

2.1 Need for modification

Excavation and dredging are required to establish the new berth facility, with spoil deposited in a disposal area (referred to as the 'Emplacement Cell') in the Port Kembla Outer Harbour.

In accordance with Infrastructure Approval SSI 9471 an Emplacement Cell Report has been prepared by SMEC Australia Pty Ltd (SMEC) which has been recently approved by DPE. The Emplacement Cell has been designed with sufficient capacity to contain all excavated and dredged material originating from the Berth 101 works.

The design process included a volumetric assessment of material types proposed to be excavated or dredged as part of the construction program. This will ensure only clean dredged or excavated materials are used for bund construction and capping material with any Acid Sulfate Soils (ASS) or contaminated materials deposited at appropriate levels within the Emplacement Cell. All potential ASS will be placed within the Emplacement Cell below a maximum of +0.9m Port Kembla Height Datum (PKHD).

The volumetric assessment indicates that for the expected base case scenario, all dredged materials can be accommodated within the Emplacement Cell with all ASS and contaminated material stored beneath 0.9 m PKHD with an approximate 1.35 metre capping layer of clean material. However, the critical case scenario indicates there is a potential excess of ASS material to enable storage beneath +0.9 m PKHD. A contingency plan is therefore required to address any potential surplus ASS materials that can't be placed below +0.9 PKHD.

A contingency plan is therefore proposed for the offshore disposal of up to 50,000 cubic meters of excess dredged material in accordance with a Commonwealth Sea Dumping permit. Offshore disposal was not described in the PKGT EIS (GHD, 2018) and is not considered generally in accordance with the EIS. A modification to Infrastructure Approval SSI 9471 is therefore required.

2.2 Alternatives

Alternatives to sea disposal for the potential excess material have been considered, with a discussion of the alternatives presented in Table 2.1.

Table 2.1 Evaluation of alternatives for disposal of dredged material

Option	Benefit	Disadvantages / Risks	Potential to reduce amenity	Additional comments
No Dredging	No material will be dredged hence no material will need to be disposed.	If dredging does not occur, then there will not be sufficient space to berth the FSRU and visiting tankers at Berth 101.	High: If the capital dredging were not to proceed then the Project would not be viable.	The project has been deemed CSSI in recognition of the importance of NSW having its own source of competitively priced energy to support its homes and businesses (SSI 9471).
Reuse, including re-use such as beach nourishment or fill; off-site recycling; or treatment prior to beneficial use.	Dredged material not disposed of to sea.	The physical properties of the material dredged from the lower geological units such as grain size and acid generating potential render it unsuitable for beneficial reuses such as land filling or beach nourishment.	High: Beneficial reuse of unsuitable material for land filling or beach nourishment would likely create significantly more social and environmental risks than the ocean disposal option.	The material is likely to be unsuitable to be reused without additional costly treatment, based on the high fines content indicated by the sampling and analysis completed to date.
Expanded Emplacement Cell	Reduced transport distance for dredged material and no material disposed of to sea.	The emplacement cell has a finite capacity based on agreed design parameters with NSW Ports and must be preferentially used to contain contaminated sediments associated with the harbour muds and silts of the Inner Harbour which have been demonstrated to be unsuitable for unconfined sea disposal. Utilising the material dredged from the lower geological units as a capping layer is not feasible due to its acid generating potential, which would require treatment with lime to avoid potential ASS becoming oxidised and discharging acid.	Moderate: Specialist advice indicates that the stiff nature of the proposed dredge materials would prevent effective mixing of lime. If the acid generating potential of the dredged material cannot be effectively neutralised, then this approach would result in unacceptable impacts to the receiving environment and future infrastructure of the Outer Harbour development.	The capacity of the Emplacement Cell has been optimised to the greatest possible extent. As a result, it is expected that all dredged materials will be able to be accommodated within the cell. However, there remains a risk that there may be insufficient capacity within the Emplacement Cell due to unexpected bulking of the materials. AIE is seeking a sea disposal permit as a contingency plan which would be implemented in the event that there is insufficient capacity within the Emplacement Cell.
Offsite land disposal	No material disposed of to sea.	Disposal to land will require significantly more handling of the dredged material, potentially increasing construction time, costs, fuel usage and risks of a spill or incident. Significant construction activity would be required on land to make an area suitable to take the material. The dredged sediments cannot be simply stockpiled and disposed on the ground without treatment. The facilities to receive marine sediment on land	Moderate: The disposal of dredged material on land requires treatment using super absorbent polymer or construction of a bunded / walled area to contain the material and there will be a significant volume of seawater that will need to be treated prior to being returned to the sea. As noted above, specialist advice indicates that the stiff nature of the proposed dredge	The increased handling of the dredged material, the potential for a wide range of adverse environmental impacts, the requirement for a complex structure to handle the material and the requirement to return water to the harbour mean that even before costs are considered this option is undesirable. The environmental, social and human health risks are much greater than for ocean disposal of dredged sediments.

Option	Benefit	Disadvantages / Risks	Potential to reduce amenity	Additional comments
		<p>require complex setup¹ and additional areas may be required to treat the water that is needed to ensure the sediment remains wet. The sediment would need to be treated with lime or kept wet to avoid ASS becoming oxidised and discharging acid, and therefore maintaining high moisture content is required for management. Sediment would also need to be treated with super absorbent polymer or dewatered before being able to be transported by road and the return waters would need to be treated prior to being released back into Port Kembla.</p>	<p>materials would prevent effective mixing of lime to neutralise acid generating potential, which could result in unacceptable impacts to the receiving environment and future infrastructure of the Outer Harbour development</p>	
<p>Disposal to Spoil Ground C1</p>	<p>Historically used for disposal of material from the same geological layers of the Inner Harbour of Port Kembla.</p>	<p>Environmental risks have been assessed as low. Further information is contained within Section 10 of this Sea Disposal Permit Application.</p>	<p>Low: Spoil Ground C1 is in water depths of 75 to 95m below Chart Datum (CD), and the barge would travel directly to and from Spoil Ground C1.</p>	<p>Preferred option only if capacity within the Emplacement Cell is reached, resulting in a comparatively small volume of dredged material proposed for offshore disposal.</p>

¹ Bray, RN, Bates AD and JM Land (2005) Dredging, a handbook for engineers. 2nd edition. Random House, London

3. Proposed modification

3.1 Overview

An overview of the proposed modification is provided below in Table 3.1.

Table 3.1 Comparison of project modifications and approved project

Project element	Summary of approved project	Summary of proposed modification
Emplacement Cell capacity	<p>It is estimated that about 600,000 cubic metres of material would be excavated and dredged for the construction of berth and wharf facilities. Allowing for typical bulking factors, this volume would equate to about 720,000 cubic metres.</p> <p>It is planned that the 720,000 cubic metres of material that would be excavated and dredged for the construction of berth and wharf facilities would be deposited at a disposal area in the Outer Harbour.</p>	<p>Detailed design of the berth pocket and emplacement cell indicates there may be insufficient capacity within the Emplacement Cell for all disposal materials. Only a finite capacity is available for ASS and contaminated materials which must be placed below +0.9m PKHD.</p> <p>Up to 50,000 cubic metres of materials to be dredged are naturally occurring geological materials at depths which have not been exposed to activities associated with the Port Kembla harbour are proposed for sea disposal within Spoil Ground C1.</p>
Port navigation	<p>Material dredged by the backhoe dredger would be put in barges for transport to the Outer Harbour for disposal.</p> <p>It is anticipated that two split hopper barge loads per day (around 4 to 6 vessel movements) would be required to traverse from the Inner Harbour to the Outer Harbour.</p>	<p>Barge movements will primarily continue to transport dredged material to the Outer Harbour.</p> <p>Barge movements for any excess material would extend between 8 – 10 km offshore (furthest corner of Spoil Ground C1 is 10 km offshore).</p> <p>The number of barge movements will be consistent with the existing approval with approximately 50 barge loads required to extend beyond NSW waters to the proposed spoil grounds.</p>

A detailed description of each project modification elements is detailed below, and an overview is presented in Figure 3.1.

The proposed modification is not considered to require any amendment to the conditions of Infrastructure Approval SSI 9471. The proposed modification is also consistent with the broader approved management plans and does not impact the existing environmental management and monitoring conditions.

