



Ports North



LONG-TERM MAINTENANCE DREDGING MANAGEMENT PLAN

PORT OF QUINTELL BEACH

JUNE 2019

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1. Introduction

The Port of Quintell Beach is situated is located approximately 600 kilometres north of Cairns and 200 km due east of Weipa on the east coast of Cape York Peninsula between latitude 12°49'12"S and Longitude 143°21'26"E (Figure 1). The nearest community of Lockhart River Aboriginal Community is approximately 5 km away.

The barge ramp which is approximately 125 m x 30 m is located on Lot 2 on SP104565 (unallocated State land) and surrounded by Port Limits.

A bitumen road leads up to the barge ramp, traversing the esplanade.

Maintenance dredging is not presently conducted at the port, and this Plan provides a description of the port and its values, and then outlines the process, consistent with the QLD MDS, if conduct of such maintenance were required in the next 5 to 10 years.



1.1. Purpose and Objectives

The purpose of this Long-term Maintenance Dredging Management Plan (LMDMP) is to document the strategy for managing natural sediment accumulation at the Port if it were ever needed, in a way that ensures the safe and efficient operation of the Port and the ongoing protection of local environmental values and the Outstanding Universal Value (OUV) of the GBRWHA.

The objectives of the LMDMP are to:

- Maintain local environmental values, including the Outstanding Universal Value of the GBRWHA.
- Establish a robust, transparent long-term planning approach to managing port sediment.
- Outline operational, planning, consultation and monitoring arrangements, if conduct of maintenance dredging were to be required.

1.2. Policy Context

The plan respects the dredging associated principles, elements, and objectives described in:

- Reef 2050 Long-Term Sustainability Plan
- Environmental Code of Practice for Dredging and Dredged Material Management
- Maintenance Dredging Strategy for Great Barrier Reef World Heritage Area Ports
- National Assessment Guidelines for Dredging (NAGD)

The plan is aligned with the:

- The Reef 2050 Long-term Sustainability Plan (Reef 2050 Plan)** was released by the Australian and Queensland governments in March 2015 and is the overarching framework for protecting and managing the Reef until 2050. The Plan sets clear actions, targets, objectives, and outcomes to drive and guide the short, medium, and long-term management of the Reef. The Reef 2050 Plan

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includes a number of port related actions that make clear the need for port authorities to understand the sedimentation characteristics of their ports, avoid and reduce impacts of sediment management where possible, and establish sustainable long-term management arrangements.

This LMDMP is consistent with the strategic objectives of the Reef 2050 Plan which seek to ensure Great Barrier Reef World Heritage Area (GBRWHA) port's adopt a long-term approach to the planning, consultation, monitoring and reporting of maintenance dredging activities.

- ii. **Queensland's Maintenance Dredging Strategy for Great Barrier Reef World Heritage Area Ports** provides a framework (shown in Figure 1) for management of maintenance dredging at ports and requires ports within the GBRWHA to develop and implement long-term maintenance dredging management plans.). The framework builds on the current regulatory requirements to ensure the ongoing protection of the Reef's values and the continued operating efficiency of ports within the GBRWHA.



Figure 1 The Long-term Maintenance Dredging Management Framework

- iii. **The Ports Australia Environmental Code of Practice for Dredging and Dredged Material Management** sets out a number of environmental principles that Australian ports meet when undertaking dredging and disposal of dredged material. The principles have been defined on the basis of ecologically sustainable development principles.

This LMDMP has been developed to ensure alignment with the environmental principles of the Environmental Code of Practice for Dredging and Dredged Material Management.

- iv. **The National Assessment Guidelines for Dredging (NAGD)** established a scientific assessment framework to determine if dredge material is suitable for ocean disposal. The Guidelines include an assessment framework that is applied to ensure the impacts of dredged material loading and disposal are adequately assessed.

This LMDMP requires the adoption of the NAGD should any disposal of maintenance material at sea be considered.

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1.3. Legislation Pertaining to Maintenance Dredging

Maintenance dredging programs at the Port would be subject to Commonwealth and Queensland government laws. The relevance of particular legislation and approvals processes that apply to a proposed dredging project would be assessed in the initial planning stage of any proposed campaign, and would depend upon the specific nature of each proposed dredging program. The following legislation may be relevant:

- i. **Environment Protection (Sea Dumping) Act 1981:** applies when dredged material is proposed to be placed at sea.
- ii. **Environment Protection and Biodiversity Conservation Act 1999:** triggered when a development proposal, which could include maintenance dredging, has the potential to have a significant impact on MNES
- iii. **Great Barrier Reef Marine Park Act 1975:** dredging or placement of material inside the Marine Park requires a permit issued by GBRMPA.
- iv. **Queensland Planning Act 2016:** approvals for operational works and environmental authorities (EAs) related to maintenance dredging.
- v. **Queensland Marine Parks Act 2004:** some port operational works at the Port occurs within the GBR Coast Marine Park and approvals may be required depending upon the specific location of the activity proposed.
- vi. **Queensland Environment Protection Act 1994:** regulates activities that may impact upon environmental values and/or cause environmental harm.
- vii. **Queensland Sustainable Ports Development Act 2015:** mandates master planning for priority ports and their surrounding land and marine areas including areas potentially used for the placement of maintenance dredging material.
- viii. **Queensland Coastal Protection and Management Act 1995:** provides for the regulation of dredging, tidal works and other activities in the coastal zone, particularly in coastal management districts and erosion prone areas. Additionally, the Act regulates the removal of material from tidal water, such as may occur with maintenance dredging, which typically requires a development permit.
- ix. **Queensland Fisheries Act 1994:** regulates activities that may impact upon both fisheries resources and also fisheries habitats. A series of departmental policies and guidelines outline the requirements for approvals that address social, cultural, commercial, and recreational use of the fisheries resource. Where dredging activity is likely to affect such fisheries habitats, resources or values, a development permit is typically required.

