Port of Gladstone Marina Maintenance Dredging Environmental Management Plan

Brief description

This Environmental Management Plan has been developed to document Gladstone Ports Corporation's systems and controls for minimising the risk of environmental impact associated with maintenance dredging activities in the Marina at the Port of Gladstone.

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Custodian	Port Infrastructure Asset Manager

Endorsed by	Department of Environment and Science on 07/04/20 Port Infrastructure Asset Manager on 21/08/2020

If you require any further information, please contact the Custodian.

Contents

1 Terms and definitions

Terms that are capitalised and not otherwise defined in this Plan are defined in the GPC Corporate Glossary Instruction (as listed in Appendix 1 – Related documents).

In this Procedure:

"A&I" means Aspects and Impacts.

"DAF" means Department of Agriculture and Fisheries.

"DES" means Department of Environment and Science.

"DAWE" means Department of Agriculture, Water, and the Environment.

"EA" means Environmental Authority EPPR00570813.

"EMP" means Environmental Management Plan.

"EMS" means Environmental Management System.

"ERA" means Environmentally Relevant Activity.

"GBRWHA" means Great Barrier Reef World Heritage Area.

"GPC" means Gladstone Ports Corporation.

"LMDMP" means Long Term Maintenance Dredging Management Plan.

"MDS" means Maintenance Dredging Strategy.

"MSQ" means Maritime Safety Queensland.

"NAGD" means National Assessment Guidelines for Dredging 2009.

"NEPM" means National Environmental Protection Measures.

"OUV's" means Outstanding Universal Values.

"Owner" means under the GPC governance structure, the Owner is accountable for approval and has the authorised discretion to implement or significantly change the system.

"PoG" means Port of Gladstone.

"POLREP" means Maritime Safety Queensland Marine Pollution Report.

"QA" means Quarry Allocation.

"QAASTM" means Queensland Acid Sulfate Soils Technical Manual.

"QPA" means Queensland Ports Association.

"SAP" means Sediment and Analysis Plan.

"TACC" means Technical Advisory Consultative Committee.

"TMR" means Department of Transport and Main Roads.

"TOR" means Terms of Reference.

Terms that are capitalised and not otherwise defined in this Procedure are defined in the GPC Corporate Glossary Instruction (as listed in Appendix 1 – Related documents).

2 Introduction

2.1 Purpose

Gladstone Ports Corporation (**"GPC"**) are the holders of an Environmental Authority (**"EA"**) for an Environmentally Relevant Activity (**"ERA"**) granted by the Queensland (**"QLD"**) Department of Environment and Science (**"DES"**) under the *Environmental Protection Act 1994* (**"EP Act"**). This EA (EPPR00570813) specifically permits ERA16 Extractive and screening activities, Threshold 1(c) – Dredging in a year, more than 100,000t to 1,000,000t. This EMP has been developed by GPC to comply with the requirements of the EA and the EP Act.

Disposal of dredged material from the Gladstone Marina can be conducted at sea or on land, however only disposal on land will occur during the 2020 Marina maintenance campaign. The disposal of maintenance dredge material on nearby freehold land is also permitted under the above mentioned EA and approved under a quarry allocation (QA) approval.

The 2020 Marina maintenance dredging campaign will be conducted using a Cutter Suction Dredge (**"CSD"**). As the operator of the dredger, '*CSD Siabia*' – Hall Contracting (the dredging contractor) operates under an EMP that covers the operational scope of maintenance dredging works undertaken.

The Contractor's EMP complies with GPC's EA, QA and relevant state and federal legislation and is submitted to GPC prior to each maintenance dredging campaign.

See Section 5.2 of this EMP for more information on the environmental legislation and approvals relevant to GPC's marina maintenance dredging.

2.2 Scope

The scope of this Environmental Management Plan (**"EMP"**) covers Gladstone Marina maintenance dredging including dredged material disposal activities by GPC at the Port of Gladstone (**"PoG"**), engaged Contractors and all associated activities that may impact the environment.

This EMP must be read in conjunction with and also refers to elements of the following associated management documents:

- PoG Long-term Maintenance Dredging Management Plan (**"LMDMP"**) #1385321;
- Gladstone Marina Maintenance Dredging Environmental Monitoring Procedure (the **"Monitoring Procedure"**) #1561976; and
- Hall's Contracting Environmental Management Plan for PoG Marina Dredging.

2.3 Objectives

This EMP forms part of GPC's Environmental Management System (**"EMS"**) and is intended to be a working management document to be used in the day to day operations of maintenance dredging to ensure environmental best practice and legislative compliance. This EMP provides a structured program for the management of the works to ensure that all reasonable and practicable measures will be implemented to prevent and/or minimise the likelihood of environmental harm being caused during the works.

The objective of this EMP is to:

- identify significant and sensitive receptors;
- identify environmental aspects and potential impacts;
- implement control measures that minimise the potential for environmental harm from the activity to ensure;
  - no adverse effect to Great Barrier Reef World Heritage Area (**"GBRWHA"**) Outstanding Universal Values (**"OUV's"**);
  - the prevention of long term changes in health of (and no net loss of) high ecological value (**"HEV"**) sensitive environmental receptors;
  - no long term changes in water quality;
  - appropriate marine ecological condition monitoring is undertaken to inform adaptive management actions that aim to minimise or avoid impacts to marine ecology;
  - direct impacts of maintenance dredging are confined to the dredge loading and disposal site (activity footprint) and any impacts outside of this footprint are short term and reversible.
- establish contingency plans and emergency procedures;
- record organisational structures, accountability and responsibility;
- facilitate arrangements for effective communication;
- monitor all contaminant releases;
- ensure all Employees and Contractors are trained and aware of legislative requirements pertaining to the works as well as commitments made in this EMP;
- ensure appropriate records are kept for five (5) years;
- ensure that reviews of environmental performance and continual improvement are undertaken periodically.

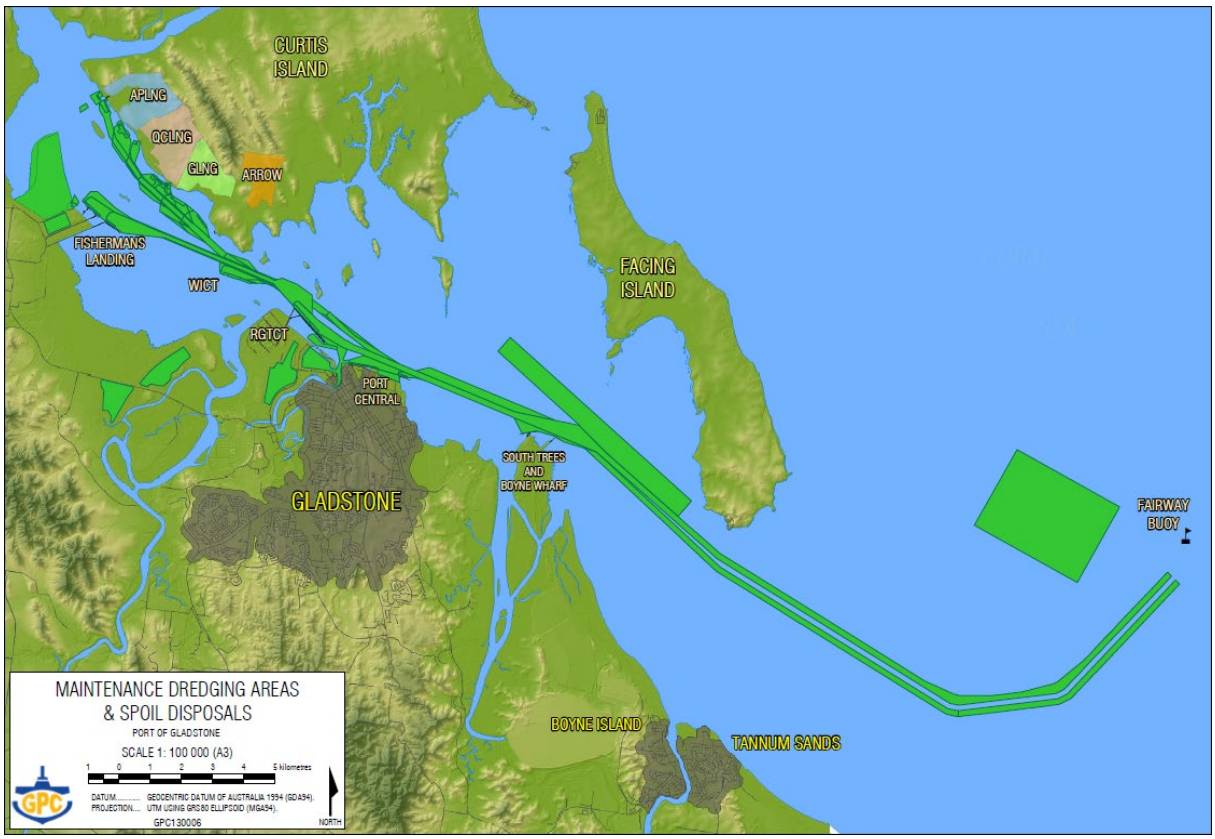


Figure 1: Port of Gladstone maintenance dredging works footprint including the Marina

2.4 Implementation

Prior to the commencement of works, this EMP will be approved by the GPC Environment Superintendent and Port Infrastructure Asset Manager. This plan together with the Monitoring Procedure will also be submitted to DES in accordance with the EA.

Works should not be undertaken in a way which:

- contravenes this EMP;
- is inconsistent with the conditions of the statutory approvals which permit maintenance dredging activities in the PoG (Section 4.2) and/or
- is inconsistent with GPC's EMS.

Where there is conflict between this EMP and documents compiled by an engaged Contractor, conditions imposed in this plan by GPC will prevail. All relevant Employees and Contractors should be introduced to and made familiar with the provisions of this EMP and with the procedures and processes which will achieve the objectives relevant to this plan.

3 Reef 2050 and Queensland Maintenance Dredging Strategy Framework

This EMP has been established in accordance with the following framework: Reef 2050 Long Term Sustainability Plan (**"Reef 2050"**). Reef 2050 provides the framework for the long-term protection and management of the Great Barrier Reef (**"GBR"**) and its OUV.

3.1 Queensland (QLD) Maintenance Dredging Strategy (MDS)

In accordance with Reef 2050, the MDS aims to provide certainty to the ports industry and to the wider community that the economic and social contribution of ports are maintained, while ensuring the continued protection of QLD's environmental assets. The MDS presents a standardised long-term maintenance dredging management framework (the **"MDS Framework"**).

(a) Guidelines for the Development of Long-term Maintenance Dredging Management Plans (LMDMP)

Principle one of the MDS recommended the development and implementation of LMDMPs in accordance with the MDS Framework. Action one of the MDS required the development of guidelines to assist each GBRWHA port in preparing a LMDMP consistent with the requirements of the QLD Government.

These Guidelines developed in draft by the Department of Transport and Main Roads (**"TMR"**) support the MDS by providing guidance on long-term planning and management approaches which should be applied to maintenance dredging of ports in the GBRWHA (Figure 1).

To ensure continual improvement the LMDMP will be reviewed at least every 5 years, to ensure it represents the most up to date understanding of risk, sedimentation processes, options available for sediment management and the management of the impacts of maintenance dredging.

As per Figure 1, GPC has developed the three (3) tiers of Port Planning and Management tools for maintenance dredging at the PoG which includes this EMP and its associated management documents, the LMDMP and the Monitoring Procedure (Section 2).