3.2 Emplacement Cell capacity

3.2.1 Overview

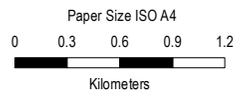
Infrastructure Approval SSI-9471 Schedule 3 Condition 8 and 9 detail the design requirements of the Emplacement Cell and the need for an Emplacement Cell Report to be prepared for the project. An Emplacement Cell Report has been prepared by SMEC which has been recently approved by DPE.

The Emplacement Cell has been designed with sufficient capacity to contain all excavated and dredged material originating from the Berth 101 works. Materials identified as fill, reclaimed sands and alluvium will be used to form a perimeter bund wall and capping of the emplacement cell. The remaining excavated / dredged materials (i.e., estuarine sands, residual soils, harbour sediments and muds) will be placed behind the bund within the cell.

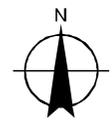


- LEGEND**
- Spoil ground C1
 - Emplacement Cell
 - Dredge area
 - Excavation area
 - Wharf removed during Stage 1
 - Silt curtain*

* Locations and entry/exit points may change subject to Harbour Master's approval



Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 56



**Australian Industrial Energy
 Port Kembla Gas Terminal - Modification 5**

Proposed modification overview

Project No. **2127477**
 Revision No. -
 Date **25 Aug 2022**

FIGURE 3-1

3.2.2 Proposed modification

The design process included a volumetric assessment of material types proposed to be excavated or dredged as part of the construction program. This will ensure only clean dredged materials are used for bund construction and capping material with any ASS or contaminated materials deposited at appropriate levels within the cell. The design requires that:

- All potential ASS will be placed within the Emplacement Cell below a maximum of +0.9m PKHD
- Harbour muds and Harbour silts will generally be deposited lower than -1.0m PKHD, but in no instances above the Lowest Astronomical Tide.

The capacity of the Emplacement Cell is a function of both the dredge volumes excavated during the construction process and the bulking factor for each material type prior to placement. Sensitivity analysis has been undertaken to assess the range of potential bulking factors in each sediment unit and has been used for the development of a “base case” and “critical case” scenarios for predicted sediment disposal volumes within the Emplacement Cell.

The volumetric assessment indicates that for the expected base case scenario, all dredged materials can be accommodated within the Emplacement Cell with all ASS and contaminated material stored beneath +0.9 m PKHD with an approximate 1.35 metre capping layer of clean material. However, the critical case scenario indicates there is a potential excess of ASS material to enable storage beneath +0.9 m PKHD. A contingency plan is therefore required to address any potential surplus ASS materials that can't be placed below +0.9 PKHD.

A sea disposal permit has been submitted to DCCEEW to enable sea disposal of materials in Spoil Ground C1 in the event excess materials cannot be disposed of in the Emplacement Cell.

Spoil Ground C1 is located beyond NSW state waters about eight – ten kilometres southeast from the entrance of Port Kembla. Water depths of Spoil Ground C1 range from 75 to 95 metres below Chart Datum. Figure 3.1 presents the location of Spoil Ground C1 in relation to the project site and Emplacement Cell.

The quantity of material to be disposed of is expected to be up to 50,000 cubic metres and will be dependent on the bulking factors of the material as it is relocated from Berth 101 and the associated capacity of the Emplacement Cell as it is progressively filled. The 50,000 cubic metres of materials are previously undisturbed natural geological materials from the lowest level of the proposed dredge area. Materials comprise of clays and weathered rock.

The disposal of dredged material at Spoil Ground C1 will be undertaken in accordance with any requirements of the Commonwealth Sea Dumping Permit, the contractor's Dredge and Excavation Management Plan (DEMP), necessary approvals, and the contractor's method statement.

The hopper barge will be filled directly from the dredging operations at Berth 101 and travel directly to Spoil Ground C1 for disposal. The dredged material will then be disposed of only in the designated area within Spoil Ground C1. It is expected to take approximately 4 - 6 hours for the barge being towed by a 40-tonne tug to travel from the loading site to the disposal site and back to the loading site, with approximately half the journey being located with NSW Coastal Waters up to 3 nautical miles from the coast.

All barges will be required to have an operational Automatic Information Service (AIS) unit operating continuously to monitor the location of the plant. The Contractor will be required to record the time and position when hopper doors are opened (and disposal occurring) and when hopper doors are closed preferably via the AIS system. This information will be submitted with the daily report and compiled in the weekly progress report.

It is anticipated that the cumulative duration of the sea disposal portion of the dredging campaign will be approximately two weeks (excluding downtime due to adverse weather, breakdowns etc). The risk of adverse offshore sea conditions and proposed sequencing of the dredging and reclamation works mean that it may not be possible to undertake the sea disposal activities in a consecutive manner. There is a need to preserve some overlying sandy material at Berth 101 until the later stages of the dredging campaign to allow reconfiguring of the Emplacement Cell bunds as the approach switches from submerged to emergent reclamation and to construct the final capping layer.

Accordingly, the sea disposal activities may be spread across the duration of the project from late October 2022 – end March 2023 based on an ongoing assessment of volumes and bulking factors and having consideration for prevailing sea state conditions.

3.2.3 Environmental monitoring

Construction works currently underway for the project are subject to AIE's Environment Protection Licence (EPL) No. 21529 and approved management plans as per the Infrastructure Approval SSI 9471 conditions. Works within the project footprint will continue to be subject to the EPL and management plans. This modification does not require any amendments to the current management plans in force.

Sea disposal in Commonwealth waters will be undertaken in accordance with any conditions of approval made under the sea dumping permit and the approved DEMP. Environmental impacts related to sea disposal in Spoil Ground C1 have been assessed in the sea dumping permit application by DCCEEW.

3.3 Port navigation

3.3.1 Overview

Marine vessels, such as barges and tugs, will be used to transport dredged materials during the excavation and dredging works for the project. Dredging will be undertaken by a backhoe dredge mounted on a barge. The backhoe would remove sediment from the dredge footprint and transfer it into an adjacent waiting hopper barge. It is likely that two split hopper barges (SHB) with a capacity of up to 1,200 cubic metres each will be used. Using two 1,200 cubic metres SHBs will allow estimated production figures of up to 2,400 cubic metres per barge, per day (i.e., up to two tows of each barge to Spoil Ground C1 per day).

3.3.2 Proposed modification

Provided the SHBs can be loaded close to their full capacity of 1,200 cubic metres for each run, a maximum total dredge volume of 50,000 cubic metres would result in approximately 50 runs from Berth 101 to Spoil Ground C1. It is likely that the overall disposal volume will be less than this maximum dependent upon bulking factors of the dredged material. Barge movements to Spoil Ground C1 would require barge movements to extend between 8 – 10 kilometres offshore into Commonwealth waters. The total number of barge movements will remain consistent with the current Infrastructure Approval SSI 9471 conditions with barges transporting any excess material extending beyond NSW state waters to the spoil ground.

3.3.3 Environmental monitoring

Navigation of marine vessels within the Port Kembla harbour are subject to requirements of the Port Authority of NSW (PANSW) Harbour Master. Marine vessel movements associated with the project are subject to the current approved Construction Traffic Management Plan (CTMP). A Port Operations Management Plan (POMP) has been prepared by the dredging Principal Contractor in consultation with the PANSW Harbour Master.

The navigation route to Spoil Ground C1 will be determined by the Harbour Master prior to the commencement of works as per the sea disposal permit assessed by DCCEEW. The Contractor is required to comply and follow this navigation route at all times. The navigation route will be driven by navigational safety requirements within the Port Kembla harbour waters.

The direction of approach to Spoil Ground C1 will depend upon the prevailing tide, wind, and current conditions. There are no constraints to direct line navigation from the dredge area to the spoil grounds in terms of obstacles or impediments, other than shipping channels, channel markers and anchorages. Vessel movements will be monitored throughout dredging and disposal activities by AIE and the Harbour Master.

No additional environmental impacts or monitoring conditions are required under the existing project approval.

4. Statutory context

The PKGT EIS (GHD, 2018) assessed the projects approval pathway under Federal and State legislation. The Sea Dumping Act was identified, and a sea dumping permit deemed not applicable as all dredged and excavated material was proposed to be disposed of within the Outer Harbour Emplacement Cell located within NSW waters. An overview of the Sea Dumping Act, and other applicable legislative requirements, are discussed below in Table 4.1.