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1.4. Maintenance Dredging Approvals

There are no present approvals in place for the conduct of maintenance dredging at the Port of Cape Flattery. Any maintenance works would likely be conducted as “maintenance of a lawful structure” under the *Coastal Protection and Management Act/Regulations*, as well as within the terms of the Marine Park Permit **G13/36297.1** for the operation and maintenance of a structure within the Marine Park.

A copy of the Permit, valid for the period 03 October 2013, to 31 August 2019 is included at **Appendix 1**, and outlines the prevailing conditions and scope.

In the event that more comprehensive maintenance works were to be considered, there may be consideration under a number of State and Federal approvals that would be necessary if maintenance dredging (extraction and removal from tidal waters) or disposal (extraction and placement on land or other areas under tidal waters) were to be contemplated at the Port.

The identified likely approval triggers are:

- Environmental Authority (EA) - Undertake maintenance dredging of navigational infrastructure
- Operational Works (Tidal Works) - Disposal of dredged material below high-water mark
- Marine Park Permit - Maintenance Dredging and Disposal in Marine Park
- Sea Dumping Permit - Maintenance Dredging and Disposal at sea.

Due to the nature of the seafloor, open coastal setting, and positioning of the ramp in sufficient depth of water, there has been no historical need for maintenance dredging activity, and hence no current approvals prevail.

Certain activities can be conducted as an authority under the *Transport infrastructure Act 1994*, *Coastal Protection and Management Act 1994*, and the *Great Barrier Reef Marine Parks Act 1975* allowing maintenance of existing lawful structures such as the approach and toe of ramp.

1.5. Past Dredging History

No maintenance dredging is understood to have been conducted since ramp was installed, and due to orientation and siting of the ramp, the location on the naturally exposed coast has dictated that no such maintenance dredging has been required.

1.6. Roles and Responsibilities of Port Authority and Port Customers

Ports North is a government owned corporation that reports to two Government Shareholding Ministers (Minister for Transport and Main Roads and the Treasurer). A Board of Directors oversee the governance and direction of the organisation. As the declared port authority for the Port under the *Transport Infrastructure (Ports) Regulation 2016*, Ports North is responsible for the maintenance of port facilities. As such, Ports North is the holder of all permits related to maintenance at the Port.

It is our policy is to manage our ports in a pro-active manner to minimise any impacts from port operations or new developments. We have a structured environmental program that involves environmental assessment, monitoring, protection, and rehabilitation. It strives for continual improvement in the control of port and port user activities to maintain a healthy port environment. The

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detailed environmental policy, procedures, and practices are documented in the Environmental Management System, which is based on the international standard ISO 14001.

Ports North has responsibilities conferred on it by State legislation (*Transport Infrastructure Act 1994* and *Transport Operations (Marine Pollution) Act 1994*) for the safe and efficient management of the port and its infrastructure, and for managing pollution from shipping activities. The jurisdiction of Ports North at the Port includes all land under the Land Use Plan, and all waters within designated port limits shown in Figure 2.