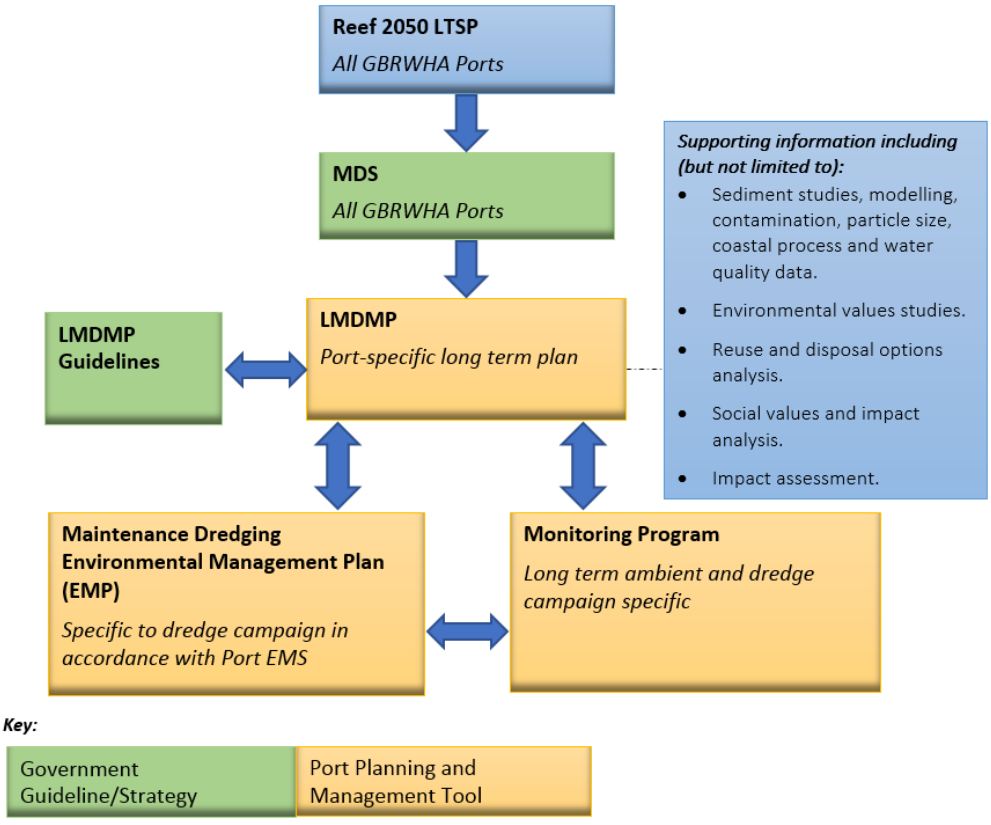


Figure 2: Port of Gladstone maintenance dredging works footprint including the Marina

(b) Performance reporting of Maintenance Dredging Impact

GPC conducts a Maintenance Dredging Environmental Performance Internal Audit annually to assist in compiling the Performance reporting of Maintenance Dredging Impact Report.

The Performance reporting of Maintenance Dredging Impact Report is developed from the audit process / outputs and provided annually to Queensland Port Association (**"QPA"**) for comparative analysis and to coordinate maintenance dredging schedules.

4 Activity Description

4.1 Overview

GPC is required to provide safe passage and navigable channels for vessels under the *Transport Infrastructure Act 1995* (Qld) which is achieved through regular maintenance dredging. GPC is also the owner of the Gladstone Marina. Therefore, GPC is responsible for maintenance dredging of the Gladstone Marina and Auckland Inlet (Figure 3).

Figure 3: Approved dredge footprint area

The marina consists of the Gladstone Marina and Auckland Inlet. The Gladstone Marina was constructed in the 1980's and commenced operations in October 1987. It was constructed at the same time as the RG Tanna Coal Terminal by reclaiming the surrounding tidal lands using capital dredge material obtained from deepening and widening channels to the new coal terminal. Gladstone Marina has an approximate area of 55 hectares and has 400 berths with various pontoon and jetty facilities and supports a number of maritime industries and businesses.

Auckland Inlet is the waterway initially used by cargo and passenger vessels during the early settlement of Gladstone. The Inlet is currently used by fishing vessels, sailing and recreational vessels and other industry vessels. It contains mooring piles and jetties and a variety of pontoons from waterfront industries and businesses. The Inlet also forms part of the water intake channel of the Gladstone Power Station. Reclaimed land surrounds much of Auckland Inlet beyond the original mangrove fringe. A waterfront recreational area for the community of Gladstone is located on the south eastern bank of the Inlet.

4.2 Activity Boundaries

(a) Dredging

The approved boundaries of the Marina maintenance dredging area are shown in Figure 3 above. This area is located within the boundaries of the current approval for maintenance dredging i.e. Approvals as shown in Appendix A. The permitted depth of dredging is -5.0m below the lowest astronomical tide (**"LAT"**). Before each maintenance period, dredging requirements are determined by comparison of required or design depths of a site with a pre-dredging hydrographic survey. Specialised vessels independent of GPC and the dredging Contractors undertake all survey work.

The maximum quantity (m^3) that is available in the quarry allocation is 400,000m^3 in the 5 year period of the approval (2020-2025)

It is estimated that 200,000m3 will be dredged in the 2020 Marina maintenance dredging program from April to November 2020. This dredging campaign will be restricted to the Gladstone Marina.

(b) Material to Land

GPC has a previously approved reclamation area in the vicinity of the Gladstone Marina which was approved under an order in council called the Gladstone Port Authority (Reclamation of Land) Order (No. 1) 1992 and included 435 hectares of land between Auckland Inlet and the Calliope River delineated on Plan H-472. The reclamation of the area is more than 75% completed and has since been designated freehold land therefore, disposal of dredge material or infilling of this freehold area can be regarded as earthworks rather than reclamation. This reclamation area has been included in the lawful footprint of activities under the GPC EA for maintenance dredging.

The area to be used for dredge material disposal is shown in Figure 4 and the decant water discharge location from this reclamation is identified by GPS locations in condition GPMWT2 of EA EPPR00570813 as follows:

- 23° 49.97'S, 151° 14.10'E and
- 23° 49.91'S, 151° 14.07'E.

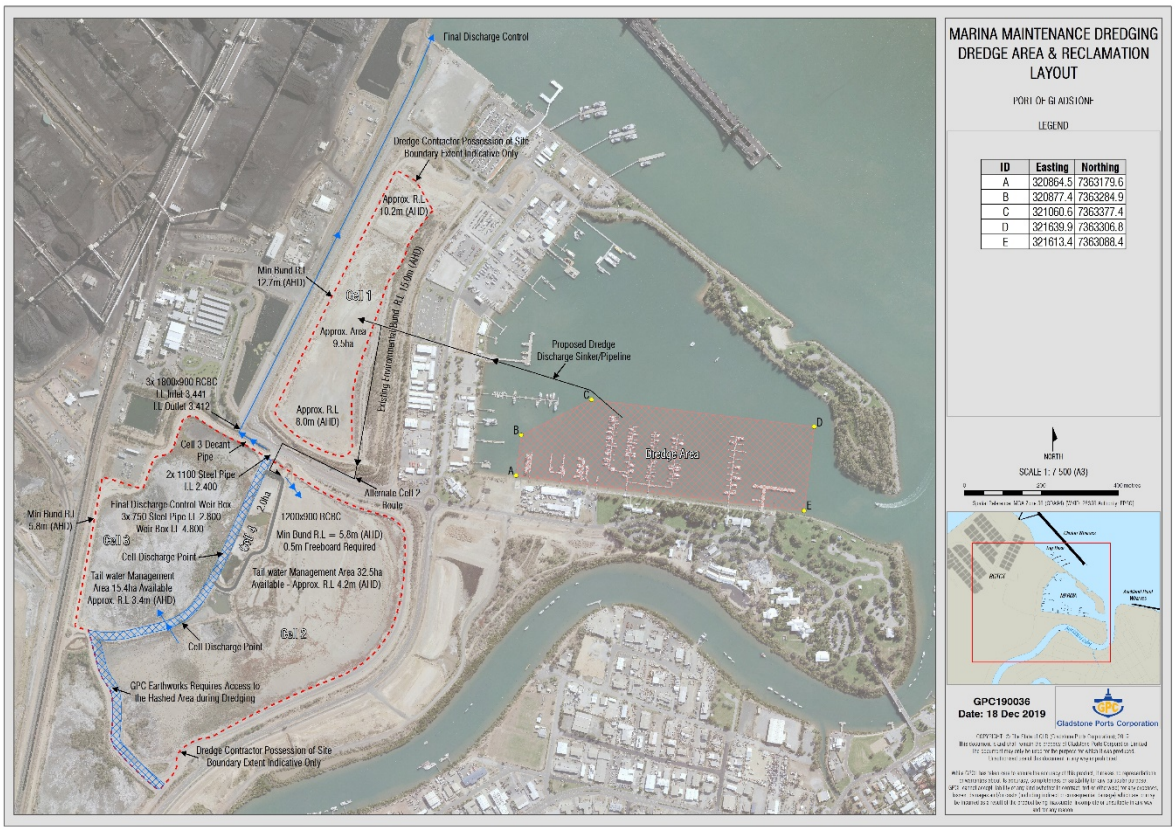


Figure 4: Onshore disposal reclamation cells and decant water flow path

4.3 Sediment Characterisation

The material dredged under this EMP has been analysed and assessed in accordance with approaches set out in the:

- National Assessment Guidelines for Dredging 2009 (**"NAGD"**) to ensure the material is appropriate to dredge and dispose of on land or at sea.
- Queensland Acid Sulfate Soils Technical Manual V4 2014 (**"QAASTM"**)

The Sediment Analysis Plan (**"SAP"**) was specifically developed for the Port of Gladstone in 2017 and SAP Implementation Report (2018) determined that the material in the Marina is suitable for unconfined sea disposal or land disposal, as no results exceeded set trigger values for contaminants of concern or Acid Sulfate Soils.

The plan and report is available on GPC's website: http://www.gpcl.com.au.

4.4 Dredging Equipment

The following types of dredging equipment are authorised for the purposes of maintenance dredging in Gladstone Harbour under EA EPPR00570813. For the purposes of this campaign, the Cutter Suction Dredge will be used.

- Trailing Suction Hopper Dredge equipped with:
  - Below keel discharge of tail waters via an anti-fouling control valve;
  - On-board systems for determining solids/water ratio or density of dredged material;

- Electronic positioning and depth control for defining the location and depth of dredging;
- Dredge heads fitted with fauna exclusion devices (e.g. turtle deflectors); and
- Valves to control the amount of air in overflow water, reducing turbidity.

- Cutter Suction Dredge equipped with:
  - Electronic positioning and depth control system for defining the location and depth of dredging;
  - Continuous delivery connection to an approved placement site;
  - A system or process to ensure the delivery system integrity is maintained at all times; and
  - On-board systems for determining solids to water ratio or density of dredged material during operations.
- Grab Dredge equipped with electronic positioning system for defining the location and depth of dredging.

4.5 Associated Infrastructure

A description of the onshore disposal area is given in Section 4.2(b). Figure 4 above shows the anticipated arrangement of the dredge discharge pipeline as well as the decant water settlement flow path through the reclamation cells and the decant water discharge point into the existing reclamation drain. Figure 4 also shows where this drainage feature ultimately discharges to the receiving environment of the Gladstone Harbour.

4.6 Key Tenancies and Stakeholders

The Marina supports a variety of business and associated infrastructure in addition to the pontoon facility operated by GPC for recreational and commercial vessels. Infrastructure includes a slipway, ferry jetty, fisherman's jetty, boat ramps and boat repair and service facilities.

Identified tenancies close to the works and key stakeholders may include but are not limited to:

- TAMS – slipway, ferries and tug vessels
- Local commercial fishermen
- Heron Island and LNG Industry passenger ferries
- Government Agencies – QPWS, Water Police, MSQ
- Surrounding maritime industries and their jetty/pontoon centres
- Local residents and community – public boat ramps and Marina residents.

4.7 Sensitive Receptors

(a) Sensitive Ecological Receptors

Gladstone Marina is located within Port Curtis which supports a range of intertidal and sub-tidal habitats that are important in maintaining a range of ecological values.

Intertidal habitats throughout Port Curtis include rocky shores, mangroves, saltmarsh, saltpan, seagrass and mud flats, and sub-tidal seagrass meadows and reefs are also well developed. Sensitive receptors are mapped in Appendix B. Although extensive areas of sensitive habitat occur throughout Port Curtis, it is anticipated that these are outside of the potential zone of impact from Marina maintenance dredging activities.

The most relevant Matters of National Environmental Significance (**"MNES"**) as defined by the Environment Protection Biodiversity Conservation Act 1999 to the proposed maintenance dredging is the Great Barrier Reef World Heritage Area (and National Heritage Place) and threatened species and migratory species. These are considered in more detail in Table 1 below. The proposed dredging and land disposal is not likely to have a significant impact on these matters.