Table 4.1 Proposed modification legislative compliance

Legislation	Compliance
Federal	
Sea Dumping Act	<p>The Sea Dumping Act regulates the loading and dumping of waste at sea within Australian Waters. Australian Waters are defined as the low water mark of the Australian shoreline out to 200 nautical miles, excluding state and territory waters. Sea dumping includes the deliberate disposal of wastes or other materials in the seabed and subsoil from vessels, or other man-made structures at sea.</p> <p>The international agreement relating to the dumping of wastes and other matter in Australian waters, including dredged material, is called the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (London Protocol). Australia implements its obligations under the London Protocol through the Commonwealth Sea Dumping Act.</p> <p>Through the Sea Dumping Act, DCCEEW assesses proposals to load and dump wastes and other matter at sea, permits acceptable activities, and places conditions of approval, to mitigate and manage environmental impacts. A permit application form is submitted to the Minister for Environment and Water to enable the assessment of the need for sea disposal and potential environmental impacts. Under section 19 of the Act the Minister may grant or refuse a permit.</p>
<i>Marine Safety (Domestic Commercial Vessel) National Law Act 2012 (National Law Act)</i>	<p>The National Law Act is administered under the Australian Maritime Safety Authority (AMSA) and provides a cooperative regulatory framework between the Commonwealth and the States to ensure the safe operation, design, construction and equipping of domestic commercial vessels. The National Law Act also implements Australia's international obligations in relation to the safety of domestic commercial vessels.</p> <p>Division 3, section 16 of the National Law outlines the duties of masters of domestic commercial vessels to ensure the safety of vessels, marine safety equipment and operations.</p> <p>Vessel movements from the Port Kembla Harbour for the project are managed in accordance with the POMP which has been produced in consultation with the PANSW Harbour Master and the CTMP. Vessel movements for the proposed modification will travel between State and Commonwealth waters. An additional Traffic Management Plan will be developed to inform movement of vessels to and from Berth 101 and Spoil Ground C1 to fulfill requirements under the National Law Act and applicable NSW legislation.</p>
<i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i>	<p>The <i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i> implements Australia's obligations under the International Convention for the Prevention of Pollution from Ships (MARPOL). The Act outlines requirements to prevent pollution, duty to report incidents and penalties related to failure to comply with the requirements of the Act. Section 11A states that Australian ships with a gross tonnage of 400 or more must keep on board a Shipboard Oil Pollution Emergency Plan (SOPEP). A SOPEP has been developed by the dredging Principal Contractor.</p>
<i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i>	<p>Approval from the Commonwealth Minister for the Environment and Water under the EPBC Act is required where an activity is likely to have a significant impact on listed matters of national environmental significance (MNES). The PKGT EIS considered potential impacts upon MNES. No impacts were identified that could be considered to be significant and no referral to the Minister was made.</p>

Legislation	Compliance
	<p>The proposed modification will not result in any additional impacts, or likely impacts to MNES compared to what was assessed in the PKGT EIS (GHD, 2018). As such, no referral under the EPBC Act is required for the proposed modification.</p>
<p><i>Environment Protection and Biodiversity Conservation Regulations 2000</i> (EPBC Regulations)</p>	<p>The EPBC Regulations implement provisions of the EPBC Act, including the issuing of approvals and permits. The EPBC Regulations are divided into 24 parts which cover matters related to MNES, bilateral agreements and threatened species. Part 8 of the EPBC Regulations provides for the protection and conservation of cetacean species, including the movement of marine vessels.</p> <p>Part 8, Division 8.05 outlines the operational requirements of vessels when interacting with adult cetaceans. Vessels within the caution zone (150 m for dolphins, 300 m for whales) of a cetacean species are required to operate the vessel at a constant speed of less than 6 knots and minimise noise and ensure the vessel does not drift or approach closer than 50 m of dolphins and 100 m of whales. Vessel operations will be managed in accordance with the Project POMP. Requirements under the EPBC Regulations and potential impacts of vessel movements to cetacean species has been assessed under the sea disposal permit by DCCEEW.</p>
State	
<p>EP&A Act</p>	<p>The project has been declared as CSSI as per Part 5, Division 5.2 of the EP&A Act. Infrastructure Approval was granted under section 5.19 of the Act on 24 April 2019.</p> <p>Section 5.25 of the EP&A Act states that a Development Consent may be modified with the Minister's approval. The Minister's approval is not required if the CSSI as modified will be consistent with the existing approval. It has determined that the proposed modification is not consistent with the SSI-9471 Infrastructure Approval, and modification of the project is required as per Section 5.25 of the Act.</p>
<p><i>Marine Pollution Act 2012</i> (Marine Pollution Act)</p>	<p>The Marine Pollution Act gives effect to MARPOL in NSW. In line with the objectives of the convention, the Act aims to prevent both accidental pollution and pollution from routine vessel operations.</p> <p>The Marine Pollution Act contains a number of offences in relation to pollution from vessels including discharge of oil or oil residues, noxious liquids substances, sewage, garbage and other forms of pollution. It sets requirements for vessels including to develop and implement pollution emergency plans, on-board garbage management plans, and to keep records of onboard oil, garbage and cargo. It provides that the Minister administering the Act may provide notices to vessel operators to prevent pollution or clean-up pollution where it occurs.</p> <p>Under Part 10 of the Act, it is an obligation for a SOPEP to be carried on board a ship. Section 97 outlines the contents that must be included in the SOPEP, including procedures to be followed in reporting incidents, authorities to be notified in reporting a reportable incident and actions to be taken in combating pollution caused by the incident. A SOPEP has been developed by the dredging Principal Contractor for the project.</p>

5. Consultation

5.1 Sea dumping permit consultation

AIE have undertaken consultation with the following relevant stakeholders as part of the sea dumping permit application submitted to DCCEEW, responses are included in Appendix A:

- DCCEEW
- NSW Ports
- Australia Hydrographic Office
- Australian Fisheries Management Authority
- South East Trawl Fishing Industry Association
- Nature Conservation Council of NSW
- National Native Title Tribunal
- NSW Aboriginal Land Council (South Coast Zone)
- Illawarra Local Aboriginal Land Council
- Wollongong City Council
- NSW State Government departments and agencies:
 - PANSW
 - Crown Lands
 - Environment and Heritage
 - NSW Environment Protection Authority (EPA)
 - National Parks and Wildlife
 - Planning
 - Water
 - Water Infrastructure
 - DPI – Fisheries.

5.2 Community engagement

A significant amount of stakeholder engagement has been carried out for the Port Kembla Gas Terminal to date including the exhibition of the environmental impact statement, the response to submissions, and numerous briefings, community meetings and consultation materials produced throughout the assessment process.

AIE has and will continue to engage with relevant stakeholders including landholders, interest groups and other community bodies, and authorities throughout the implementation of the project.

6. Environmental assessment

6.1 Overview

The materials to be dredged are natural geological materials at depths which have not been exposed to activities associated with the reclamation or subsequent development of Port Kembla Harbour. Materials that have previously been disposed of in Spoil Ground C1 are similar to materials that will be dredged during the project.

Following consultation with DCCEE, an agreed Supplementary Sampling and Analysis Plan (SAP) (GHD, 2022) has been implemented and it is anticipated that the existing information is sufficient to determine potential contaminants and suitability of the dredged materials for ocean disposal.

Potential impacts upon the Commonwealth marine environment are being assessed separately part of the sea dumping permit process.

Assessment considerations for the modification of Infrastructure Approval SSI 9471 are applicable to activities located with NSW Coastal Waters within 3 nautical miles of coastline as discussed below.

6.2 Emplacement Cell capacity

6.2.1 Overview

The PKGT EIS (GHD, 2018) describes the Emplacement Cell and estimated that about 600,000 cubic metres of material would be excavated and dredged for the construction of berth and wharf facilities. Allowing for typical bulking factors, this volume would equate to about 720,000 cubic metres.

The PKGT EIS (GHD, 2018) adopted a maximum potential volume of 720,000 cubic metres for the purpose of worst case impact assessment.

6.2.2 Impact assessment

The Emplacement Cell Report (SMEC, 2022) was prepared in accordance with Infrastructure Approval SSI 9471 Schedule 3, Condition 9. The design of the Emplacement Cell is sufficient capacity to contain all dredged and excavated materials from the Berth 101 works, however the critical case scenario of the volumetric assessment indicates there is potential for excess ASS materials. All ASS and contaminated materials will be placed within the Emplacement Cell below a maximum of +0.9 PKHD with a 1.35 metre capping layer of clean materials, resulting in a finite capacity being available for these materials.