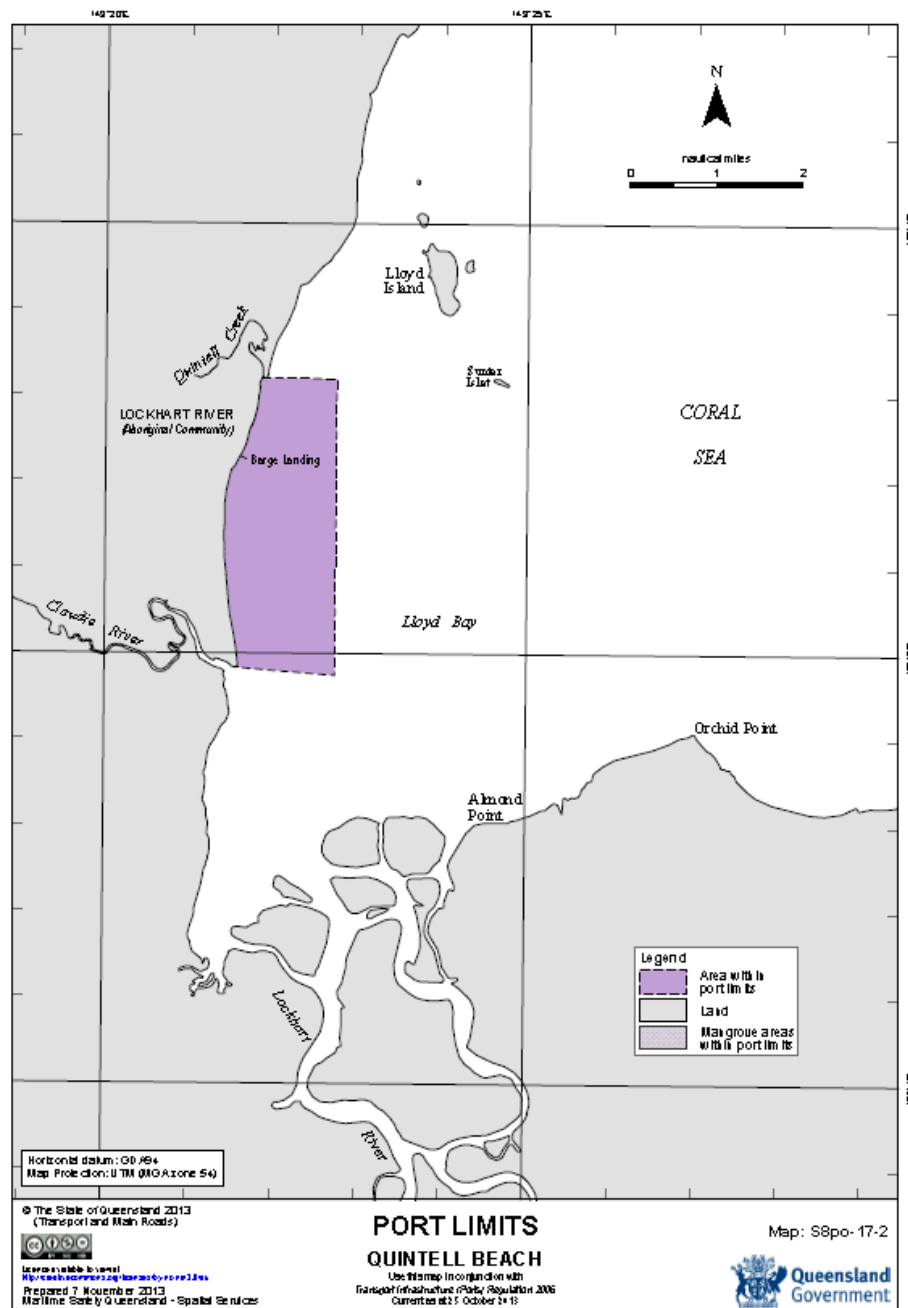


Figure 2 Port Limits

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Port activities carried out by either port users or operator must comply with all relevant government legislation. The key State legislation for protection of the environment is the Queensland *Environment Protection Act 1994*. The Queensland Department of Environment and Science (DES) are responsible for ensuring compliance with this Act. Ports North operation of the port does not provide any umbrella approvals for the individual activities of port users. Port users are required to hold all the relevant environmental authorities or licences issued by state administering agencies for their day-to-day activities, which might include environmentally relevant activities such as stockpiling, loading or unloading in bulk, fuel or chemical storage, sewage treatment, aquaculture or boat repair and maintenance.

Ports North has capacity for the conduct of hydrographic surveys, and liaises with the Regional Harbour Master to consider the outcomes of surveys if they are conducted, for the various port infrastructure so as to inform decisions on the likely need for maintenance works. Overall supervision of dredging or bed levelling contracts between Ports North and the contractors are managed by the Planning and Infrastructure section. Oversight of the environmental management inclusive of approvals compliance, EMP, and monitoring programs rests with the Environment Manager who also provides coverage of stakeholder engagement in regard to approval agencies, and to interested and affected parties in conjunction with staff from the Corporate Services section where applicable.

Port Operations staff engages regularly with the various port customers and users, and the Manager Operations is in periodic contact with the likes of freight companies such as SeaSwift Pty Ltd who access the ramp on a regular basis and any issues with depth would become apparent via that mechanism. The Port Operation staff provides feedback on activities and can respond to any public queries, acting as a point of contact for any queries around the ramp conditions.

2. Port Locality, Setting, and Shipping

The Port of Quintell Beach is a community port that comprises a barge ramp which is used on a weekly basis for the delivery of general cargo and drum fuel for the Lockhart River community and adjoining areas. The port is located on the eastern coastline of Cape York (see Figure 3).

The port limits (shown in Figure 2) are defined in the regulations of the *Transport Infrastructure (Ports) Regulation 2005*. The port limits stretches north along the coastline from the Claudie River, with no intensive port activity occurring outside this area.

The port is located approximately 600 kilometres north of Cairns and 200 km due east of Weipa on the east coast of Cape York Peninsula between Latitude 12°49'12"S and Longitude 143°21'26"E



Figure 3 Port Location

2.1. Port Navigational Infrastructure

There is no designated channel or swing basin, with only a couple of navigational markers to defined access to the ramp, and this is tide dependant. There is no designated shipping anchorage within port limits. There is good holding ground in a soft mud – sand bottom.

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2.2. Adverse Weather

The prevailing south east trade winds blow strongly most of the time making it difficult to approach and depart the ramp, and port operations may also be affected by tropical cyclone systems in the summer months.

3. Port Environmental Values

The Port is in or partly within the GBRWHA (listed as a World Heritage Area in 1981). The GBRWHA is listed based on it meeting four World Heritage criteria for OUV:

- Natural beauty and natural phenomena (Criterion (vii)).
- Major stages of the Earth's evolutionary history (Criterion (viii)).
- Ecological and biological processes (Criterion (ix)).
- Habitats for conservation of biodiversity (Criterion (x)).

Of the important environmental values present in the region, three are considered to contribute significantly to the OUV of the GBRWHA. These are:

- Internationally recognised migratory shorebird roosting sites,
- A core aggregation/calving area for the east-coast population of humpback whales offshore from the port, and near the northern extent of the annual migration path
- A high diversity of mangrove species within estuarine areas.

The Great Barrier Reef World Heritage Area covers the waters to low water mark along the coastline in the region.