Table 1: Matters of National Environmental Significance relevant to Port Curtis

MNES	Description
World Heritage Sites and National Heritage Places	GBRWHA extends throughout the Great Barrier Reef region and includes most of Port Curtis. The GBRWHA is listed as a National Heritage Place.
GBRMP	The GBRMP is located offshore of Port Curtis. The works areas are not located in the GBRMP.
Nationally threatened species and ecological communities (including marine turtles and whales) Migratory species (including dugong, whale shark and several threatened marine megafauna species)	The EPBC protected matters search tool identified: • No threatened marine ecological communities occur within the works area; • Listed species known or likely to occur near the works area include marine turtles, dolphins and dugongs; • Numerous protected species of sea snake, pipefish and seahorse occur or could occur in Port Curtis (none of these are considered threatened under EPBC or state legislation).
Commonwealth marine species	The Commonwealth marine area is located offshore of Port Curtis. The works areas are not located in this area.
Wetlands of international importance (Ramsar site)	There are no Ramsar sites within 90km of Port Curtis.

Section 5 of this EMP will be implemented along with environmental management actions identified in the Contractor's EMP to ensure that harm to sensitive ecological receptors does not occur as a result of the Marina maintenance dredging works.

(b) Sensitive Environmental Receptors

The proposed dredging and on shore disposal activities will be carried out adjacent to a number of environmental receptors including commercial businesses, maritime industries, parklands and recreational areas as well as within close proximity to nearby residential areas and marina residents.

Although areas of intertidal habitat occur throughout Port Curtis, these are outside of the potential Zone of Impact or Influence from marina maintenance dredging.

Zones of Impact and Influence are defined below and are determined through hydrodynamic modelling of potential maintenance dredging scenarios:

- **Zone of Impact:** is defined as seabed areas directly within the dredging and disposal footprint which are subject to direct removal and surrounding seabed areas containing sensitive receptors (mainly seagrass and hard corals) that are expected to be substantially modified (e.g. mortality) by dredge plumes and sediment deposition

- **Zone of Influence:** is defined as the area of seabed where plumes may be evident without necessarily causing mortality to sensitive receptors.

The sensitive receptors, and Zones of Impact and Influence have been identified for the larger annual maintenance dredging campaign undertaken by the TSHD Brisbane, modelled for 340,000m^3 campaign in the Port of Gladstone Channels. These are namely seagrass meadows, reefs, the benthic habitats and protected marine megafauna species.

Marina maintenance dredging is being undertaken using a CSD which is localised and less intense from both a dredging and disposal perspective.

Section 5 of this EMP will be implemented in order to ensure that maintenance dredging does not negatively impact on the identified sensitive environmental receptors.

5 Environmental Management System

Activities carried out by GPC conform to GPC's ISO14001 certified EMS – Figure 5. This EMP and its associated documents form part of GPC's EMS.

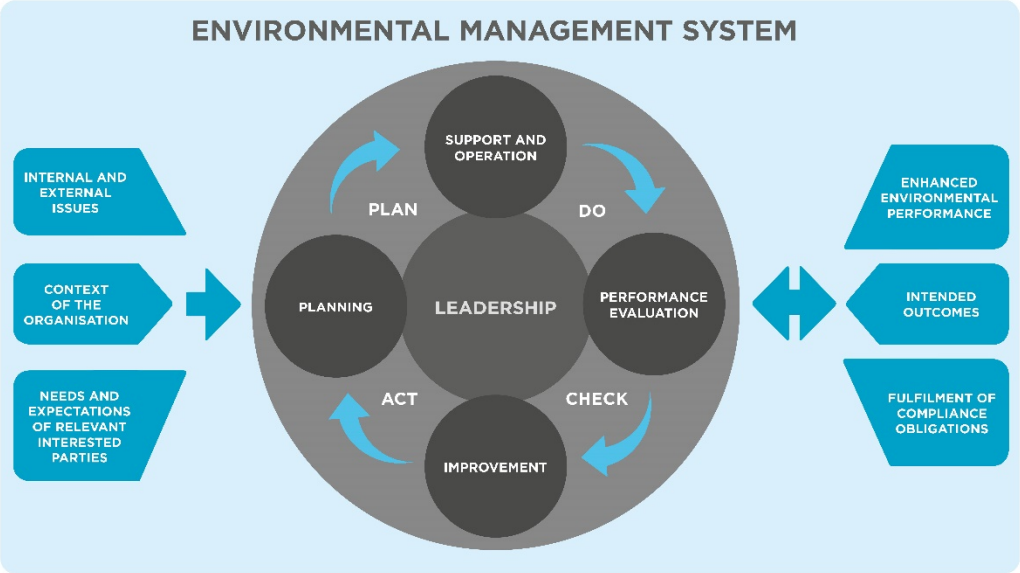


Figure 5: EMS schematic

The EMS Plan #146256 is the overarching directory of the EMS for all activities within the scope of the EMS, and allows easy access to the documents contained within it. The EMS Plan is a concise overview of the framework used to manage environmental risk. The aim of the plan is to be a user friendly tool in the form of a directory to quickly guide the user to the desired area of the EMS.

The provision of services by the dredging Contractor shall be underpinned by the implementation and continual improvement of GPC's management systems consistent with the elements of:

- AS/NZS ISO 9001 Quality Management Systems;
- AS/NZS ISO 14001 Environmental Management Systems; and
- AS/NZS 4801 Occupational Health and Safety Management Systems.

5.1 Policy

The GPC Environment Policy #366016 defines the overall aims and direction of GPC towards the environmental management of its activities and commitments to continual improvement. It also describes the direction and responsibilities of GPC in relation to its environmental performance.

5.2 Environmental Legislation

Environmental management of port operations has numerous and varied legislative controls which govern the way GPC conducts its business. To be aware and understand all of our compliance obligations GPC has developed two (2) registers.

1. Legal Register #1007885 describes firstly, what the legislation is and means, and secondly, how it affects GPC activities. The register is regularly updated to ensure that it captures relevant legislative changes and incorporates new development approvals, permits and registrations applicable to GPC operations.

2. Conditions Register #1292854 - identifies GPCs approvals, each condition and how GPC meets the condition requirements.

Table 2 below outlines the environmental approvals specific to marina maintenance dredging and disposal activities. A copy of the relevant approvals is provided in Appendix A and must be kept in a location readily accessible to the personnel carrying out the activity.

Table 2: Statutory approvals and documents for marina maintenance dredging and disposal

Approval / Permit	Permitted Activities
EPPR00570813 (#991281)	ERA 16 Extractive and screening activities Threshold 1(c) – dredging in a year, the following quantity of material, more than 100,000t to 1,000,000t

Approval / Permit	Permitted Activities
AQM0057 (#1586555)	Quarry Allocation of 400,000m^3 (15/4/2020-14/4/2025) GPC as a Port Authority is exempt for paying royalties for the extraction of a state resource and does not sell the dredged material, and therefore does not pay royalties under this authority.
Gladstone Port Authority (Reclamation of Land) Order (No 1) 1992 (#385339)	Previous approved reclaim area (07/08/1992-07/08/2002) for 435 hectares of land delineated on Plan H-472. This reclamation area is included in the lawful footprint of activities under the EA and includes a licenced discharge location for decant waters. Such infilling on freehold land is regarded as earthworks and does not require a tidal works approval. The earthworks and associated tail water discharges do require responsible environmental management in accordance with the EA and the EP Act.

Maintenance dredging of the marina will be carried out by a Contractor. As the operator of the dredge, the Contractor will be required to develop their own EMP and incorporate all relevant parts of the EA and this EMP to ensure that all GPC and regulatory requirements are met during the activity.

5.3 Environmental Risks

GPC's Risk Management Framework provides the processes to ensure the EMS suitably identifies, analyses and evaluates, manages and monitors all aspects under the control or influence of GPC. The risk management process is an integral component of GPC's organisational and operational decision making and ensures all elements of potential impacts are assessed i.e. environmental, compliance, interested parties (stakeholders), project delivery etc.

Risk Assessments are conducted for all new or changed activities and specifically for maintenance dredging prior to each dredging campaign ensuring risk controls are current, appropriate, communicated, implemented and monitored. Significant changes in risk shall be communicated to the TACC (refer to Section 5.16(b)).

This process informs the development of this EMP and Monitoring Procedure for each campaign. This process also informs the review the LMDMP.

Environmental risks for dredging and disposal are assessed and recorded on the GPC Risk Register #764185 in accordance with the GPC Risk Management Policy and Risk Management Standard #829152.

An abstract of the aspects and impacts register is prepared and provided to PBPL to inform the development of the state wide maintenance dredging schedule (Section 3.1(b)) in alignment with the Great Barrier Reef Marine Park Risk Matrix.

Risk controls are documented and communicated in the LMDMP, this EMP and Monitoring Procedure.

The implementation and effectiveness of risk controls are monitored through processes such as periodical risk reviews, audits, inspections, incident and complaint investigations and reporting.

5.4 GPC Environmental Objectives

The GPC Strategic Environment Plan #801782 establishes GPC's overall approach and priorities for environmental management. It identifies GPC's environmental objectives taking into account GPC's Environment Policy, its environmental impacts and relevant legal and other requirements. Section 5 identifies the specific objectives that relate to maintenance dredging.

5.5 GPC Environmental Standards

GPC has implemented the following Standards to provide clarity of obligations, responsibilities and expectations for environmental management:

- GPC Environmental Management Standard #809151
- GPC Safety, Environment and Security Standard for Contractors and Port Users #995910

All activities must be conducted in accordance with these Standards.

5.6 Environmental Roles and Responsibilities

GPC Employees and Contractors are responsible for the environmental performance of their activities and compliance with the approvals relevant to this development, as detailed in Table 2 above. GPC Employees and Contractors are also responsible for complying with the general environmental duty as set out in Section 319 (1) of the EP Act which states:

> *"A person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to minimise the harm."*

Table 3 below provides a summary of the roles and responsibilities of GPC staff associated with the implementation of this EMP.As the dredging will be primarily undertaken by the dredging contractor, the contractor also has responsibilities and accountabilities detailed in their EMP.

Table 3: Environmental Roles & Responsibilities

Role	Responsibilities
Port Infrastructure Asset Manager – Reporting to (Acting) Chief Executive Officer	Dredging contract. Implementation of this EMP and responsible for ensuring compliance obligations are met as well as reporting to the relevant authorities.
Civil/Structural Engineer – Reporting to Port Infrastructure Asset Manager	GPC contact for operational issues and management of contractor.
(Acting) Manager Planning and Development - Reporting to (Acting) Chief Executive Officer	Overall responsibility for Environmental policy, strategy and Environmental Management System framework.
Environment Superintendent – Reporting to (Acting) Manager Planning and Development	Ensure environmental management, reporting and auditing responsibilities are met.

Role	Responsibilities
Environment Specialist – Reporting to Environment Superintendent	Responsible for monitoring of EMP implementation and compliance with approval conditions.
Environment Specialist Monitoring and Measurement – Reporting to Environment Superintendent	Responsible for the coordination of GPC environmental monitoring programs.
Environment Emergency Hotline x617 –Reporting to Environment Superintendent	General and after hours contact for the GPC Environment team

5.7 Contractor Management

Hall's Contracting will be engaged by GPC as the dredging Contractor. GPC has obligations to ensure that the activities undertaken by, or on its behalf, do not present unacceptable risks to the environment and are undertaken in a lawful manner. To ensure the activities of contractors are identified, assessed and managed the following Contractor management controls are in place:

- Pre-qualification evaluation;
- Procurement Policy;
- Environmental Standards;
- Induction;
- Regular communication between GPC and the contractor;
- Audits and inspections; and
- Incident investigations.

5.8 Environmental Monitoring

It is a requirement of the EA that the environment monitoring program must include at least the following aspects:

- Significant and sensitive receptors in the port area are identified and mapped;
- Environmental aspects and potential impacts are identified;
- All contaminant releases are monitored;
- The methods for collection and analysis of samples (including specific areas to be monitored, when monitoring is undertaken and duration of monitoring);
- The methods of analysing the data and responding to the results to ensure compliance with the conditions;
- Long term ecological impacts associated with dredging operations are monitored;
- Reporting intervals;

- Review of environmental performance is undertaken after each dredging campaign.

To achieve the above, compliance is required with the three tiers of documentation for maintenance dredging at the PoG which includes this EMP and its associated management documents, the LMDMP and the Monitoring Procedure.

The long-term monitoring schedule is provided in the LMDMP. The LMDMP in alignment with the EA requirements takes into account modelling outputs and impact assessment outcomes as well as the outcomes of previous monitoring and also focuses on building a baseline ambient dataset.

The Marina Maintenance Dredging Monitoring Procedure has been developed to articulate the monitoring program for the Land Disposal option with a CSD, including requirements of the Contractor for data and records.

Impact assessment and modelling of PoG maintenance dredging activities have shown that maintenance dredging of the Gladstone Marina does not pose a risk to sensitive receptors. However, precautions and everything reasonable will be adopted to reduce turbidity generated by dredging activities.