Up to 50,000 cubic metres of materials to be dredged are naturally occurring geological materials at depths which have not been exposed to activities associated with the Port Kembla harbour are proposed for sea disposal within Spoil Ground C1.

Detailed investigations regarding the quality of sediments and potential environmental impacts associated with the sea disposal in Spoil Ground C1 have been undertaken and are subject to assessment and conditions of approval by DCCEE for works in Commonwealth waters.

The disposal of excess material does not affect the environmental performance objectives for the emplacement cell or the ability to meet the conditions of Infrastructure Approval SSI 9471.

The proposed modification is consistent with the broader approved management plans, Emplacement Cell Report (SMEC, 2022) and does not impact the existing environmental management and monitoring conditions relating to the dredging operations or construction of the Emplacement Cell.

6.2.3 Proposed mitigation measures

No additional mitigation measures are proposed for the modification.

6.3 Port navigation

6.3.1 Overview

Port navigation assessment regarding the project impacts to vessel navigation during construction and operation were assessed in the PKGT EIS (GHD, 2018) and Modification 1 (GHD, 2019). Modification 1 provided an updated assessment associated with increased ship movements during operations of the project which is not a consideration of this Modification Report.

The Port Kembla Harbour is a busy industrial port utilised by a range of both commercial and recreational vessels, including ferries, fishing boats, jet skis, powered yachts and sailing yachts. The PANSW is responsible for the management of shipping operations in Port Kembla, including the provision of Harbour Master functions, pilotage, navigation services and ship scheduling. The PANSW are authorised by AMSA to operate the Port Kembla Vessel Traffic Services (VTS) which provides 24/7, year-round traffic organisation and navigational assistance services. Participation in VTS is compulsory to all vessels in the VTS area (refer to Figure 6.1).

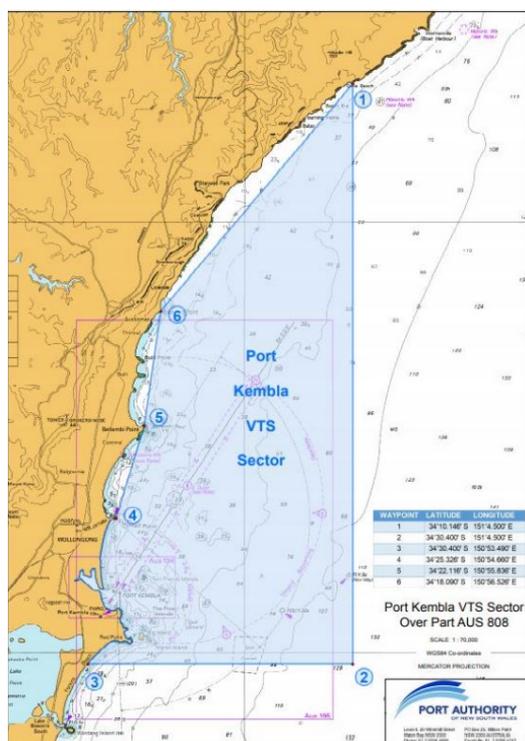


Figure 6.1 Port Kembla VTS (source: PANSW, 2021)

6.3.2 Impact assessment

Marine vessels, such as barges and tugs, will be used to transport dredged materials during the dredging works. It is anticipated barges will transport between four - six loads of materials from Berth 101 to the Emplacement Cell site per 24-hour period.

The proposed modification does not require additional barge movements and would remain consistent with the existing Infrastructure Approval SSI 9471 conditions. The sea disposal permit through DCCEEW is a contingency plan in the event the Emplacement Cell does not have sufficient capacity for placement of dredged materials at appropriate levels within the cell.

In the event sea disposal to Spoil Ground C1 is required, barge movements to the outer harbour would extend between eight – ten kilometres offshore (10 kilometres offshore being the furthest corner of Spoil Ground C1). The navigation route to spoil ground C1 would be determined by the Harbour Master prior to the commencement of works. The navigation route will be driven by navigational safety requirements within the Port Kembla Harbour waters as outlined in Table 4.1.

Environmental impacts associated with the disposal of dredged material in Spoil Ground C1 are subject to conditions of approval by DCCEEW.

6.3.3 Proposed mitigation measures

No additional mitigation measures are proposed for the modification.

6.4 Water Quality

6.4.1 Overview

Detailed investigations into potential impacts to water quality during construction and operation of the project were undertaken as part of the PKGT EIS (GHD, 2018). The construction analysis focussed upon impacts to the Port Kembla Harbour associated with the dredging and reclamation activities with risks associated with the potential to generate turbid plumes, mobilise contaminants, increased sedimentation and potential for hydrocarbon spills considered as part of the assessment.

6.4.2 Impact Assessment

Potential impacts will be largely consistent with the approved project and specific management controls have been developed as part of the approved Spoil Management Plan, including the preparation of a DEMP and Water Quality Monitoring Plan.

Dredging and emplacement activities within the Outer Harbour will be consistent with the approved project with impacts predicted to be commensurate with the assessment in the PKGT EIS (GHD, 2018).

Each barge load would travel a greater distance and extend beyond NSW Coastal Waters located 3 nautical miles offshore resulting in a minor increase to the potential for accidental spill or fuel / oil leak during the works associated with the increased period of exposure.

Potential impacts associated with disposal at Spoil Ground C1 within the Commonwealth marine environment are being assessed separately as part of the sea dumping permit process.

6.4.3 Proposed mitigation measures

The following mitigation measures will be implemented to prevent release of dredged spoil or fuel/oil spill impacts occurring:

- Vessels transporting materials to the Soil Ground C1 will be inspected regularly to ensure that no dredged spoil materials leak or are released into water during construction activities.
- Visual observations will be maintained by watch keepers on all vessels and plant/moving machinery.
- All vessels must comply with relevant marine navigation and safety standards (refer to Table 4.1).
- Marine diesel oil compliant with MARPOL Annex VI Regulation 14.2 (i.e., sulphur content of less than 3.50% m/m) is the only diesel engine fuel to be used by the vessels.
- Oil spill responses will be executed in accordance with the vessel's SOPEP, as required under MARPOL.
- Emergency spill response procedures would be developed and implemented when required (in accordance with the project Emergency Spill Plan).

6.5 Marine Ecology

6.5.1 Overview

The disposal site is located approximately 8 kilometres southeast of the Port Kembla Harbour entrance in water depths of approximately 75 to 95m below Chart Datum.

The Five Islands Nature Reserve comprises five small islands located between approximately 0.5 and 3.5 kilometres off the coast inshore from Spoil Ground C1. The islands are considered valuable fishing and diving reefs and are also of cultural significance to the Aboriginal community.

A number of marine mammal species (including Humpback Whale, Southern Right Whale, Australian fur seals, Sun fish, bottle nose and common dolphins) are known to visit the waters of Port Kembla Harbour and offshore seasonally and may be found within Spoil Ground C1, and areas between the dredging location and the spoil ground. The key potential impacts on marine life include collision with the vessel and noise disturbances.

Collision with vessels have been found to cause significant injury and death in marine megafauna. This can occur most detrimentally when a marine vehicle is moving at speeds greater than 10 to 14 knots. The barge carrying the disposal load will be moving at slower speeds than this and therefore the risk of collision with marine megafauna is considered to be minimal.

The contractor in control of the barge will be required to halt operations and barge movement when marine megafauna is observed nearby, of whom will have Marine Fauna Observers (MFOs) present during dredging, disposal and transit operations. This will allow the barge to move away from areas when marine megafauna is observed in the area. MFOs will record any observations of marine megafauna whilst commencing or undertaking dredging or disposal activities.

The Biodiversity Conservation Regulation 2017 set how far vessels must stay away from marine mammals and protects marine mammals such as whales, dolphins, and seals while allowing people to appreciate them in the wild. Vessels must keep a distance of at least 100 metres from whales (300 metres if a whale calf is present), while vessels that can make fast and erratic movements such as jet skis or parasail boats, must stay at least 300 m away. Vessels must travel at a constant slow speed, leave a negligible wake and no more than two vessels are allowed to approach a whale at the same time.