The Quintell Beach port limits lie within the Far Northern Section of the Great Barrier Reef Marine Park in the conservation zone. A permit from the Great Barrier Reef Marine Park Authority (**G13/6297.1**) is maintained by Ports North for Operating a Facility-being the Qunitell Beach Barge Ramp, including operation, maintenance, decommissioning and/or removing the facility.

At times, some members of the community live adjacent to the barge ramp in camp type arrangements.

All port facilities and Strategic Port Land at the Port of Quintell Beach are located on the open coastline of eastern Cape York. The port is situated in a typical monsoonal tropical environment with hot, wet summers and hot, dry winters. Environments that have high ecological status surround it. These include open beaches, rocky headlands with fringing reef, large stands of mangroves, salt flats, and seagrass beds. The area is important as a nursery ground for fisheries and contains important habitat for migratory birds.

Water quality is naturally variable, with large variations in salinity, temperature, and turbidity depending upon weather conditions and adjacent river flow. Quintell Beach is a significant tourist destination attracting visitors interested in recreational fishing, four wheel driving, camping, and wilderness experience. It is also used periodically by commercial fishers.

A description of the prevailing conditions and the environmental resources and values are provided below to place the port operations or development in context of the local environment.

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To effectively manage sediment at the Port it is essential to understand the environmental, social, and cultural values of the Port and the surrounding area. The commercial activities were discussed previously in Section 2.

The focus is on values that are considered important or notable at a national, regional, or local level. The aim is to provide a useful level of detail and relevance to management planning. Values are described for the broader area incorporating the port limits and adjacent environs. More detailed information regarding these values can be found in the Port EMP.

The Port and surrounding port limits comprise of a diverse range of ecosystems. Habitats of significance to the area include the Great Barrier Reef World Heritage Areas, sandy beaches, rocky shores, mud flats, tidal wetlands, and seagrass meadows. These habitats support a range of flora and fauna, including a number of threatened and/or migratory species.

3.1. Coastal Environment

The Quintell Beach port limit area is located north of the Claudine River. Quintell Beach has a tropical maritime climate with mean summer maximum temperatures of 32°C and mean winter minimums of 19°C. The highest rainfall occurs between January and April (> 300 mm/month) and the driest period is between August and October (<30 mm/month). Wind speeds in the area can range between 10 - 30 knots. Entry to the Port of Quintell Beach is restricted by tides. Only shallow draft vessels using the tides have access to the barge ramp. Adjacent land use is dominated by extensive beef cattle grazing, remote un-developed land reserves, with no urban or industrial use.

3.2. Marine Parks, World Heritage Area, and Areas of Significance

Coastal areas surrounding Quintell Beach include salt flats, mangrove communities, and extensive coastal beaches. These habitats are extremely productive and support a high diversity of animals and plants including some species which are valuable to commercial fisheries and some which have high conservation value.

The Great Barrier Reef Marine Park extends from the tip of Cape York down the Queensland coast to around Bundaberg. It has a number of small coastal areas excluded for Queensland’s trading ports. The Great Barrier Reef World Heritage Area covers the waters to low water mark along the coastline in the region. The Quintell Beach port limits lie within the Far Northern Section of the Great Barrier Reef Marine Park. The Port Area is included within the Marine Park.

The Department of the Environment and Energy website (www.environment.gov.au/epbc) notes a number of threatened and migratory species in this North Queensland region. These include a number of turtle species, including the endangered turtle species of Loggerhead and the turtle species designated as “vulnerable” of Green, Leatherback, Hawksbill, and Fatback. The Blue Whale is another endangered marine species noted in the region, as is the “vulnerable” Great White Shark and Whale Shark.

General distribution of the main environmental resources at Quintell Beach is shown in Figure 4