Environmental monitoring informs adaptive management, compliance and performance review, risk assessment and continual improvement processes for maintenance dredging management as detailed by this EMP and the LMDMP.

GPC has a monitoring schedule which records monitoring obligations and ensures that they are implemented #314935.

The Dredging Contractor monitors operational aspects of maintenance dredging including effectiveness of controls and equipment.

5.9 Control Measures, Plant and Equipment

GPC and / or Contractor will install, maintain and operate all relevant measures, plant and equipment in a way which ensures compliance with the conditions of this EMP and relevant approvals. Any changes or modifications must not substantially increase the risk of environmental harm during works.

5.10 Environmental Training

GPC ensures that Employees and Contractors working at GPC facilities have received the appropriate level of environmental training and that all relevant records are retained in accordance with the GPC's Learning and Development requirements.

GPC Employees have training and awareness delivered in a variety of ways such as Inductions, and mandatory training.

Consultation with stakeholders through review processes. GPC shall ensure that relevant Employees (Refer to Table 3) are aware and are familiar of the requirements of this EMP and its associated documents (including approvals – refer to Table 2).

It is the Contractor's responsibility to ensure that all dredging personnel, including subcontractors, are:

- Suitably trained for any and all activities for which training is required in order to ensure legislative compliance; and prevent environmental harm during normal operation and in emergencies

- Read, understand and apply the requirements outlined in this EMP and its associated approvals.

Untrained persons must remain under the close supervision of a suitably trained person.

Training records shall be maintained and made available to GPC on request.

5.11 Environmental Auditing and Inspections

Internal auditing may be undertaken to confirm that activities are carried out in accordance with the defined requirements set out in this EMP and relevant approvals. Audits are initiated and completed by the GPC Environment team or by a suitably qualified auditor nominated by the GPC Environment team. Audit reports will be provided to regulators as and when required.

If requested by GPC, GPC Employees will be afforded access to witness, inspect, examine or audit any part of the Contractor's operations. If requested by a regulatory agency, nominees of the relevant agency will be afforded access to witness, inspect, examine or audit any part of the operations.

GPC shall carry out periodical inspections. Records of these inspections along with any corrective or improvement actions arising from inspections or audits will be entered into GPC's incident management system SAI360.

5.12 Complaints

There are several ways that GPC can become aware of environmental complaints, this includes notification from terminal customers, Employees, Contractors, community members and regulators.

The Environmental Complaints Management Procedure #1044716 details how to notify, identify and escalate, respond to and review complaints ensuring effective complaints handling. Complaints received will be entered into SAI360. The records in SAI360 will include all relevant details of the incident and/or complainant, details of any immediate corrective actions, investigations and/or monitoring undertaken, conclusions formed and improvement actions identified to reduce the risk of reoccurrences.

GPC's Environment Superintendent and Port Infrastructure Asset Manager must be notified by GPC Employees and/or the engaged Contractor on receipt of a complaint regarding perceived or real environmental nuisance or harm as a result of an activity specific to the works covered by the scope of this EMP and any other associated works immediately.

The following details must be collated for all complaints received. GPC will provide this information to DES on request:

- time, date, name and contact details of the complainant;
- reasons for the complaint;
- any investigations undertaken;
- conclusions formed; and
- any actions taken.

5.13 Incidents

GPC's Environment Superintendent and Port Infrastructure Asset Manager must be notified as soon as practical after GPC and/or engaged Contractor has become aware of any non-compliance specific to activities covered by the scope of this EMP including any other dredging associated works. Incidents include monitoring exceedances and administrative non-compliances with the EMP and associated documentation.

This notification is to take place in accordance with the following methods and timeframes:

- verbal notification immediately after occurrence of incident to GPC's Environment Superintendent.
- written notification within 24 hours of occurrence of incident to GPC's Environment Superintendent.

GPC must notify regulatory authorities - as soon as possible but within 24 hours - resulting from activities undertaken as part of the works which:

- causes or has the potential to cause environmental harm, or
- is unlawful (e.g works outside approved dredging and disposal footprint), or
- involves the release of a contaminant (not allowed by approvals), or
- identifies a new environmental risk (e.g marine pest incursion), or
- adversely impacts an environmental value (e.g marine megafauna injury or death), or
- involves a cultural or shipwreck heritage find, or
- is a breach of a condition of an approval, or
- is not in accordance with the relevant approvals and /or permits.

GPC (or the Dredging Contractor) must telephone DES's Pollution Hotline (1300 130 372) immediately after becoming aware of any incident involving injury, fatality or other harm to any species of turtle or marine mammal during dredging activities.

Retrieved turtle carcasses (and parts of) shall be immediately notified on 1300 130 372 to allow prompt collection by DES for analysis.

For Oil spills into marine waters MSQ shall be notified by the Contractor of marine spills using a POLREP form in compliance with Appendix B – MSQ First Strike Response Plan – Port of Gladstone & POLREP (Maritime Safety Queensland Marine Pollution Report).

In the event of a pest incursion immediately follow contact details shown in Table 4.

Table 4: Biosecurity Incident Reporting

Incident Type	Responsible Regulator	Contact Details
Pest incursions or quarantine breaches – flora and fauna	DAWE (Federal Gov)	1800 798 636 or 0447 735 926
Declared Pests known or suspected	DAF (State Gov)	132 523 or 0438 646 108

For other reportable incident types GPC (or the Dredging Contractor) must report to DES's Pollution Hotline (1300 130 372) and / or DAWE (02) 6274 1694 as soon as practicable, but no later than 24 hours after becoming aware of a reportable event, in accordance with the conditions of the appropriate approval (Table 4).

If GPC and/or engaged Contractor becomes aware of material environmental harm or serious environmental harm as a result of carrying out the activities covered by the scope of this EMP or other associated works, then the said activity(s) must be ceased immediately.

If at any time during the course of dredging or disposal activities, an environmental incident occurs or an environmental risk is identified, all reasonable measures must be taken by GPC to mitigate the risk or impact.

Incidents are recorded in the SAI360 system and holds all relevant details of the incident including immediate corrective actions, investigations and/or monitoring undertaken, conclusions formed and improvement actions identified to reduce the risk of reoccurrences.

Written advice will be provided by GPC (or the Dredging Contractor) within 14 days to the relevant administering authorities in accordance with the conditions of the appropriate approval (Table 2). The following details may be required:

- the name of the operator, including their approval number;
- the name and telephone number of a designated contact person;
- quantity and substance released;
- vehicle and registration details;
- the location of the release/event;
- the time of the release/event;
- the suspected cause of the release/event;
- a description of the effects of the release/event;
- the results of any sampling performed in relation to the release/event;
- actions taken to mitigate any environmental harm caused by the release/event; and
- proposed actions to prevent a recurrence of the release/event.

GPC's Incident Management and Investigation Procedure #1075526 is used to guide incident reporting, external notifications, investigations and corrective actions including record keeping requirements. The Contractor's incident reporting procedure shall be included in the Contractor's EMP and must include the requirements outlined in this EMP.

GPC also records and communicates the number and type of incidents internally through weekly, monthly and annual reports.

5.14 Emergency Preparedness

GPC has developed the Risk Management Policy #924357, Business Resilience Standard #852778 and Crisis Management Procedure #872678 which provides a framework for ensuring GPC develops and maintains capacity to efficiently prepare for, respond to, and recover from, an emergency, major business disruption and/or crisis event.

Under a Deed of Agreement between Maritime Safety Queensland (MSQ) and GPC, GPC is responsible for first-strike response to oil spills, within the boundaries of the port, in accordance with the MSQ First-strike Oil Response Plan attached in Appendix 3 – MSQ First Strike Response Plan.

All emergencies and incidents must be reported as per Section 5.13 of this plan. However in the event of an oil/hazardous substance spill to water, the Harbour Master (07 4973 1200) is to be contacted immediately. Secondary contact is to then be made with the First Strike Oil Response Team Leader on 0409 629 413.

The Contractor's Emergency Procedures are detailed in their EMP.

(a) Contingency Planning

Although management measures cover most potential impacts, contingency arrangements are required in the event of emergency or abnormal operations. These may include but are not limited to:

- Marine incident.

In abnormal operating circumstances, the Environment Superintendent and Port Infrastructure Asset Manager shall be contacted to formulate and advise the Vessel Master of GPC's preferred course of action to minimise environmental harm. It is noted that the Vessel Master has ultimate responsibility for the vessel and crew, so will make decisions based on risk with consideration to GPC's advice. The Vessel Master is also responsible for consulting with MSQ and ensuring their requirements are met.

5.15 Records

All records required by this EMP, associated documents and the relevant approvals must be kept for at least five (5) years. Records will be kept in either of the following secure repositories:

- GPC's SAI360 System –and/or;
- GPC's Document Management System – EDocs.

All records must be provided by the Contractor to GPC upon request and/or at the completion of dredging activities. Records shall be retained for verification and audit purposes. Record Keeping requirements are displayed in Table 5 and information to be provided to external parties is outlined in Table 6.

Table 5: Record keeping

Record Type	Responsible Person	Details
Contractor Management	GPC	Refer to Section 5.7
Weekly plotting sheets or a certified extract of the ships log)	Contractor	Records of the area(s) dredged in relation to the approved footprint of works (by GPS), the volume of material removed (to the nearest tonne) and where these volumes are placed. Note: The material must be measured in cubic metres (M^3) using an approved verifiable method Keep records of the person undertaking the marine species observation required and any marine species observed within site of the vessel, including the date, time and approximate distance from the vessel and the action taken to comply; Keep records of the person(s) responsible for the operation of the vessel at any time during dredging.
Environmental monitoring Records	GPC/ Contractor	Refer to Section 5.8 and the Monitoring Procedure

Record Type	Responsible Person	Details
Measure Plant and Equipment	Contractor /GPC	The Contractor will keep operational records, and GPC will keep records for monitoring equipment. Refer to Section 5.9
Training Records	Contractor / GPC	Refer to Section 5.10
Incidents	Contractor	Notifications, Investigations, Reports. Refer to Section 5.13
Complaints	GPC	Notifications, Investigations, Reports. Refer to Section 5.12
Emergencies	Contractor / GPC	Relevant decision making documentation and any investigations / reports
Waste	Contractor	Regulated Waste Tracking and Sewage Waste records Refer to Section 6.9
TACC	GPC	TACC record keeping including but limited to, Terms of Reference (TOR), TACC membership and annual meeting minutes Refer to Section 5.16(a)
Internal audits and inspections	GPC	Refer to Section 5.11
Annual Performance audit	GPC	Refer to Section 3.1(b)
Aspects and Impacts Register	GPC	Refer to Section 5.3
Contractor EMP	Contractor	Refer to Section 2.1
Alternative Methodologies	GPC	Document performance of alternative dredgers and methodology (when used).

Table 6: Provision of information to external parties

Information Type	External Party	Details
Notification of commencement of dredging	DES	Five (5) days prior, including information on the area(s) to be dredged and location(s) of disposal with evidence of any applicable approvals for disposal.
EMP and Monitoring Procedure	DES	A copy of this EMP and the monitoring procedure, submitted to DES (as the receiving environment monitoring program), 20 days prior to commencement of dredging and amendments as required by DES comments. Refer to Section 5.17.
Incident Notification and Reports on a breach of a condition	DAWE, DES, DAF (as required by obligations)	Notifications, Investigations, Reports. Refer to Section 5.13
Compliance Report	DES	A report submitted to DES within 40 business days of completion of all monitoring required by EA (EPPR00570813). The report must include areas and volumes that were dredged, where it was placed, reportable incidents, all monitoring results with summaries, graphic interpretations and an assessment of these results in relation to the conditions of the EA and environmental impacts. In respect to the receiving environment monitoring program, reports are to be provided as detailed in that plan. Refer to Section 5.8 and the monitoring procedure.
Quarry Allocation Annual Return	DES	A return detailing the quantity of quarry material removed in each calendar month of that year, within 20 business days after the end of each calendar year. A return is still required when no quarry material is removed. Administering authority must be notified in writing as soon as practicable after becoming aware of any records relating to Quarry Allocation Approval that have been stolen, lost, destroyed or damaged.
Performance Report to QPA	QPA	Risk Assessment for the Scheduling of Maintenance Dredging and comparative analysis of dredging performance to be provided to Queensland Ports Association. Refer to Section 3.1(b)
Revision of dredging documentation	DES	Provision of this EMP and or associated frameworks documents to Regulators upon revision, refer to Section 5.17

Information Type	External Party	Details
GPC documentation and monitoring reports on the GPC website	Public	Refer to Section 5.16(b)

5.16 Communication

The Port Infrastructure Asset Manager is the main point of contact with the dredging Contractor, and is supported by the Civil/Structural Engineer and the Environment team to achieve compliance with the EMP, associated documents and permits.