Large megafauna and fish are sensitive to the impacts of underwater noise. Anthropogenic noise can interfere with animals that utilise sound for communication, navigation and detection of prey. The PKGT EIS (GHD, 2018) analysed the potential impacts from anthropogenic noise on marine mammals at the dredging location, with the conclusion that the potential for underwater noise impacts due to dredging is minimal.

Dredging operations will remain consistent with the project assessed in the PKGT EIS (GHD, 2018) and barge transfer of the dredged material the additional distance to Spoil Ground C1 is not expected to significantly increase the potential noise exposure by the project.

6.6 Other environmental aspects

The potential impacts associated with the modification on all other environmental aspects are considered to be consistent with the assessment in the PKGT EIS (GHD, 2018) and will be adequately management in accordance with the approved suite of management plans.

7. Justification and conclusion

The proposed modification will enable the project to remain viable in the event that there is insufficient capacity within the Emplacement Cell. The sea disposal permit functions as a contingency plan in the event that bulking factors experienced during the dredging campaign are higher than anticipated exceeding the design capacity of the emplacement cell.

The sea disposal permit would facilitate the disposal of up to 50,000 cubic metres of previously undisturbed naturally occurring geological materials which are consistent with the existing conditions of Spoil Ground C1. Environmental risks associated with sea disposal have been assessed as low and are subject to assessment and determination by the Minister of Environment and Water of DCCEE.

Works currently underway for the project are subject to EPL No 21529 and the approved management plans under Infrastructure Approval SSI 9471. Environmental compliance is continually monitored on site through the EPL and management plans with responses documented.

The proposed modification will result in minimal potential environmental impact that can be managed in accordance with the existing management plan conditions.

8. References

DPIE 2021, *State significant infrastructure guidelines – preparing a modification report*

GHD 2018, Port Kembla Gas Terminal Environmental Impact Statement

GHD 2019, Port Kembla Gas Terminal Proposed Modification Environmental Assessment

GHD 2022, Sampling and Analysis (SAP) Implementation Report

SMEC March 2022, Port Kembla Gas Terminal Development – Emplacement Cell Report.

Appendices

Appendix A

Consultation responses

A-1 Consultation register

A-2 Sample consultation letter

Our ref: 2127477

15 June 2022

[Agency]

Via email: [agency email]

Proposed sea disposal of dredged material at Port Kembla

To whom it may concern,

Australian Industrial Energy (AIE) is developing the Port Kembla Gas Terminal (the project) in Port Kembla, New South Wales (NSW). The project involves the development of a liquified natural gas (LNG) import terminal including a Floating Storage and Regasification Unit (FSRU) semi-permanently moored at the former coal loading facility Berth 101 in the Inner Harbour.

The Project has been declared Critical State Significant Infrastructure (CSSI) in accordance with Section 5.13 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (NSW) and Schedule 5 of the State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP). The Project received Infrastructure Approval from the Minister for Planning and Public Spaces on 29 April 2019.

The construction of the Project is primarily associated with the establishment of a new berth facility at Port Kembla to enable an LNG carrier to berth alongside the Floating Storage and Re-gasification Unit (FSRU) and new infrastructure to connect the terminal to the existing gas network. Excavation and dredging would be required to establish the new berth facility, with spoil deposited in a cell (referred to as the 'Emplacement Cell') in the Outer Harbour.

Construction at the site has commenced with early enabling works involving the demolition of Berth 101 wharf and initial land based excavation. The project is progressing through Stage 2 of the construction program involving establishment of a new quay wall excavation and dredging of the new berth pocket. It is expected that all materials removed from Berth 101 will be able to be accommodated within an Outer Harbour Dredged Spoil Containment Area (OHDSCA) on the southern side of the Outer Harbour as shown on Figure 1.

AIE is considering a sea disposal permit application as a contingency plan which would be implemented in the event that there is insufficient capacity within the OHDSCA due to unexpected bulking of the materials. If pursued and approved, the application would facilitate the sea disposal of up to 50,000m³ of undisturbed natural geological material from the lowest level of the proposed dredge area, which comprises clays and weathered rock. The Sea Dumping Permit would be sought from the Commonwealth Department of Agriculture, Water and the Environment (DAWE) under the *Environment Protection (Sea Dumping) Act 1981*.

There are a number of historical spoil grounds seaward of Port Kembla that have been used to accommodate material from a variety of previous dredging campaigns. The former Spoil Ground C1 has been selected as the most appropriate offshore location based on consideration of previous recommendations from relevant stakeholder groups in 2004 and recent discussions with NSW Ports and DAWE. This spoil ground is located beyond NSW state waters (and thus within the Commonwealth's jurisdiction) approximately 8km south east from the entrance to Port Kembla in water depths of between 75 and 95m below Chart Datum as shown in Figure 2. Vessels would travel directly from the Inner Harbour of Port Kembla to the proposed disposal area as defined by the following coordinates:

- 150° 59' 34.80"E and 34° 29' 29.22"
- 151° 00' 56.40"E and 34° 29' 29.88"
- 150° 59' 27.60"E and 34° 30' 41.04"
- 151° 00' 27.60"E and 34° 30' 44.82"

We request your input regarding any issues or concerns that you may have regarding the proposed dredging, transport and disposal of the dredged material so that your feedback may be considered during preparation of the permit application.

Up on receipt of this letter, please advise GHD of the primary contact within your organisation that will be coordinating this request. It would be appreciated if you could submit any written comments by 29 June 2022.

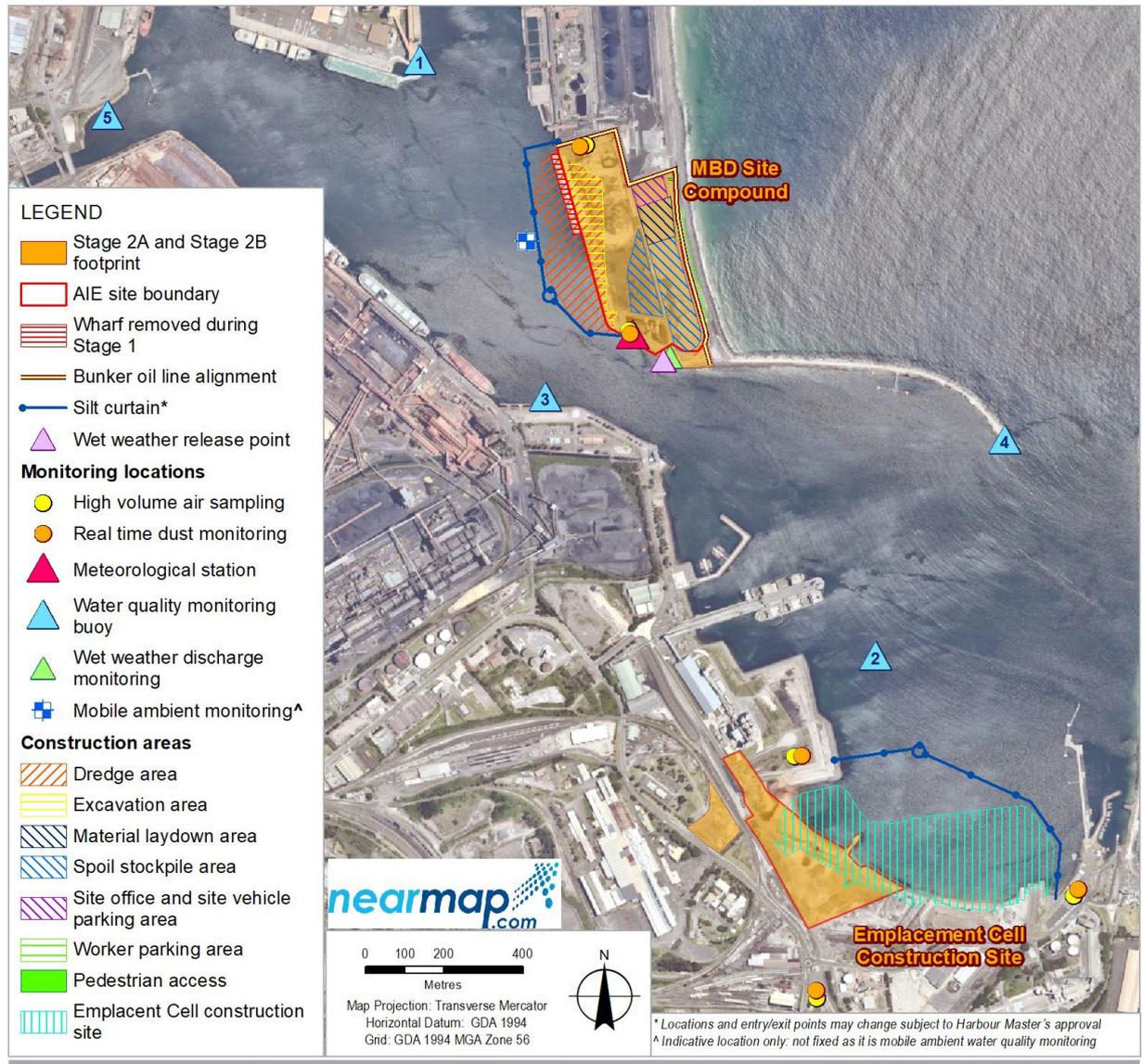
Regards



Karl Rosen
Technical Director - Environment
+61 2 9239 7682
karl.rosen@ghd.com



Craig Dengate
Technical Director – Maritime and Coastal
+61 2 9239 7442
craig.dengate@ghd.com