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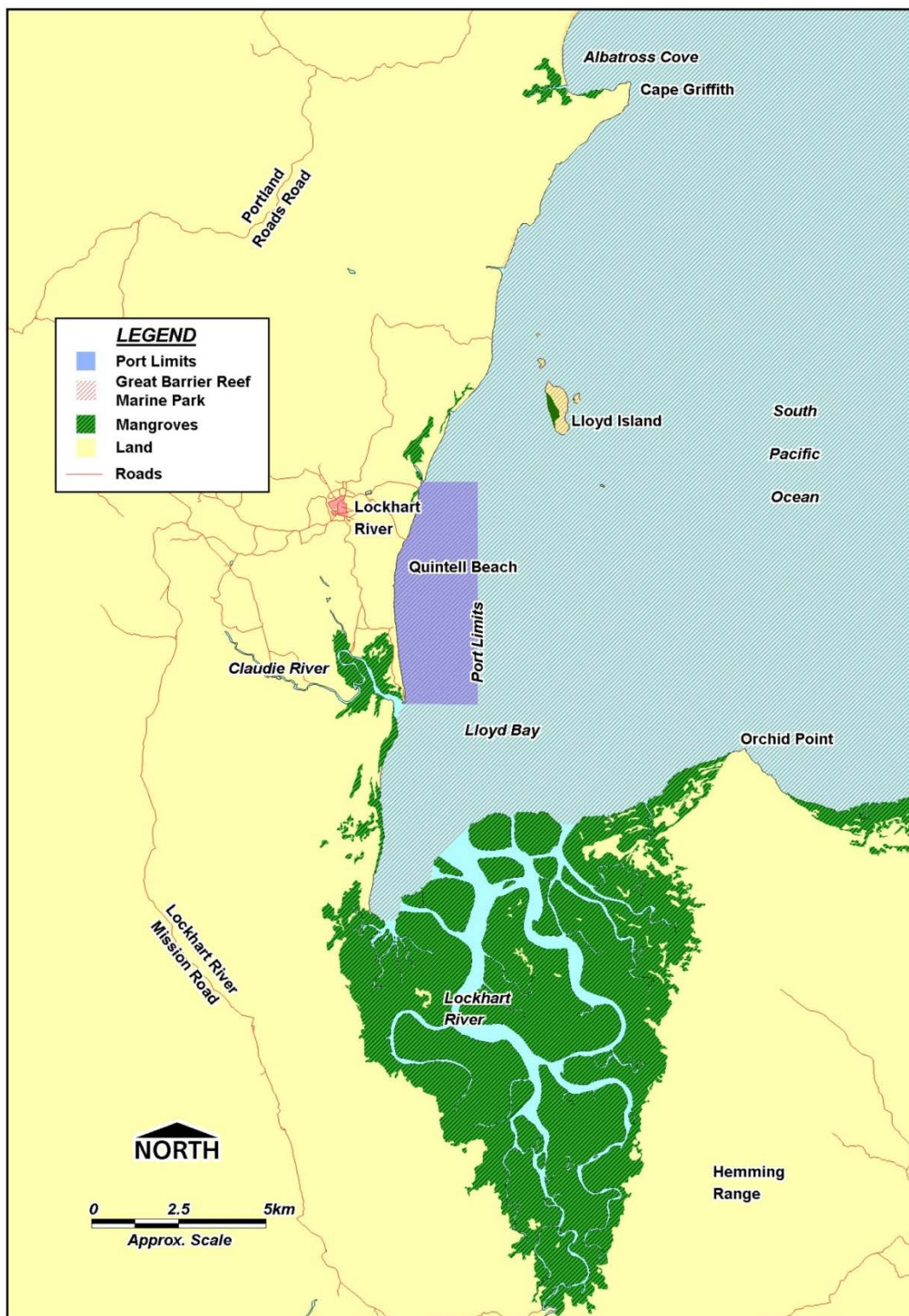


Figure 4 Coastal Resources at the Port

The Great Barrier Reef WHA covers the waters to the low water mark along the coastline and the majority of land above high water within the port is beyond the GBR WHA.

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The Great Barrier Reef Marine Park is also located along the coastline, and the seaward port limits are within the Marine Park. The GBR Region overlies the port limits, from the low water mark along the coast. The WHA and Great Barrier Reef Marine Park boundaries are mapped for the Port in Figure 4.

3.3. Social and Economic Values

Quintell Beach is a declared community port which has a barge facility servicing the needs of the Lockhart River Aboriginal Community and remote grazing properties.

Located on the east coast of Northern Cape York, the area is made up of rainforest and lowland wet tropics and is popular with travellers and nature lovers.

Community Needs: The Lockhart River Community is the last town before travellers head to the tip of Cape York and relies on weekly barge deliveries of goods to cater for tourists and locals.

Economic Value: negligible value of trade to Ports North across the ramp.

3.4. Cultural Heritage Places and Values

No recent detailed cultural heritage studies have been undertaken at Quintell Beach. In regards to Portland Roads north of Cape Weymouth, this area was the site of jetty constructed in 1938. The condition of the jetty deteriorated considerably during the 1960’s. By 1969, the jetty was closed to cargo handling. Proposals for the replacement of the jetty were examined but it was decided to construct a barge ramp at Quintell Beach.

The area played a significant role during WWII in the supply and logistics support to operations on Cape York, with the port itself is of regional historical significance for its importance to the north Queensland during World War II. Refer to content at <http://www.ww2places.qld.gov.au/pages/Places.aspx?PlaceCode=QWWIIHP-799>

3.5. Seagrass

No seagrass beds have been identified at Quintell Beach in the immediate surrounds of the ramp, however may be present in subtidal areas further offshore.

3.6. Marine Fauna

Five species of turtle have been recorded in the port area. These include the green turtle (*Chelonia mydas*), flatback turtle (*Natator depressus*), hawksbill turtle (*Eretomochelys imbricatta*), leatherback turtle (*Dermochelys coriacea*), and loggerhead turtle (*Caretta caretta*). All these turtles are vulnerable under *Environment Protection and Biodiversity Act 1999* (Federal legislation), except the loggerhead turtle which is “endangered” under the *EPBC Act*.

Other marine species of conservation significance that have been identified in the area include the Great White Shark (*Carcharodon carcharias*) (vulnerable), Whale Shark (*Rhincodon typus*) (vulnerable), Blue Whale (*Balaenoptera musculus*) (endangered), Humpback Whale (*Megaptera novaeangliae*) (vulnerable), Pacific Ridley (*Lepidochelys olivacea*) (endangered), Dugong (*Dugong dugon*) and the Estuarine Crocodile (*Crocodylus porosus*). The Quintell Beach area also supports a diverse range of sea snakes, pipefish, and seahorses (see www.environment.gov.au).

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3.7. Intertidal Sand and Mud Flats

Broad coastal beaches extend along the coastline adjacent to the rocky headlands at Portland Roads, which is to the north of the ramp.

3.8. Fisheries and Aquaculture

Commercial, Aboriginal subsistence and recreational fisheries are conducted in the waters of the eastern Cape York, including an extensive offshore fishery for prawns. Specific fisheries exist within certain adjacent river systems that support gill net and crab pot fisheries.