Regular interactions occur between GPC and the Contractor, GPC maintenance dredging meetings will be held as required to track progress and discuss environmental issues including adaptive management with the Environment team.

GPC is the main point of contact for external parties in regards to maintenance dredging activities in the PoG. However as the dredge operator, will initiate emergency response calls, incident and complaint notification to GPC, investigation and reporting for works under their contract scope and the scope of their EMP. The dredging Contractor will initiate emergency response calls for any matters outside of their scope of works in the event that GPC main point of contact is unavailable.

(a) Technical Advisory Consultative Committee (TACC)

GPC established a TACC for the purpose of maintenance dredging in 2000. The TACC includes a wide cross section of stakeholders as per the NAGD. The role of the TACC is to provide external advice and recommendations to ports on environmental, social and economic issues and are a way of ensuring that a range of stakeholders are consulted for maintenance dredging management and monitoring.

GPC facilitates annual meetings with the TACC where the outcomes of dredging and monitoring programs are reviewed, discussed and refined.

A significant amendment to this EMP or associated documents, including a significant environment change in risk will be communicated to the TACC.

More information is provided in the LMDMP and the TACC Terms of Reference.

(b) Access to reports and data for maintenance dredging

GPC publishes the current approved version of the LMDMP, EMP and Monitoring Procedure on the GPC website for public access.

In accordance with Principal 16 of the MDS, GPC also provides reports prepared in accordance with statutory approval requirements for the most recent dredging campaign on GPC's website along with copies of the most recent monitoring reports and the SAP and implementation report.

The LMDMP also commits for transparency in regards to the TACC, so in response the TACC Terms of Reference and meeting minutes will be displayed on the website.

To ensure accuracy and currency of reports and data on the web is achieved, GPC has implemented an 'Access to report and Data Process'.

In addition to providing access to report and data on the GPC website, GPC also has a data request process established for the external dissemination of environmental monitoring data and reports.

5.17 Review

EMP operation and implementation and associated documents will be reviewed prior to each dredging campaign, or annually, or as a result of:

- Findings of internal and external inspections and/or audits,
- Changes in legislation or approvals,
- Incident and / or complaint investigations, or
- In the event a performance indicator (Section 5) is not met.

The review process is necessary to ensure currency, relevance and accuracy. Revisions are kept as a new version in GPC's electronic document management system and must be communicated to all relevant GPC Employees, engaged Contractors and relevant administering authorities.

A copy of this EMP and its associated Monitoring Procedure must be submitted to DES at least 20 business days prior to the commencement of dredging and amended with any comments made by DES.

Significant revisions requiring re-approval will be saved as a new version, while administrative revisions will be saved as a new sub-version.

6 Environmental Risk Management

The management actions prescribed below are applicable to GPC's oversight of the Marina dredging and any works undertaken by GPC during the Marina dredging campaign. As the works will be primarily undertaken by a Contractor, the Contractor will also be required to prepare an EMP that more specifically addresses the environmental risks associated with their operations. The Contractor's EMP will be reviewed and approved by GPC prior to implementation.

6.1 Acid Sulphate Soils

Sediment testing has confirmed that no ASS/PASS treatment or management will be necessary during the proposed works.

6.2 Air Quality and Emissions

The release of airborne contaminants from operational activities poses a potential environmental risk to operators, nearby neighbours and the surrounding environment.

Objectives	The key objectives are: • To ensure that the release of toxic, noxious or offensive odours, airborne contaminants and particulate matter resulting from the works does not cause an environmental nuisance at any nuisance sensitive place. • To ensure that the conservation of energy and reduction of greenhouse emissions is considered during works.

	• Compliance with permit conditions and management plans	
Potential Impacts	• The release of toxic, noxious or offensive odours, airborne contaminants and particulate matter resulting from the works may cause an environmental nuisance sensitive place. • Unmitigated energy consumption and greenhouse gas emissions.	
Control Strategy	• To avoid or minimise where possible the release of toxic, noxious or offensive odours, airborne contaminants and particulate matter from dredging and disposal equipment carrying out operational activities.	
Actions	1.	To reduce the creation of fumes, appropriate plant and equipment should be utilised and all plant and equipment should be serviced and inspected regularly.
	2.	No waste will be burnt or stored on site long enough for it to decompose and cause odour nuisance.
	3.	All complaints or incidents pertaining to air quality should be reported to GPC by the Contractor. If air quality issues persist, cease the activity and schedule maintenance and / or corrective actions.
Performance Indicators	1.	No air quality related complaints or incidents associated with the works.

6.3 Noise, Vibration and Lighting

Dredging and land disposal activities involve the use of powered mobile equipment operating 24 hours, 7 days a week for the duration of the works.

Objectives	The key objectives are: • To avoid causing noise and lighting nuisance to any nuisance sensitive place • Compliance with permit conditions and management plans.	
Potential Impacts	Noise from activities may cause environmental nuisance as described in the *Environmental Protection Act 1994* (Qld).	
Control Strategy	• To minimise where possible nuisance noise and lighting from dredging and disposal equipment carrying out operational activities.	
Actions	1.	Select appropriate equipment and ensure plant and equipment is well maintained.
	2.	Fit noise suppression devices to plant and equipment if possible / practical.

	3	All complaints or incidents pertaining to air quality should be reported to GPC by the Contractor. Where nuisance noise or lighting is identified, determine the source, alter the source and / or instigate abatement measures
	4.	Noise or vibration monitoring may be undertaken at GPC's discretion to investigate any complaint about nuisance noise being caused by an activity. Monitoring should be undertaken to the appropriate standard or DES manual.
Performance Indicators	1.	No noise or lighting complaints or incidents associated with the works.

6.4 Cultural Heritage

Discharging "cultural heritage duty of care" by ensuring that Aboriginal cultural heritage will not be harmed during extraction of material and reclamation works.

Objectives	The key objectives are: • Ensure Indigenous and Queensland Heritage items / areas are not impacted by the works.	
Potential Impacts	Non-compliance with *Aboriginal Cultural Heritage Act 2003* (Qld) and *Queensland Heritage Act 1992* (Qld) may lead to cultural heritage harm. This may lead to fines and /or prosecution under these Acts.	
Control Strategy	• Works conducted within approved locations and to declared depths.	
Actions	1.	If cultural heritage items are observed / suspected during works, the activity will cease immediately and a reasonable exclusion zone designated around the item.
	2.	The identification of any potential cultural heritage item(s) must be notified as per the Incidents procedure in Section 5.13 of this EMP.
	3.	Any potential heritage item(s) will be assessed in situ by an approved representative of the appropriate claimant group.
	4.	All complaints or incidents should be reported to GPC by the Contractor. GPC will report all complaints or incidents as per Sections 5.12 and 5.13 of this EMP.
Performance Indicators	1.	No cultural heritage harm that causes a non-compliance with *Aboriginal Cultural Heritage Act 2003* (Qld) and *Queensland Heritage Act 1992* (Qld) associated with the works.

6.5 Biodiversity Fauna

Dredging has the potential to have an impact on marine megafauna. A number of these species are listed species under legislation as such the works need to be conducted in a way that ensures that there is no to minimal impact. The management of marine megafauna associated with maintenance dredging and disposal is described below. Marine fauna can consist of megafauna such as Turtles, Dolphins and whales, while fauna is typically fish and crustaceans.

Objectives	The key objective is: • Minimisation of impacts on marine fauna in particular megafauna species of national environmental significance.	
Potential Impacts	Harm to marine fauna may affect the sustainability and diversity of both flora and fauna populations in the Gladstone harbour.	
Control Strategy	• Contactors to watch for marine megafauna prior to and during operations. • Implement controls for biodiversity, waste, water quality, noise, vibration and lighting as per Section 6 of this EMP.	
Actions	1.	• Area surrounding vessel is to be checked by the Contractor prior to commencing works to ensure that there are no marine mega fauna within sight of the vessel. • The Contractor must observe for marine megafauna while the dredge is operational. • All practical efforts will be made to avoid interaction between the dredge and marine mega fauna during dredging.
	2.	For TSHD: Prior to the commencement of dumping activities, the contractor will observe for marine megafauna in accordance with GPC's sea dumping permit requirements. For 20 minutes prior to the commencement of dumping activities, a check must be undertaken using binoculars from a high observation platform for marine species in the monitoring area (within 300 m of the vessel). Dumping will not commence until the animal(s) move beyond the monitoring area or 20 minutes has passed and the animal(s) has not been observed within the monitoring zone in that time or when sea dumping the vessel is to move to another area and maintain a minimum distance of 300 m between the vessel and the marine mammal or turtle. All practical efforts will be made to avoid interaction between the dredge and marine mega fauna during dredging. The marine spotters shall compile a daily log of marine species observed within the monitoring area, including date/time/direction/ approximate distance/ individual or cluster and action taken. Refer to 5.15 Records.

	3.	In the event of marine megafauna injury or death, this should be reported as an incident as per Section 5.13. In the event that two or more of any endangered or vulnerable species of marine megafauna are fatally injured on any two (2) out of three (3) consecutive days, the dredging operation must stop and not re-commence until consultation with DES has occurred and direction has been given by DES to allow re-commencement. Where practical and safe all turtle carcasses and / or parts of turtle carcasses (of any species) that are observed shall be retrieved and appropriately stored. In the event of marine megafauna incidents, GPC shall follow the Flora and Fauna Management Guideline #1257595.
	4.	All complaints or incidents that are received by the Contractor should be reported to GPC. GPC will report these as per Sections 5.12 and 5.13
	5.	The Contractor should compile a daily log that includes marine fauna sightings (by marine spotter) before and during dredging and send copies of log records to GPC when requested and/or at the completion of the dredging campaign.
	6.	Inspections of reclamation area for signs of impacted fish or crustaceans in dredge spoil.
Performance Indicators	1.	No complaints or incidents pertaining to marine fauna associated with the works.

6.6 Flora

Dredging and reclamation has the potential to directly and indirectly impact on marine flora. Marine flora can consist of seagrass, mangroves, salt couch, existing sporadically or as a part of a coastal wetland system.

Objectives	The key objectives are: • Ensure there is no material or perceived harm to identified sensitive receptors. • No marine plant disturbance outside of lawful works footprint.
Potential Impacts	Loss of marine plants due to physical removal, smothering or increased turbidity for extended period. Loss of habitat would have flow on effects within Port Curtis
Control Strategy	• Restrict disturbance to approved footprint of dredging and disposal. • Actions addressed in the water quality management section are to be implemented.

Actions	1.	Restrict disturbance to approved footprint of dredging and disposal.
	2.	Decant water quality will be monitored by the Contractor in accordance with the EA.
	3.	All complaints or incidents should be reported to GPC by the contractor. GPC will report all complaints or incidents as per Sections 5.12 and 5.13 of this EMP.
	4.	Operation that minimises turbid plumes if possible / practicable.
Performance Indicators	1.	No exceedance of the decant water quality triggers.
	2.	No complaints or incidents in regards to flora associated with the works.

6.7 Biosecurity

Introduction of marine pests have the ability to adversely affect the biodiversity of the Port of Gladstone. Biosecurity Queensland are responsible for managing marine pest in Queensland and GPC has obligations and responsibilities to Biosecurity Queensland under the *Biosecurity Act 2014* (Qld).

Objectives	The key objective is: • To ensure there is no material or perceived harm from biosecurity risks.	
Potential Impacts	Increased competition, predation or disease will affect existing flora and fauna within the Gladstone Harbour.	
Control Strategy	• Use Australian Vessels where possible to minimise possibility of introduction of introduced species. • Contractor to ensure compliance with vessel arrival clearance procedures (Biosecurity Protocols) as required. • Contractor to undertake obligations and responsibilities outlined in the *Biosecurity Act 2014* (Qld).	
Actions	1.	Should a marine pest invasion be noticed or suspected, GPC is to be notified as per the incident procedure in Section 5.13 of this EMP.
	2.	Follow DAWE and DAF instructions with regards to biosecurity issues.
Performance Indicators	1.	No biosecurity incidents or complaints.
	2.	Contingency measures outlined by Biosecurity Queensland have been followed in the event of marine pests detection.