Data source: Aerial imagery - nearmap 2022 (image date 16/04/2018, date extracted 18/02/2019), General topo - NSW LPI DTDB 2017 & 2015, Cadastre - NSW LPI DCDB 2017. Created by: eibbertson

Figure 1 Project Overview

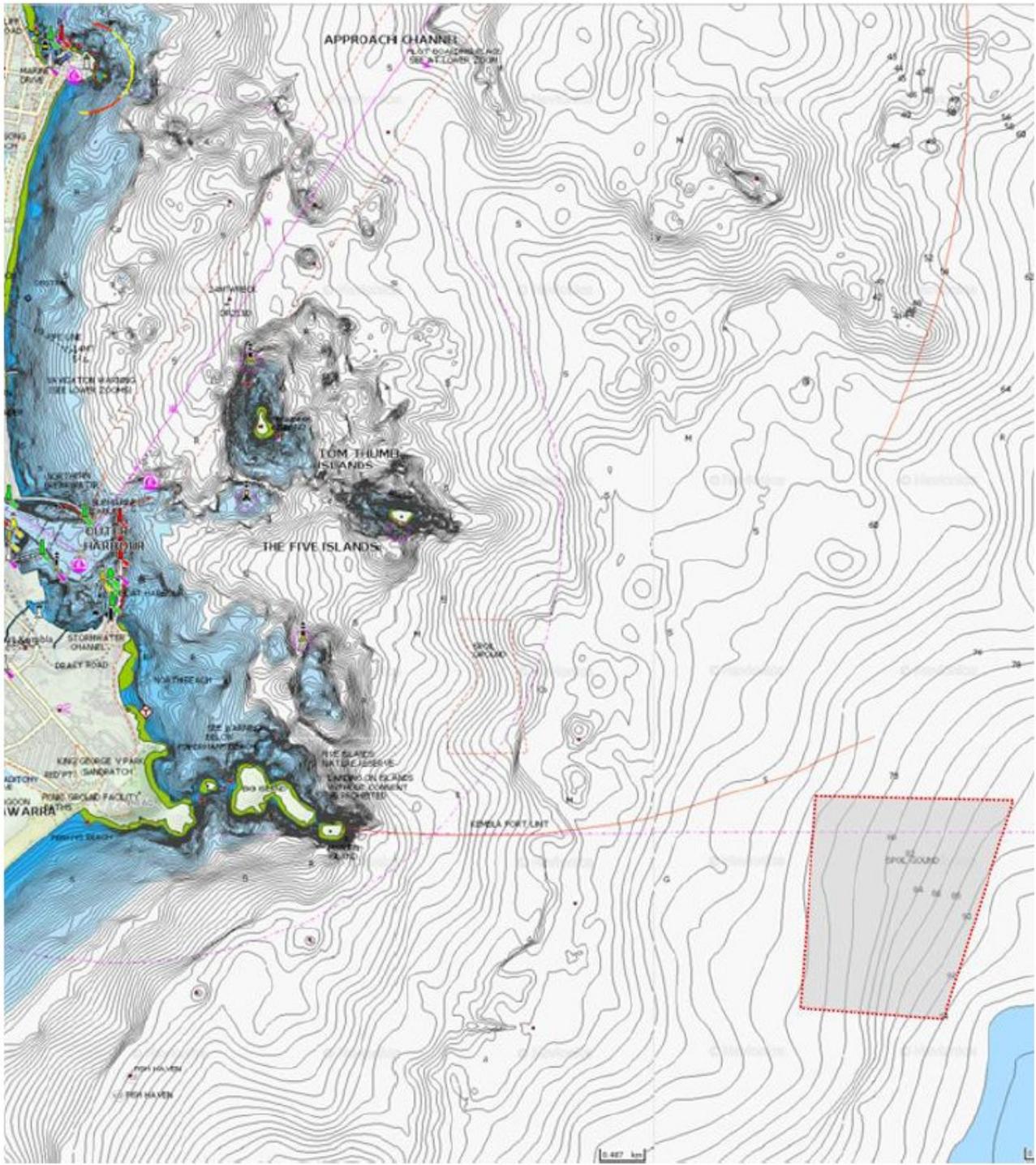


Figure 2 Previously used spoil ground C1 (modified from Navionics Chart Viewer)

A-3 Agency responses

From: [Philip Nevill](#)
To: [Emily Kate Marsh](#)
Cc: [Karl Rosen](#); [Steve O'Donoghue](#); [Rose-Anne Hawkeswood](#)
Subject: Re: Proposed sea disposal of dredged material at Port Kembla
Date: Friday, 1 July 2022 4:33:46 PM
Attachments: [image001.png](#)

Hi Emily,

Thank you for the letter and notification regarding the proposed sea disposal permit.

I spoke with Karl this afternoon confirming that a modification application will be lodged to cover the proposed sea disposal contingency plan. At present, the Department doesn't have any specific comments in relation to the sea disposal permit application to DAWE. Further assessment and review of any relevant impacts is anticipated to occur through the proposed modification application process.

Any questions, please contact me on the details below.

Kind regards,

Philip Nevill

Senior Environmental Assessment Officer

Energy and Resource Assessment | Department of Planning and Environment
4 Parramatta Square | 12 Darcy Street | Locked Bag 5022 | Parramatta NSW 2150
T 02 82751036 E philip.nevill@planning.nsw.gov.au



The Department of Planning and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

From: Emily Kate Marsh <EmilyKate.Marsh@ghd.com>
Sent: Wednesday, 15 June 2022 11:41 AM
To: DPE CSE Information Planning Mailbox <information@planning.nsw.gov.au>
Cc: Craig Dengate <craig.dengate@ghd.com>; Karl Rosen <Karl.Rosen@ghd.com>
Subject: Proposed sea disposal of dredged material at Port Kembla

To whom it may concern,

Australian Industrial Energy is developing the Port Kembla Gas Terminal in Port Kembla, New South Wales. GHD have been engaged to assist in the approvals process and preparation of a permit application to the Department of Water, Agriculture and the Environment for sea disposal of dredged materials in accordance with the *Environment Protection (Sea Dumping) Act 1991*.

Please see attached a request for your input into the preparation of the permit. Please feel free to pass this onto the most appropriate person in your organisation to respond. If you have any questions, please contact either Karl Rosen on 9239 7682 or karl.rosen@ghd.com, or Craig Dengate on 9239 7442 or craig.dengate@ghd.com.

Regards,

Emily Kate Marsh

B Biodiversity and Conservation, LLM Env Law

Environmental Consultant | Environmental Assessment & Planning

Key Client Coordinator – Federal Department of Agriculture Water & Environment

GHD

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DOC22/486945-2

Mr Karl Rosen
GHD Pty Ltd
PO Box 1070
WOLLONGONG NSW 2500

Email: karl.rosen@ghd.com; craig.dengate@ghd.com
cc: wayne.jones@planning.nsw.gov.au ; alex.lovell@ausindenergy.com

Dear Mr Rosen

Port Kembla Gas Terminal Development – Proposed Sea Disposal of Dredged Material

I am writing in response to the GHD Pty Ltd (GHD) letter dated 15 June 2022 to the Environment Protection Authority (EPA) seeking comment on a potential sea disposal option as a contingency plan for dredge spoil from Port Kembla Harbour.