3.9. Coastal Vegetation

Mangroves are located in the northern and southern borders of the Quintell Beach port limits. The surrounding region has extensive mangrove communities, particularly at the Lockhart River and Claudine River. These areas would provide important habitat for juvenile fish and prawns and also for crocodiles, shellfish, sea snakes, birds, and reptiles. There are no mangroves surrounding port land at Portland Roads. Other vegetation likely to be located in the area includes the Australian Arenga Palm (*Arenga australasica*) (vulnerable), Atherton Turkey Bush (*Hodgkinsonia frutescens*) (vulnerable), Blue Tassel-fern (*Huperzia dalhousieana*) (endangered), Layered Tassel-fern (*Huperzia phlegmarioides*) (vulnerable) (www.environment.gov.au).

3.10. Terrestrial Fauna and Birdlife

The Quintell Beach area supports a diverse range of wildlife, including: bats, flying foxes, and birds. Some species likely to be located in the general area include: Semon's Leaf-nosed Bat (*Hipposideros semoni*) (endangered), Spectacled Flying-fox (*Pteropus conspicillatus*) (endangered), Greater Large-eared Horseshoe Bat (*Rhinolophus philippinensis*) (endangered), White-bellied Sea-Eagle (*Haliaeetus leucogaster*), Spectacled Monarch (*Monarcha melanopsis*) and the Japanese Snipe (*Gallinago hardwickii*).

3.11. Natural Amenity

The Port of Quintell Beach and the surrounding district has high significant value for its natural wilderness, including water associations, wetland aggregations, vegetation communities, fringing mangroves and beaches. The mangrove areas in particular are intrinsic for the continued existence of fish, prawns, turtles, and other marine and terrestrial species. Quintell Beach's natural features remain relatively undisturbed resulting in an area of significant natural beauty.

3.12. Climate and Coastal Conditions

Quintell Beach has a tropical maritime climate with mean summer maximum temperatures of 32°C and mean winter minimums of 19°C. The highest rainfall occurs between January and April (> 300 mm/month) and the driest period is between August and October (<30 mm/month). Wind speeds in the area can range between 10 - 30 knots. Entry to the Port of Quintell Beach is restricted by tides. Only shallow draft vessels using the tides have access to the barge ramp.

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3.13. Potential impacts to sensitive areas

The dominant sensitive environmental areas adjacent to the Port are the open coast beaches and associated sand ridge ecosystems. Noise or air quality sensitive residential development is absent from the port area with low frequency use of the barge ramp use leaving the area relatively pristine.

The open coastline and surrounding coastal wetlands is host to numerous species of resident and migratory wading birds, many with international conservation significance. Extensive areas of savannah grasslands and remanent marine and terrestrial vegetation surround the port and township.

Foreshore intertidal sand flats and surrounding coastal wetlands are host to numerous species of resident and migratory wading birds, many with international conservation significance. Extensive areas of remanent marine and terrestrial vegetation surround the port.

4. Consultation and Key Issues

In the event that a project or port expansion is contemplated and the oversight and input on management of dredging and placement is required, the approach outlined under the NAGD (CoA 2009) will be utilised. This guidance sets out the development of a Technical Advisory and Consultative Committee (TACC) or equivalent reference group commensurate with the scale of works, being a necessary component to assist in the consultation process required for a Sea Dumping Permit application. The NAGD states that:

“The TACC is intended to assist ports and other proponents and Determining Authority to access local knowledge and reconcile various stakeholder interests.”

The TACC is intended to:

- provide continuity of direction and effort in protecting the local environment
- support communication between stakeholders
- assist in the establishment of longer term management arrangements, including reviewing the development and implementation of management plans and monitoring programs
- review dredging and dumping activities in accordance forecast plans and programs
- make recommendations to the port authority and regulators as necessary or appropriate.

As there is no present or planned application for a Sea Dumping Permit, there is no present TACC because there is no dredging of sufficient scope to trigger the requirements.

Consultation with the TACC should occur during the design phase of larger dredging activities, particularly those involving a hopper dredge, sea, or land disposal. The TACC should be consulted on:

- Proposed program specifics such as the location of dredging and disposal sites and the timing and duration of dredging and associated activities
- Results of the risk assessment of potential impacts to values and proposed mitigation and management controls
- Scope of program monitoring and reporting requirements.

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4.1. Interested and Affected Parties

Through engagement with port users, community for a range of purposes over recent years (such a land use plan consultation, demand studies, new trade start up, and response to issues) the following entities are identified as having potential interests in present and future port maintenance activities;

- Lockhardt Shire Council
- Cape Flattery Silica Mines Pty Ltd
- TMR
- Recreational fishers
- Commercial fishers
- GBRMPA
- Sea Swift Pty Ltd

5. Sediment Assessment

The waters offshore from Quintell Beach are generally pristine and strongly influenced by the prevailing SE Trade wind cycle. There is very little recent data available on the quality of water or sediment either in the Port or in neighbouring waters. The waters are open and are expected to be of pristine quality.

5.1. Port Sediment

The sediments are understood to be coarse to fine sands, and well suited to use of an excavator for any maintenance at adjacent to the ramp if it were ever needed.

5.2. Minimisation of Sediment Accumulation and Dredging Needs

Due to the design and placement of the ramp, no maintenance dredging is required for the barge ramp.

5.3. Maintenance Dredging and Disposal Requirement

The current absence of dredging obviates the need for sediment disposal. If however there is a future requirement to undertake maintenance dredging on-shore placement of material, or side casting via an excavator would be the most likely placement option and considered the most realistic and viable with approvals to be sought to that effect.