6.8 Waste Management Hazardous Substances Handling and Storage

Powered mobile equipment used to dredge utilises Diesel, Engine & Hydraulic Oils. These and any other hazardous substances used during works need to be managed to protect the environment.

Objectives	The key objectives are: Fuels, oils and greases to be contained and controlled in a manner that prevents environmental harm. Spills of fuel, oils and greases are contained and cleaned up so that no environmental harm occurs. Prevent land or water contamination.
Potential Impacts	Poor practices with hazardous substance handling, storage and spill response can lead to contaminated land and/or marine pollution.
Control Strategy	To contain and control fuels, oils and greases appropriately; To ensure good housekeeping and maintenance of equipment; and To clean up spills effectively and dispose of wastes appropriately.
Actions	1. Emergency response procedures are implemented and Employees are suitably trained.
	2. Spill equipment is available and maintained and personnel are familiar with its use.
	3. Regular housekeeping and maintenance of equipment, work areas, storage areas and refuelling equipment.
	4. Hazardous substances will be contained and controlled in a manner that prevents environmental harm. All bunding will be appropriately sized for the application and capacity maintained (e.g. kept free of rain water).
	5. A register of hazardous substances stored / used will be kept and MSDS sheets will be available.
	6. All contaminant spills must be cleaned up immediately.
	7. Contaminants from hydrocarbon spills and hazardous chemicals are disposed of as Regulated wastes (see Section 6.9 below).
	8. GPC and MSQ shall be notified of marine spills as per the incident procedure in Section 5.13 of this EMP
Performance Indicators	1. No complaints or incidents involving Fuel, Oil, Grease or other hazardous substances that cause or have the potential to cause serious or material environmental harm.
	2. Effective and efficient clean-up of all spills and disposal of contaminated material.

6.9 Waste (including Regulated Waste)

Dredging activities are likely to utilise and generate waste products. Regulated wastes are defined in Schedule 9 Part 1 of the *Environmental Protection Regulation 2019* (Qld). There are currently 78 waste products listed in the regulation including sewage, grease trap waste, hydrocarbons and emulsions, lead-acid batteries, mineral oils and tyres. Anything which is contaminated with a residue of a regulated waste must also be treated as a regulated waste (e.g. spill kit material used to clean up a hydrocarbon spill).The regulation also defines how these wastes are handled, stored, transported, tracked and disposed.

Objectives	The key objectives are: • Track and quantify regulated waste generation and removal. • Ensure regulated wastes are stored, transported and disposed of appropriately.	
Potential Impacts	Poor disposal of regulated waste can lead to contaminated work areas, possible harm to the environment and non-compliances with legislation.	
Control Strategy	• Track regulated waste generation, transport and disposal associated with dredging activities. • Store, transport and dispose of appropriately.	
Actions	1.	Keep the following records when regulated waste is removed from site: • the date, • quantity and type of waste removed, • the name of the waste transporter and/or disposal operator that removed the waste; and • the intended treatment/disposal/destination of the waste.
	2.	Regulated waste must be transported by licensed Contractor to be disposed at a licensed place.
	3.	Any sewerage holding tanks on the Contractor's vessel should be pumped out regularly by a licensed Contractor to an approved location.
	4.	Any regulated waste spills shall be cleaned up immediately.
	5.	Regulated wastes will be contained and controlled in a manner that prevents environmental harm. All bunding will be appropriately sized for the application and capacity maintained (e.g. kept free of rain water).
	6.	Designated regulated waste areas / bins provided to encourage waste segregation.

	7.	Waste must not be burnt.
	8.	Dispose of waste appropriately and segregate waste streams where possible.
	9.	GPC and MSQ shall be notified of marine spills as per the incident procedure in Section 5.13 of this EMP
	10.	If a person removes regulated waste associated with the works in a manner that is not lawful and/or in accordance with this EMP and the relevant approvals, this must be reported as an Incident as per Section 5.13 of this EMP.
Performance Indicators	1.	No incidents or complaints of regulated waste being spilt, stored, transported and/or disposed of incorrectly.

6.10 Water Quality

Dredging and on-shore disposal has the potential to impact on water quality. Appropriate management controls will be in place to ensure that impacts during dredging and disposal are reduced /controlled as much as possible and that decant waters from on-shore disposal are in compliance with licence release limits.

Objectives	The key objectives are: • Ensure water quality in the Gladstone Marina is managed • Ensure decant water quality is monitored.	
Potential Impacts	Poor water quality can have a detrimental impact on marine flora and fauna in the harbour.	
Control Strategy	• Hazardous substances, wastes and regulated wastes are handled, stored, transported and disposed as per Section 6.8 to avoid pollution of waters. • Decant water quality is monitored. • Sediments for dredging are tested for contaminants and ASS/PASS. • Dredging operations minimise turbidity generation where possible and practical.	
Actions	1.	Monitoring Procedure to be applied for CSD option.
	2.	Refuelling, hazardous substance management and waste management is to be conducted in accordance with Section 6.8 above.
	3.	Dredging operations minimise turbidity generation where possible and practical and take reasonable step to avoid adverse effects on water quality.

	4.	Sediments to be dredged are tested by GPC in accordance with the NAGD 2009.
	5.	All complaints or incidents that are received by the Contractor should be reported to GPC. GPC will report these as per Sections 5.12 and 5.13.
	6.	Vessel log books are maintained by the Contractor and are available to GPC.
	7.	The Contractor should notify GPC immediately if there are issues impeding the effectiveness of turbidity minimising equipment on the dredger.
Performance Indicators	1.	No non-compliant releases of decant waters from the reclamation area.
	2.	No incidents / complaints attributed to the activity

6.11 Social

GPC activities and the City of Gladstone are intertwined both geographically and historically. A harmonious relationship is desired for GPC to continue to operate effectively. The works in the Marina will be very visible to the community.

Objectives	The key objective is: • to gain positive public perception and acceptance and avoid creating environmental nuisance.	
Potential Impacts	Poor public perception and acceptance could lead to a disconnect between GPC and the community, making operations activities unwanted and unpopular.	
Control Strategy	• Communication with key stakeholders prior to works commencing. • Complaint investigation and feedback processes • Oversight and management of the operations	
	1.	GPC will communicate upcoming works with key stakeholders, in particular Marina tenants
	2.	Uphold the commitments made in this EMP in order to operate in a lawful and responsible manner and minimise environmental harm and / or nuisance.
	3.	Complaints shall be followed up by an investigation / corrective action process. A response will be issues to the complainant by GPC's community relations team.

Performance Indicators	1.	No incidents / complaints as a result of the maintenance dredging activities.

7 References

Australasian Marine Associates (2018) Implementation Report - Sediment Sampling and Analysis Plan for the Port of Gladstone Maintenance Dredging 2017.

8 More information

This Procedure will be available to all Employees, Contractors, vendors and Consultants. This document is uncontrolled when printed. The current version of this Procedure is located on Gladstone Ports Corporation's Intranet.

If you require any further information, please contact the Custodian, listed under Document Accountability on the cover page.

9 Appendices

9.1 Appendix 1 – Related documents

(a) Legislation and regulation

Key relevant legislation and regulation, as amended from time to time, includes but is not limited to:

Type	Legislation/regulation
Federal Acts	*Environment Protection and Biodiversity Conservation Act 1999* *Biosecurity Act 2015*
State Acts	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Fisheries Act 1994* *Biosecurity Act 2014* *Transport Operations (Marine Safety) Act 1994*
Other	International Convention for the Prevention of Pollution from Ships - MARPOL

(b) Gladstone Ports Corporation documents

The following documents relate to this Plan:

Type	Document number and title
Tier 1: Policy	#366016 Environment Policy #924357 Risk Management Policy
Tier 2: Standard/Strategy	#801782 Environment Strategy #809151 Environmental Management Standard #995910 Safety Environment and Security Standard for Contractors and Port Users #829152 Risk Management Standard #1334976 Waste Management Strategy
Tier 3: Specification/ Procedure/Plan	#146256 EMS Plan #1032515 Environmental Standard for Tenants #314935 Environmental Monitoring Schedule #934182 Standard for Learning and Development #1092359 HSEQ Communication and Consultation Procedure #1245255 HSEQ Audits, Inspections, Interactions and Observations Procedure #142189 HSEQ SAI360 Action Management Procedure #1075526 Incident Management and Investigation Procedure #1044716 Environmental Complaints Management Procedure #1092028 MSQ First-strike Oil Response Plan #1257595 Flora and Fauna Management Guideline #1433809 Port of Gladstone, Long term maintenance dredging management plan LMDMP, MDS Version, 2018 #1561976 Port of Gladstone Marina Maintenance Dredging Environmental Monitoring #1468341 Maintenance Dredging TACC Terms of Reference

Type	Document number and title
Tier 4: Instruction/Form/ Template/Checklist	#1007885 Legal and Other Requirements Register #1292854 Conditions Register #764185 Risk Register #843113 Regulatory Training Matrix #101314 Incident Management and Reporting #1621179 GPC Corporate Glossary Instruction
Other	#991281 PoG Maintenance Dredging EA EPPR00570813 #1586555 Allocation of Quarry Material AQM0057 #385339 Gladstone Port Authority (Reclamation of Land) Order (No 1) 1992

9.2 Appendix 2 – Approvals

(a) Environmental Authority

Permit

Environmental Protection Act 1994

Environmental authority EPPR00570813

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Environmental authority number: EPPR00570813

Environmental authority takes effect on 04 December 2017

Environmental authority holder(s)

Name(s)	Registered address
GLADSTONE PORTS CORPORATION LIMITED	Kullaroo House 40 Goondoon Street GLADSTONE DC QLD 4680

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Prescribed ERA, ERA 16 - Extraction and Screening, 1: Dredging, in a year, the following quantity of material, (c) more than 100,000t but not more than 1,000,000t	Adjacent to LOT 63/CTN1787
Prescribed ERA, ERA 16 - Extraction and Screening, 1: Dredging, in a year, the following quantity of material, (c) more than 100,000t but not more than 1,000,000t	Adjacent to Lot 98/CTN279
Prescribed ERA, ERA 16 - Extraction and Screening, 1: Dredging, in a year, the following quantity of material, (c) more than 100,000t but not more than 1,000,000t	Lot 210/SP120888

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the Environmental Protection Act 1994 (EP Act).

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days);

that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

Please note that, in accordance with section 200 of the EP Act, an EA has effect:

a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority-on the nominated day; or
b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or
c) otherwise-on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the Planning Act 2016 or an SDA Approval under the State Development and Public Works Organisation Act 1971), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.

Amanda Gray
Department of Environment and Heritage Protection
Delegate of the administering authority
Environmental Protection Act 1994

Date issued: 04 December 2017

Enquiries:
Coastal and Marine Assessment
Department of Environment and Heritage Protection
Phone: 1300 130 372
Email: palm@ehp.qld.gov.au

Obligations under the Environmental Protection Act 1994

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

Conditions of Environmental Authority

Condition

General

Condition number	Condition
GPMG1	Activities under this environmental authority must be conducted in accordance with the following limitations: (a) the amount of dredged material in a year must not exceed 1,000,000t; and (b) within the bounds of the Port of Gladstone **maintenance dredging** footprint as shown in Schedule 2 on the following approved plans— (i). Figure 1 – Limits of Gladstone Port, showing existing approved channels, berth pockets, swing basins, anchorages and marina (ii). Figure 2 – Boyne River Bar Maintenance Dredging Section 86 Approval Details, drawing no. 702-00573, dated 6 November 2017
GPMG2	In relation to environmental performance, **dredging** equipment must be in survey, registered and equal to or better than the following: (a) Trailing Suction Hopper Dredge (TSHD) equipped with: (i). below keel discharge of tail **waters** via an anti-turbidity control valve; (ii). on-board systems for determining solids:water ratio or density of dredged material; (iii). electronic positioning and depth control system for defining the location and depth of **dredging**; (iv). dredge heads fitted with fauna exclusion devices (e.g. turtle deflectors); and (v). valves to control the amount of air in the overflow water, reducing turbidity. (b) Cutter Suction Dredge equipped with: (i). electronic positioning and depth control system for defining the location and depth of **dredging**; (ii). continuous delivery connection to an approved placement site; (iii). a system or process to ensure the delivery system integrity is maintained at all times; and (iv). on-board systems for determining solids to water ratio or density of dredged material during operations. (c) Grab Dredge equipped with electronic positioning system for defining the location and depth of **dredging**.
GPMG3	All reasonable and practicable **measures** must be taken to minimise the likelihood of **environmental harm** being caused.