GHD has outlined Australian Industrial Energy (AIE) is considering a sea disposal option to manage up to 50,000 cubic metres of undisturbed natural geological material (clays and rock) extracted from around berth 101 as part of the Port Kembla Gas Terminal project. The Sea Dumping Permit would be sought from the Commonwealth Department of Agriculture, Water and the Environment (DAWE) under federal legislation.

The EPA has reviewed your letter and suggests any disposal permit application include details on:

- Dredging, transport & spoil emplacement methods, equipment, & pollution controls as well as any changes proposed on those systems presented to the EPA for scheduled dredging activities to date. This should include controls that would be in place to prevent materials re-entering and/or polluting NSW waters if the disposal option is approved.
- The level of any contamination of the materials, and how contaminated material would be prioritised for containment within the Outer Harbour, rather than offshore disposal.
- The proposed material is outlined as undisturbed natural material (clay and rock). Accordingly, the feasibility, or investigation, of other spoil management options and uses (e.g. Outer Harbour, land based emplacement, reuse, capping, or containment, prior to disposal).

If you wish to discuss the above please phone 4224 4118.

Yours sincerely

07 July 2022

CHRIS KELLY
Acting Unit Head
Metropolitan Branch

Phone 131 555
Phone 02 4224 4100
(from outside NSW)

Fax 02 4224 4110
TTY 131 677
ABN 43 692 285 758

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NSW 2520

Level 3
84 Crown Street
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AUSTRALIA

info@epa.nsw.gov.au
www.epa.nsw.gov.au

From: [Pier Panozzo](#)
To: [Emily Kate Marsh](#)
Subject: FW: Proposed sea disposal of dredged material at Port Kembla
Date: Tuesday, 21 June 2022 1:38:18 PM
Attachments: [image012.png](#)
[image013.png](#)
[image014.png](#)
[image015.png](#)
[image016.png](#)
[image001.png](#)
[image002.png](#)
[image003.png](#)
[image005.png](#)

Emily

Our Environment team have reviewed your documentation and we make the following comments:

The marine environment of Port Kembla Harbour is in poor condition due to past polluting activities from heavy industries. Historically, elevated concentrations of pollutants could be found in water, sediment, and marine life in the harbour. However, with the implementation of pollution reduction programs by the industries surrounding the harbour, pollution in the harbour has been reduced, and the quality of the marine environment of the harbour has improved. Large reductions in the concentrations of certain toxic wastes and heavy metals in water have occurred. Contaminants in fish have decreased. Despite this achievement, there is still considerable contamination of the sediment of the harbour.

From Council's perspective all environmental issues need to be addressed by Commonwealth and state government bodies. However, it would be important to see:

- Details of the supporting sampling program
- Contingency plan if contaminated sediments cannot be translocated as predicted/anticipated
- Contingency plan to limit extent of pollution if contaminated sediments escape during dredging, transport, and/or emplacement

Hope this helps if you need more information please do not hesitate to contact me.

Regards



From: Emily Kate Marsh <EmilyKate.Marsh@ghd.com>
Sent: Thursday, 16 June 2022 11:16 AM
To: Pier Panozzo <PPanozzo@wollongong.nsw.gov.au>
Subject: Proposed sea disposal of dredged material at Port Kembla

[EXTERNAL EMAIL] This email was sent from outside of Wollongong City Council – be cautious, particularly with links and attachments.

Dear Pier,

Australian Industrial Energy is developing the Port Kembla Gas Terminal in Port Kembla, New South Wales. GHD have been engaged to assist in the approvals process and preparation of a permit application to the Department of Water, Agriculture and the Environment for sea disposal of dredged materials in accordance with the *Environment Protection (Sea Dumping) Act 1991*.

Please see attached a request for your input into the preparation of the permit. Please feel free to pass this onto the most appropriate person in your organisation to respond. If you have any questions, please contact either Karl Rosen on 9239 7682 or karl.rosen@ghd.com, or Craig Dengate on 9239 7442 or craig.dengate@ghd.com.

Regards,

Emily Kate Marsh

B Biodiversity and Conservation, LLM Env Law

Environmental Consultant | Environmental Assessment & Planning

Key Client Coordinator – Federal Department of Agriculture Water & Environment

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Hi Craig,

Thanks for sending the attached correspondence.

I would like to confirm that NSW Ports has no objection with AIE seeking approval to allow for sea disposal of up to 50,000 m3 of excess dredge spoil in the event that bulking factors are higher than expected.

Thank you and best regards,
Geraldine

Geraldine Bourgarel

Head of Property

NSW Ports

Brotherson House, Level 2, Gate B103 Penrhyn Road | Port Botany NSW 2036

D: [+61 2 9316 1183](tel:+61293161183) | **M:** [+61 419 135 424](tel:+61419135424)

E: Geraldine.Bourgarel@nswports.com.au | www.nswports.com.au



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From: Craig Dengate Craig.Dengate@ghd.com>

Sent: Friday, 17 June 2022 1:17 PM

To: Trevor Brown Trevor.Brown@nswports.com.au>

Cc: Karl Rosen Karl.Rosen@ghd.com>; Emily Kate Marsh <EmilyKate.Marsh@ghd.com>

Subject: Proposed sea disposal of dredged material at Port Kembla

Hi Trevor,

Thanks for your time earlier this week. As discussed, GHD have been engaged by Australian Industrial Energy to assist in the approvals process and preparation of a permit application to the Department of Water, Agriculture and the Environment for sea disposal of dredged materials in accordance with the *Environment Protection (Sea Dumping) Act 1991*.

Please see attached a request for your input into the preparation of the permit. Please feel free to pass this onto the most appropriate person in your organisation to respond. If you have any questions, please contact either Karl Rosen on 9239 7682 or karl.rosen@ghd.com, or myself.

Regards,

Craig Dengate | A GHD Associate
Technical Director – Maritime and Coastal
RAP Champion – Sydney Region

GHD

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Level 15, 133 Castlereagh Street, Sydney Australia

D 61 2 9239 7442 **M** 61 488 109 050 **E** craig.dengate@ghd.com

From: [Sharad Bhasin](#)
To: [Craig Dengate](#)
Cc: [Emily Kate Marsh](#); [Ryan Bennett](#)
Subject: RE: Proposed sea disposal of dredged material at Port Kembla
Date: Tuesday, 23 August 2022 10:25:17 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)

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Dear Craig,

We don't have any planning or environment issues to raise regarding the potential transport of dredged material for sea disposal.

The planning and environmental matters are the responsibility of the proponent (AIE/GHD) and relevant regulators / approval authorities.

With regards to the vessels path to the dump location, please provide the following:

- traffic management plan (movement of the vessel to and from the dump location and methodology for movement, communications plan)
- transport management plan (quantities to be moved per trip, information provided to affected parties, controls that have been put into place to avoid spills, emergency plan for clean-up in case of a spill incident, survey regime, etc.).

The important consideration is to have adequate controls in place for avoidance of spills or accidental release of dredged material from the vessels and impacts on berth or channel depths.

There also needs to be a section on the plan for recovering any accidental spills as an urgent priority as this would minimise disruption to port activity.

We have had a recent occurrence in Sydney where a split hopper barge dropped a very large quantity into the berth box, compromising the berth.

Kind regards

Sharad Bhasin | Harbour Master - Port Kembla & South Coast

Port Authority of New South Wales

Level 3, 91 Foreshore Rd | Port Kembla NSW 2505 Australia

PO Box 89 | Port Kembla NSW 2505 Australia

E: sbhasin@portauthoritynsw.com.au

T: +61 2 9296 4924 | M: +61 409 811 810

www.portauthoritynsw.com.au



We acknowledge and pay our respect to the traditional custodians of the lands and waters of NSW and all Aboriginal Elders, past, present and emerging.

From: Craig Dengate <Craig.Dengate@ghd.com>

Sent: Wednesday, 10 August 2022 1:14 PM

To: Sharad Bhasin <SBhasin@portauthoritynsw.com.au>

Cc: Emily Kate Marsh <EmilyKate.Marsh@ghd.com>

Subject: RE: Proposed sea disposal of dredged material at Port Kembla

Hi Sharad

Thank you for your time this morning to discuss AIE's proposed sea disposal permit application as outlined in the attached letter.

We would greatly appreciate your feedback regarding any comments or concerns that Port Authority may have regarding the proposal.

I look forward to hearing from you and would be pleased to discuss further if needed.