5.4. Examination of Reuse, Recycle and Disposal Options

The preferred option for management of sediment over the 5 and 10 year horizon is the status quo, being no intervention, due to prevailing coastal conditions and ramp design keeping the access clear and any removal of accumulated sediment to be addressed during works to maintain the facility under the scope of the EMP developed once the scope of repairs is known. A template for this has been developed, to ensure consistency with requirements under the Marine Park Permit **G13/36297.1** issued by the GBRMPA for operation and maintenance of the barge ramp facility within the GBRMP.

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5.5. Selected Future Dredging and Disposal Strategy

Due to the design and placement of the ramp, no maintenance dredging is proposed for the barge ramp, however if the need were to arise, the use of a land based excavator would be the most likely viable method and could be used to place material to the side or along shoreline. Such maintenance would be resolved through dialogue with the GBRMPA and subject of assessment and subsequent management via a works specific EMP based on the template approved for use under Marine Park Permit **G13/36297.1**. Such small scale excavation may be below the triggers that define “maintenance dredging” or be within the exemptions of above noted legislation, and the status of such would be resolved through the approvals evaluation phase of any future contemplation of maintenance works.

6. Risk Assessment Framework

Depending on the scale and frequency, dredging and dredge material placement activities have the potential to adversely impact on sensitive environmental receptors, social or cultural values associated with the Port.

Impacts can occur over a short or long term and can be direct or indirect. Dredging related impacts can result from:

- the direct removal of benthic habitat in the vicinity of the dredged area
- smothering of benthic organisms in offshore dredge placement locations
- changes to marine water quality from increased turbidity and sedimentation
- mobilisation of contaminants released from dredged sediments
- collisions and disturbance from vessel movements
- increased noise and lighting from dredge vessel operations.

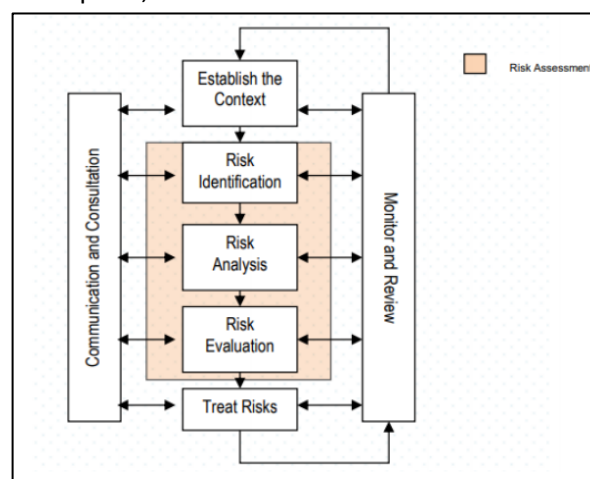


Figure 5 Risk Management Process

Prior to a works campaign a risk assessment of potential impacts to environmental, social or cultural values will be undertaken, consistent with the Marine Parks Permit EMP.

The assessment will help to determine the level of potential harm that environmental, social, or cultural values are at from the proposed dredging program. The assessment will assist in refining where management measures to avoid, reduce, or mitigate impacts are needed. Identified measures can then be incorporated into revisions of the EMP.

7. Identification and Treatment of Key Risks

Ports North is committed to minimising and managing potential impacts from dredging and dredge material relocation as far as practicable. Based on the results of the initial risk assessment, and established best practice; a set of key management strategies and actions to minimise the impact from dredging and dredge material relocation operations will be identified and incorporated into the delivery of any future maintenance works

The primary risk treatment will be via implementation of an EMP for each lot of works developed by the appointed contractor, so as to be meet or exceed the controls outlined under the Marine Park Permit **G13/36297.1** issued for operation and maintenance of the barge ramp facility within the GBRMP.

8. Environmental Management

Environmental management of maintenance works will follow the approach outlined in the Port EMP and the works specific EMP developed once the scope of repairs is known. A template for this has been developed, and drafted to ensure consistence with requirements under the Marine Park Permit G13/36297.1 issued by the GBRMPA for operation and maintenance of the barge ramp facility within the GBRMPA.

This process provides certainty for staff, and regulators around how works activities will be planned and managed. This will also be key to supporting long-term permit applications for operation and maintenance of the facility. Stakeholder consultation will occur throughout planning including during any works program design, execution and ongoing monitoring and management.

8.1. Operational Control

The operational control by Ports North, includes the contract with the contractor and the EMP, as described below;

An EMP provides the operational practices required for maintenance activities to meet environmental standards. The EMP forms the operational control document to ensure all site-specific environmental issues are adequately addressed. The EMP covers all aspects of the operations and will contain:

- Location and description of the activities
- Timing of the dredging operations
- Measures to meet permit conditions
- Standard management measures relating to:
 - Waste management
 - Bunkering of fuel
 - Vessel wash-down
- Adaptive management measures relating to:
 - Water quality
 - Marine fauna
 - Climate conditions
- Operation and incident reporting
- Emergency procedures and contacts

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8.2. Navigational Needs, Risks and Sediment Management

Identification of navigational requirements in the offshore environment of the port is key to identifying whether maintenance dredging is likely to be required.

Where sediment accumulation may create a potential or future navigational hindrance, a risk assessment should then be undertaken. The aim of the assessment is to determine the level of risk posed to the ongoing safe operation of the Port. The level of risk can then be used to trigger the timing of the further phases of the dredge management framework.