ABN 46 640 294 485

GPMG4	Record the area(s) dredged in relation to the approved plan(s) in Schedule 2, the volume of material removed (to the nearest tonne) and where these volumes are placed.
GPMG5	All information and records required by this permit must be kept for five (5) years and be made available to the **administering authority** upon request.
GPMG6	The **administering authority** must be advised at least five (5) business days prior to the commencement of any **dredging activity**, including information on the area to be dredged and the location(s) of disposal with evidence of any applicable approvals for disposal. For placement of dredge material on land (other than for beach nourishment) include evidence that the containment area is certified as fit for purpose by a registered Professional Engineer of Queensland (RPEQ).
GPMG7	A suitably **qualified person** must design and/or conduct a receiving environment monitoring program to monitor the effects of **maintenance dredging** on the marine environment.
GPMG8	The receiving environment monitoring program must include at least the following aspects: (a) significant and sensitive receptors in the **port area** are identified and mapped; (b) environmental aspects and potential impacts are identified; (c) all contaminant releases are monitored; (d) the methods for collection and analysis of the samples (including specific areas to be monitored, when monitoring is to be undertaken and duration of monitoring); (e) the methods of analysing the data and responding to the results to ensure compliance with conditions; (f) long-term ecological impacts associated with **dredging** operations are monitored; (g) reporting intervals; and (h) review of environmental performance is undertaken after each **dredging** campaign.
GPMG9	A copy of the receiving environment monitoring program must be submitted to the **administering authority** at least 20 business days prior to the commencement of **dredging** and, if necessary, amended in accordance with any comments made by the **administering authority**.

Air

Condition number	**Condition**
GPMA1	The release of odour and/or airborne contaminants from the **activity** must not cause **environmental nuisance** at any **nuisance sensitive place**.

Land

Condition number	Condition
PML003	Treatment and management of acid sulfate soils must comply with the latest edition of the Queensland Acid Sulfate Soil Technical Manual.

Acoustic

Condition number	Condition
GPMN1	Noise from the **activity** must not cause **environmental nuisance** at any **nuisance sensitive place**.

Water

Condition number	Condition
GPMWT1	Monitor and keep records of the quality characteristics of the release of **decant waters** to check compliance with Condition GPMWT2 at a frequency not less than that specified in Schedule 1, Table 1 – Dredge Decant Water Release Limits.
GPMWT2	Dredge **decant waters** must only be released to **waters** in compliance with the release limits listed in Schedule 1, Table 1 – Dredge Decant Water Release Limits at the following discharge locations: RG Tanna (RGT) from the reclamation cells to Port Curtis via Ken's Drain: 23° 49.97' S, 151° 14.10' E and 23° 49.91' S, 151° 14.07' E Wiggins Island Coal Export Terminal (WICET) to Calliope River Anabranch: 23° 50.23' S, 151° 11.81' E (Reclamation Area B) and 23° 50.88' S, 151° 10.82' E (Reclamation Area C) Fisherman's Landing to Port Curtis: 23° 47.39' S, 151° 09.57' E Western Basin Reclamation Area (WBRA) to Port Curtis: 23° 45.85' S, 151° 9.88' E
GPMWT3	All determinations of the quality of contaminants released to **waters** must be made in accordance with, but are not limited to, methods prescribed in the latest edition of the **administering**

	authority's Monitoring and Sampling Manual; and carried out on samples that are representative of the discharge.
GPMWT4	A suitably **qualified person(s)** must conduct any monitoring required by this approval.
GPMWT5	All analyses and tests required under this authority must be carried out at a laboratory that has NATA certification for such analyses and tests. The only exception to this condition is for in-situ monitoring of pH, Dissolved Oxygen and Turbidity.
GPMWT6	Immediately cease discharging **decant waters** if any water quality parameter stated in Schedule 1, Table 1 – Dredge Decant Water Release Limits is exceeded and take reasonable and practical **measures** to rectify the exceedance.

Reporting

Condition number	Condition
GPMR1	A report is to be submitted to the **administering authority** within 40 business days of completion of all monitoring required by this authority. The report must include areas and volumes that were dredged, where it was placed, reportable incidents and all monitoring results with summaries, graphic interpretations and an assessment of these results in relation to the conditions of this authority and environmental impacts. In respect of the receiving environment monitoring program, reports are to be provided as detailed in that plan.
GPMR2	Any incident of **environmental harm** (including a reasonable suspicion that **environmental harm** has or is likely to have occurred), the activities must cease immediately and be reported to the **administering authority** as soon as practicable, but within 24 hours on (07) 4971 6500 (during business hours) or 1300 130 372 (Pollution Hotline).
GPMR3	A written notice detailing the following information must be provided to the **administering authority** within 14 days of any incident provided in accordance with Condition GPMR2: (a) the name of the operator, including their approval number; (b) the name and telephone number of a designated contact person; (c) quantity and substance released; (d) vehicle and registration details; (e) the location and time of the release; (f) the suspected cause of the release; (g) a description of the effects of the release; (h) the results of any sampling performed in relation to the release; (i) actions taken to mitigate any **environmental harm** caused by the release; and (j) proposed actions to prevent a recurrence of the release.
GPMR4	All complaints received must be recorded and the following details provided to the **administering authority** upon request: (a) time, date, name and contact details of the complainant; (b) reasons for the complaint;

	(c) details of investigations undertaken by the **port authority**; (d) conclusions formed; and (e) actions taken to resolve the complaint.

Waste

Condition number	Condition
GPMWS1	Only remove waste from the site by using a transporter lawfully able to transport it and to a place lawfully able to receive it.
GPMWS2	Waste must not be burnt.

Legislative Requirements

PLR022	This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access state controlled roads), the Department of Natural Resources and Mines (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).
PLR024	Development Approval This permit is not a development approval under the *Planning Act 2016*. The conditions of this environmental authority are separate, and in addition to, any conditions that may be on the development approval. If a copy of this environmental authority is attached to a development approval, it is for information only, and may not be current. Please contact the Department of Environment and Heritage Protection to ensure that you have the most current version of the environmental authority relating to this site.

Definition

Key terms and/or phrases used in this document are defined in this section. Where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

"activity" means the environmentally relevant activity to which this environmental authority relates.

"administering authority" means the Department of Environment and Heritage Protection and any successor administering the *Environmental Protection Act 1994*.

"continuously", in respect of continuous monitoring means *in-situ* monitoring with data collected at least every five (5) minutes.

"decant waters" – means settled dredge spoil waters released to Port Curtis following settlement or other management requirements.

"dredging" includes extraction of mud, sand, coral, ballast, shingle, gravel, clay, earth and other material from the bed of Queensland tidal and non-tidal waters. Dredging also includes the discharge of dredge decant waters and is not complete until decanting has finished to the satisfaction of the administering authority.

"environmental harm" means environmental harm as defined in section 14 of the *Environmental Protection Act 1994*.

"environmental nuisance" is unreasonable interference or likely interference with an environmental value caused by—

(a) aerosols, fumes, light, noise, odour, particles or smoke; or
(b) an unhealthy, offensive or unsightly condition because of contamination; or
(c) another way prescribed by regulation.

"environmental value" means environmental value as defined in section 9 of the *Environmental Protection Act 1994*.

"maintenance dredging" means dredging undertaken in existing approved shipping channels, berth pockets, swing basins, anchorages and marina(s) to maintain declared depths.

"measures" has the broadest interpretation and includes plant, equipment, physical objects, monitoring procedures, actions, directions and competency.

"NTU" means nephelometric turbidity units.

"nuisance sensitive place" means;

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises;
- a motel, hotel or hostel;
- a kindergarten, school, university or other educational institution;
- a medical centre or hospital;

- a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area;
- a public thoroughfare, park or gardens; or
- a place used as a workplace, an office or for business or commercial purposes and includes a place within the curtilage of such a place reasonably used by persons at that place.

"port area" means as defined in section 267 of the *Transport Infrastructure Act 1994*.

"port authority" means as defined in Schedule 2 of the *Transport Infrastructure (Ports) Regulation 2005*.

"qualified person" means a person or persons who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

"serious environmental harm" means serious environmental harm as defined in section 17 of the *Environmental Protection Act 1994*.

"Western Basin" means all existing shipping channels, berth pockets, swing basins and anchorages to the west of the Wiggins Island wharf swing basin.

"waters" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and any under groundwater, any part-thereof.

Appendices

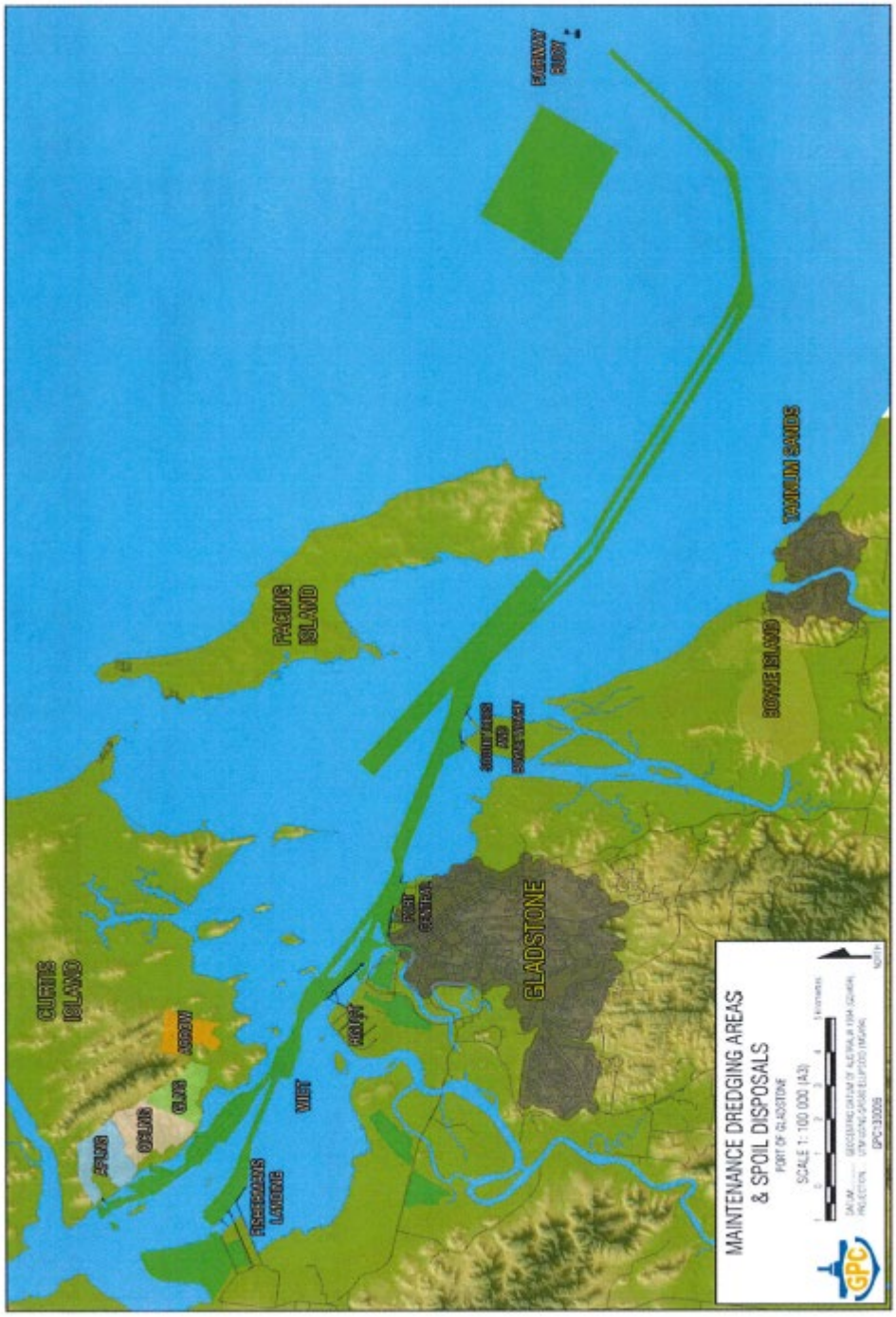
Schedule 1

GPMT1	Table 1 – Dredge Decant Water Release Limits			
Quality Characteristics	Type of Release Limit			Monitoring Frequency
	Minimum	80th Percentile	Maximum	
Suspended Solids	-	80 mg/L (Senescent[1]) 50 mg/L (Growing[1])	100 mg/L (Senescent[1]) 60 mg/L (Growing[1])	Weekly
Turbidity	-			Continuously
Dissolved Oxygen	2.0 mg/L			Continuously
pH	6.5	-	9.0	Continuously
Ammonia			1 mg/L	Weekly
Aluminium			165.0[3] µg /L	
Cadmium (filtered)	-	-	2.1[3] µg/L	Weekly[2]
Chromium (filtered)	-	-	13.2[3] µg/L	Weekly[2]
Copper (filtered)	-	-	3.9[3] µg/L	Weekly[2]
Lead (filtered)	-	-	13.2[3] µg/L	Weekly[2]
Mercury (filtered)	-	-	0.3[3] µg/L	Weekly[2]
Nickel (filtered)	-	-	21.0[3] µg/L	Weekly[2]
Silver (filtered)	-	-	4.2[3] µg/L	Weekly[2]
Zinc (filtered)	-	-	45.0[3] µg/L	Weekly[2]
Tributyltin (TBT)			-	Weekly[2]