Regards,

Craig Dengate | A GHD Associate
Technical Director – Maritime and Coastal

GHD

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Level 15, 133 Castlereagh Street, Sydney Australia

D 61 2 9239 7442 M 61 488 109 050 E craig.dengate@ghd.com

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From: Joakim Trygg Mansson <JTryggMansson@portauthoritynsw.com.au>

Sent: Tuesday, 19 July 2022 10:54 AM

To: Craig Dengate <craig.dengate@ghd.com>; Emily Kate Marsh <EmilyKate.Marsh@ghd.com>;
Sharad Bhasin <SBhasin@portauthoritynsw.com.au>

Cc: Karl Rosen <Karl.Rosen@ghd.com>

Subject: RE: Proposed sea disposal of dredged material at Port Kembla

Hi Craig,

[@Sharad Bhasin](#) will contact you to discuss further.

Regards

Joakim Trygg Mansson | Deputy Harbour Master and Manager, Compliance and Planning

Port Authority of New South Wales

Brotherson House, Gate B103 Penrhyn Road | Port Botany NSW 2036 Australia
PO Box 25 | Millers Point NSW 2000 Australia

E: jtryggmansson@portauthoritynsw.com.au

T: +61 438 387 155 | M: +61 438 387 155

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We acknowledge and pay our respect to the traditional custodians of the lands and waters of NSW and all Aboriginal Elders, past, present and emerging.

From: Craig Dengate <Craig.Dengate@ghd.com>

From: [COTSELL, Julie](#)
To: [Emily Kate Marsh](#)
Cc: [Craig Dengate](#); [Karl Rosen](#)
Subject: RE: Proposed sea disposal of dredged material at Port Kembla [SEC=OFFICIAL]
Date: Wednesday, 6 July 2022 9:52:19 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Some people who received this message don't often get email from julie.cotsell@afma.gov.au.
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OFFICIAL

Good morning Emily,

I refer to your email regarding proposed sea disposal of dredged material at Port Kembla. We have no specific comment on the proposal, but it is important to consult with all operators who have entitlements to fish within the proposed area. This can be done through the relevant fishing industry associations or directly with operators who hold entitlements in the area, in particular (SETFIA, CFA and Tuna Australia).

Details for these associations can be found on AFMA's website at:

<http://www.afma.gov.au/sustainability-environment/petroleum-industry-consultation/>

Lists of Commonwealth Concession holders in each fishery can be found on the AFMA website at: <http://www.afma.gov.au/fisheries-services/concession-holders-conditions/>

Once you have identified relevant operators you can request their individual contact details through licensing@afma.gov.au. There is a cost associated with this service and the total price will depend on the complexity of the request.

Kind regards
Julie

OFFICIAL

From: Emily Kate Marsh <EmilyKate.Marsh@ghd.com>
Sent: Wednesday, 15 June 2022 11:03 AM
To: Reception <Reception@afma.gov.au>
Cc: Craig Dengate <Craig.Dengate@ghd.com>; Karl Rosen <Karl.Rosen@ghd.com>
Subject: Proposed sea disposal of dredged material at Port Kembla

To whom it may concern,

Australian Industrial Energy is developing the Port Kembla Gas Terminal (the project) in Port Kembla, New South Wales. GHD have been engaged to assist in the approvals process and preparation of a

permit application to the Department of Water, Agriculture and the Environment for sea disposal of dredged materials in accordance with the *Environment Protection (Sea Dumping) Act 1991*.

Please see attached a request for your input into the preparation of the permit. Please feel free to pass this onto the most appropriate person in your organisation to respond. If you have any questions, please contact either Karl Rosen on 9239 7682 or karl.rosen@ghd.com, or Craig Dengate on 9239 7442 or craig.dengate@ghd.com.

Regards,

Emily Kate Marsh

B Biodiversity and Conservation, LLM Env Law

Environmental Consultant | Environmental Assessment & Planning

Key Client Coordinator – Federal Department of Agriculture Water & Environment

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AFMA Securing Australia's fishing future

We acknowledge the Aboriginal and Torres Strait Islander Peoples as the Traditional Owners and Custodians of this Country. We recognise their connection to land, sea and community. We pay our respect to them, their cultures, and their Elders, past, present and emerging.

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From: [Glen Cook](#)
To: [Emily Kate Marsh](#)
Subject: RE: Proposed sea disposal of dredged material at Port Kembla [SEC=OFFICIAL]
Date: Thursday, 16 June 2022 10:09:49 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

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Kate

I would ring, however I have no voice at the moment due to cold that is hanging on. From AHO point of view we have no issues with the proposal. We have no real control or jurisdiction over the activities, we are simply the agency that informs mariners of any changes or activities taking place. As such we only need to be informed when, where and what activities are taking place so we can determine if the mariner needs to also be informed via Notice to Mariners action.

Cheers

Glen Cook - Manager Nautical Assessment and Maintenance

Australian Hydrographic Office | Australian Geospatial-Intelligence Organisation

Defence Intelligence Group | Department of Defence
Ph: +61 2 4286 9581 | glen.cook@hydro.gov.au



From: Emily Kate Marsh <EmilyKate.Marsh@ghd.com>
Sent: Wednesday, 15 June 2022 11:55 AM
To: datacentre@hydro.gov.au
Cc: Craig Dengate <Craig.Dengate@ghd.com>; Karl Rosen <Karl.Rosen@ghd.com>
Subject: Proposed sea disposal of dredged material at Port Kembla

To whom it may concern,

Australian Industrial Energy is developing the Port Kembla Gas Terminal in Port Kembla, New South Wales. GHD have been engaged to assist in the approvals process and preparation of a permit application to the Department of Water, Agriculture and the Environment for sea disposal of dredged materials in accordance with the *Environment Protection (Sea Dumping) Act 1991*.

Please see attached a request for your input into the preparation of the permit. Please feel free to pass this onto the most appropriate person in your organisation to respond. If you have any questions, please contact either Karl Rosen on 9239 7682 or karl.rosen@ghd.com, or Craig Dengate on 9239 7442 or craig.dengate@ghd.com.

Regards,

Emily Kate Marsh

B Biodiversity and Conservation, LLM Env Law

Environmental Consultant | Environmental Assessment & Planning

Key Client Coordinator – Federal Department of Agriculture Water & Environment

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From: [Simon Boag](#)
To: [Emily Kate Marsh](#)
Cc: [Karl Rosen](#); [Craig Dengate](#)
Subject: RE: Proposed sea disposal of dredged material at Port Kembla
Date: Thursday, 16 June 2022 3:43:05 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[SETFIA: Proposal for oil gas coys \(May 2022\).pdf](#)

You don't often get email from simonboag@setfia.org.au. [Learn why this is important](#)

Emily

Thank you for making contact. SETFIA works hard on shared marine space projects with the aim of reducing impacts on risks on both the fishing industry and on various proponents. Over the last decade we have worked with more than 20 oil and gas companies, seismic acquisition companies, State Governments aiming to deploy FADs, numerous windfarms, a salmon farm, at-sea burials, a carbon sequestration project and even a gas arbitrage project. For future reference please find attached a commercial flyer explaining who (not-for-profit) SETFIA is and how we do this.

With regard to your project I have called four Commonwealth licenced fishing licences in the area. It seems the area is a known dumping site and none of the operators sees any issue with what you are doing. I don't think anything more is required from us but would suggest you contact the NSWPF. Good luck with your works.

Thanks, Simon



Simon Boag
Executive Officer
South East Trawl Fishing Industry Association (SETFIA)
PO Box 1125 Lakes Entrance Vic 3909
Ph: 0428-141591
ABN 50 050 148 251

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From: Emily Kate Marsh <EmilyKate.Marsh@ghd.com>
Sent: Wednesday, 15 June 2022 11:57 AM
To: Simon Boag <simonboag@setfia.org.au>
Cc: Karl Rosen <Karl.Rosen@ghd.com>; Craig Dengate <Craig.Dengate@ghd.com>
Subject: Proposed sea disposal of dredged material at Port Kembla

To whom it may concern,

Australian Industrial Energy is developing the Port Kembla Gas Terminal in Port Kembla, New South Wales. GHD have been engaged to assist in the approvals process and preparation of a permit application to the Department of Water, Agriculture and the Environment for sea disposal of dredged materials in accordance with the *Environment Protection (Sea Dumping) Act 1991*.

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Regards,

Emily Kate Marsh

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