Should an immediate or future navigational risk at the Port being identified, it is necessary to determine the appropriate response in terms of the type of sediment management activity required.

Baseline monitoring data will be required to inform this phase. Up to date information regarding sediment volumes, quality, and contamination may be needed. The specific data required may include:

- Sediment Sampling and Analysis Plan (SAP) results. The process for undertaking sampling and analysis of sediments is described the NAGD (CoA 2009).
- Bathymetric survey data.

8.3. Sediment Management Options

Depending on the scale of sedimentation and level of navigational risk posed a range of management options could be applied. These need not necessarily be stand-alone actions and could be deployed sequentially to reduce and then remove the risk. Measures include:

Excavation: using a land based excavator to remove high spots of sediment accumulation to areas adjacent to the ramp, along the beach, or side casting, to help maintain a suitable depth and retain the sandy material within the coastal processes. Rarely is this a long-term solution but it can be used to alleviate immediate risks or to prolong the period between major repair activities.

8.4. Dredging Program Design, Execution, and Control

Should it be determined that works are required then the next stages from the sediment management framework is the design of the program and obtain relevant approvals if anything additional to the Marine Parks Permit is required.

Where the need for works has been identified, planning for all aspects of the program needs to be undertaken. This includes:

- Timing and duration of the program
- Location of areas and volumes of sediment
- Equipment needs and standard procedures
- Identification and assessment of potential impacts to values adjacent the ramp
- Mitigation and management measures (including adaptive management) to address potential impacts to values

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- Operational controls.
- Monitoring requirements.

All elements of the framework, including consultation, monitoring and supporting studies, will aid in the design of individual works programs.

9. Monitoring Framework

Ports North may carry out monitoring of works consistent with the works specific EMP developed once the scope of maintenance works is known. A template for this has been developed, refer to the EMP template to ensure consistence with requirements under the Marine Park Permit **G13/36297.1** issued by the GBRMPA for operation and maintenance of the barge ramp facility within the GBRMP.

The environmental monitoring plan would aim to:

- Detect any impacts from maintenance works to nearby sensitive receptors, during and immediately after works campaigns
- Respond environmental conditions during maintenance works to prevent serious environmental harm
- Collect data to be used to drive continual improvement

These aims would be met through the implementation of a monitoring plan consistent with scale of works.

From the above evaluation of potential aspects and impacts of activities at the port and subsequent management options give rise to the following monitoring elements that may be applicable:

Impact	Specifics	Justification
Air Quality	Odour	Record and monitor trends in complaints Liaise with DES and GBRMPA to verify and ensure compliance by port operators
	Dust	Record and monitor trends in complaints Liaise with DES and GBRMPA to verify and ensure compliance by port operators
Noise	From plant, equipment or trucks	Record and monitor trends in complaints Liaise with DES and GBRMPA to verify and ensure compliance by port operators
Water Quality	Monitor site for presence of discharge to waterways/stormwater	Silt curtain around site (subject to prevailing swell, etc) Nil discharge direct to stormwater, or waterway Correct work practices to halt discharges Monitor incidents/complaint reports as applicable
Waste	Deposition on ramp, road, layby area	Regular checking and clean-up, regular clearing of stockpiles or bins
Flora-Fauna	Pest weeds and animals	Monitor advice from agencies on emerging threats. Conduct inspections and controls on plant or material brought to work site to minimise ingress/translocation.

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	Fauna at works site	Gain approvals to relocate if a specific fauna is resident at the ramp/works area
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Ports North staff may conduct an environmental audit in accordance with this EMP at any time during operations. Port Users must keep a copy of any relevant environmental licence, permit or approvals and records required under this EMP, onsite at all times. Port operations staff may also inspect the works at any time to ensure all commitments are been implemented.

10. Performance Review

The *Environmental Code of Practice for Dredging And Dredging Material Relocation* (Ports Australia 2016) identifies that 'transparent and open information sharing is important to improve knowledge and to understand community values, client needs and government expectations. Communication and reporting is an important component of this, to demonstrate performance and provide for community accountability'.

In fulfilment of this principle, reporting under this Plan will involve:

- regular updates to stakeholders on any planned or conducted maintenance activities;
- publication (results of any environmental monitoring associated with works);
- The report will summarise the dredging and disposal monitoring activities undertaken during the year, including:
 - permit number
 - permit start and expiry dates
 - locations and type of material dredged
 - volume dredged at each location
 - disposal locations used
 - disposal method used.

During work activities, Ports North (or their contractors) will keep records which detail:

- the times and dates of when works were commenced and finished
- the volume of dredge material (in cubic metres) dumped for the specific operational period. These records will be retained for audit purposes
- detail of any spill of oil, fuel or other potential contaminant, details of remedial action and monitoring instigated as result.
- details of any marine mega fauna observations during dredging activities
- time and duration of any alterations to the program, including stop work actions, as a result of any environmental mitigation measure.

After the works program, Ports North will

- undertake a survey of the area to confirm suitable depth and advise relevant regulatory agencies
- continue monitor operations and response from ramp users

Ports North staff may conduct an environmental audit in accordance with this LMDMP at any time during works or operations. Port Users must keep a copy of any relevant environmental licence, permit or

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approvals and records required available at all times. Port operations staff may also inspect the works at any time to ensure all commitments are been implemented.

11. Supporting Information and References

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12. Appendix

Marine Park Permit

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