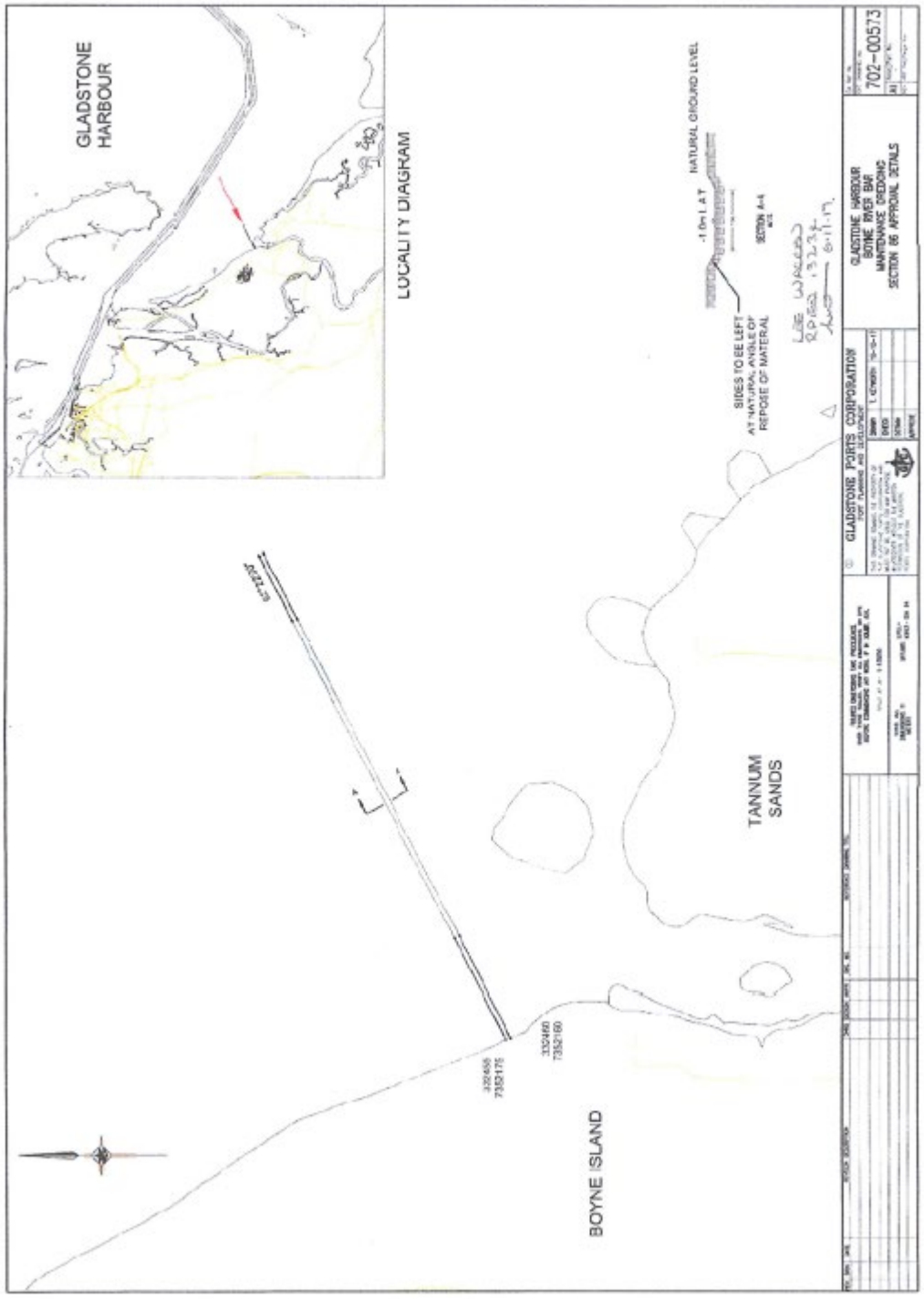
[1] In consideration of seagrass requirements, "Senescent" season is from 1 January to 30 June inclusive. The remainder of the year is taken to be the "Growing" season.
[2] While pH levels are outside the above range, monitoring for the above metal species is to be carried out daily.
[3] These values are trigger values only. If three (3) consecutive results exceed these values, all results must be reported to the administering authority and further investigation may be required.

Schedule 2

GPMF1	Figure 1 – Limits of Gladstone Port, showing existing approved channels, berth pockets, swing basins, anchorages and marina



GPMF2	Figure 2 – Boyne River Bar Maintenance Dredging Section 86 Approval Details, drawing no. 702-00573, dated 6 November 2017



(b) Allocation of Quarry Materials

Notice

Coastal Protection and Management Act 1995

Allocation of quarry material (renewal)

This notice is issued under Section 83 of the Coastal Protection and Management Act 1995 *by the department to provide details of the approved allocation of quarry material below high water mark. This notice does not authorise the removal of any quarry material until the allocation holder has obtained all other necessary approvals, including a development permit and/or an environmental authority.*

Allocation number: **AQM0057**

Effective date: **15 April 2020**

Expiry date: **14 April 2025**

Details

Table 1.

ALLOCATION HOLDER(S)	NAME	ADDRESS
Principal holder	Gladstone Ports Corporation Limited	40 Goondoon Street, Gladstone, QLD 4680

Table 2.

ACTIVITY LOCATION(S)	PURPOSE
Gladstone Marina and Auckland Inlet	Maintenance of navigational channel

Table 3.

ALLOCATED AREA	PLAN NUMBER	PLAN DATE
Adjacent to Lot 209 on SP120888, as identified in Approved Plan	3-2 Rev A	December 22, 2014

Table 4.

MAXIMUM DEPTH (metres below Australian Height Datum)	TOTAL QUANTITY TO BE REMOVED[1] (m^3)	INITIAL RATE OF ROYALTY PAYABLE[2]
-4.5m LAT	400,000	Exempt from royalty

Delegate:

Amanda Gray
Delegate, Chief Executive administering the *Coastal Protection and Management Act 1995*
Department of Environment and Science

5/3/2020

Enquiries:

Permit and Licence Management
Phone: 1300 130 372
Email: palm@des.qld.gov.au

CONDITIONS OF APPROVAL

GENERAL	
G1	All reasonable and practicable **measures** must be taken to prevent or minimise **environmental impacts** caused by the **removal** of the **quarry material** and handling, placement, or **rehandling,** of the **spoil**.
G2	All **records** must be kept for the duration of the **Allocation Notice** and at least five years from when the current **Allocation Notice** expires and must be provided to the **chief executive or nominated delegate** within the required timeframe and in the specified format upon request.
G3	The **chief executive** must be notified in writing as soon as practicable after becoming aware of any **records** that have been stolen, lost, destroyed or damaged.
G4	All **personnel** operating under this **Allocation Notice** must be made aware of the content and conditions of the notice; and at all times must: 1. Comply with the content and conditions of the **Allocation Notice**; and 2. Have access to a copy of the **Allocation Notice** in either digital or hard copy format.
SITE LIMITS AND MANAGEMENT	
L1	The **dredging operation** must be conducted in accordance with the following limitations: 1. The Allocation Area, that is, the area adjacent to Lot 209 on SP120888, as identified in Plan 3-2 Rev A, Prepared by BMTWBM as outlined in Table 3. 2. The maximum quantity (m^3), that is 400,000m^3 over the allocation period, as outlined in Table 4.
MEASURING QUARRY MATERIAL	
M1	The **Allocation Holder** must submit to the **chief executive**: A **return** of the volume of **quarry material removed** from the **Allocation Area,** even if no material has been extracted during that period. The volume of **quarry material removed** from the **Allocation Area** must be measured in cubic metres (m^3) using an approved verifiable methodology. The **return** is due within 20 business days after the end of each calendar year.
M2	A daily record must be kept of when dredging is occurring at the **Allocation Area**.

DEFINITIONS

Where a term is not defined, the definition in the *Coastal Protection and Management Act 1995* or its regulation must be used. If a word remains undefined it has its ordinary meaning. Some of these definitions are from the *Coastal Protection and Management Act 1995.*

Allocation Area means the area where removal of **quarry material** by **you** is permitted, the extent of which is set out in the **Allocation Notice**.

Allocation Holder means the holder(s) of the **Allocation Notice** whose details are set out in the Details tables at the front of the **Allocation Notice**.

Allocation Notice means the Notice issued under section 76 of the *Coastal Protection and Management Act 1995* by the **chief executive** of the **Department** to provide details of the approved allocation of **quarry material** in **tidal water** and associated conditions.

Appropriately qualified person means a person who has professional qualifications, training, skills and experience relevant to hydrographic or bathymetric surveying and can give authoritative assessment, advice and analysis in relation to the survey results using relevant methods.

Approved disposal facility includes lawfully authorised: landfill; reclamation area; or other land-based disposal site.

Chief executive means the **chief executive** administering the *Coastal Protection and Management Act 1995*, at the time of publication being the **chief executive** of the Department of Environment and Science, and their delegates.

Commercial purpose means the **removal** of **quarry material** for no other purpose than the direct sale of the material or for the use of the material to reclaim land. It does not include removal of **quarry material** for community infrastructure, government support transport infrastructure, beach nourishment, or disposal as **dredged material**.

Contaminant has the same meaning as in the *Environmental Protection Act 1994* and includes prescribed water contaminants under schedule 9 of the Environmental Protection Regulation 2008.

Department means the Department of Environment and Science or its successor or predecessors.

Dredged material means mud, sand, coral, shingle, gravel, clay, earth and other material removed by dredging. Dredged material includes dredge spoil and extracted quarry material.

Dredging operation includes all components of the activities necessary for the removal, transport, handling, **rehandling** and disposal of **quarry material** and **dredged material**.

Environmental impacts means impacts that the **removal** of the **quarry material**, including the proposed method of extraction, or the handling, placement, or **rehandling** of **dredged material** may have on:

- the physical and ecological integrity of the **Allocation Area** and surrounds;
- the environmental values and water quality objectives for the **waters**; and
- the management of fish habitats, marine parks and protected areas in and adjacent to the **Allocation Area**.

Flood event is as determined by the **chief executive**.

Measures has the broadest interpretation and includes:

- **Procedural measures** such as standard operating procedures for dredging operations, environmental risk assessments, management actions, Departmental directions and relevant guidelines
- **Physical measures** such as plant, equipment, physical objects (such as bunding, containment systems etc.), ecosystem monitoring and bathymetric surveys.

Personnel include plant operators, sub-contractors, staff and any other persons responsible for the implementation of, or operating under, the **Allocation Notice**.

Physical measures - see definition of **measures**

Procedural measures - see definition of **measures**

Quarry material has the same meaning as in the *Coastal Protection and Management Act 1995*.

Records include: documentation of **measures**; reporting on **measures**; survey results required under a condition of this notice; daily extraction logs and periodic extraction returns; **royalty** payment records; written procedures; **records** of maintenance actions; **records** of disposal arrangements; outcomes of risk assessments; documentation of the **removal** of plant, equipment and **measures** from the **Allocation Area** upon completion of the operation.

Rehandling means to handle or relocate **dredged material** from a stockpile

Remove (removed, removal) means to:

- extract and collect **quarry material** from the **Allocation Area**; or
- take plant, equipment and **measures** that are associated with the **dredging operation**, out of the **Allocation Area**.

(**Remove** does not include the rehandling of **dredged material** or collection of quarry material as part of a geotechnical investigation associated with future tidal works or extraction)

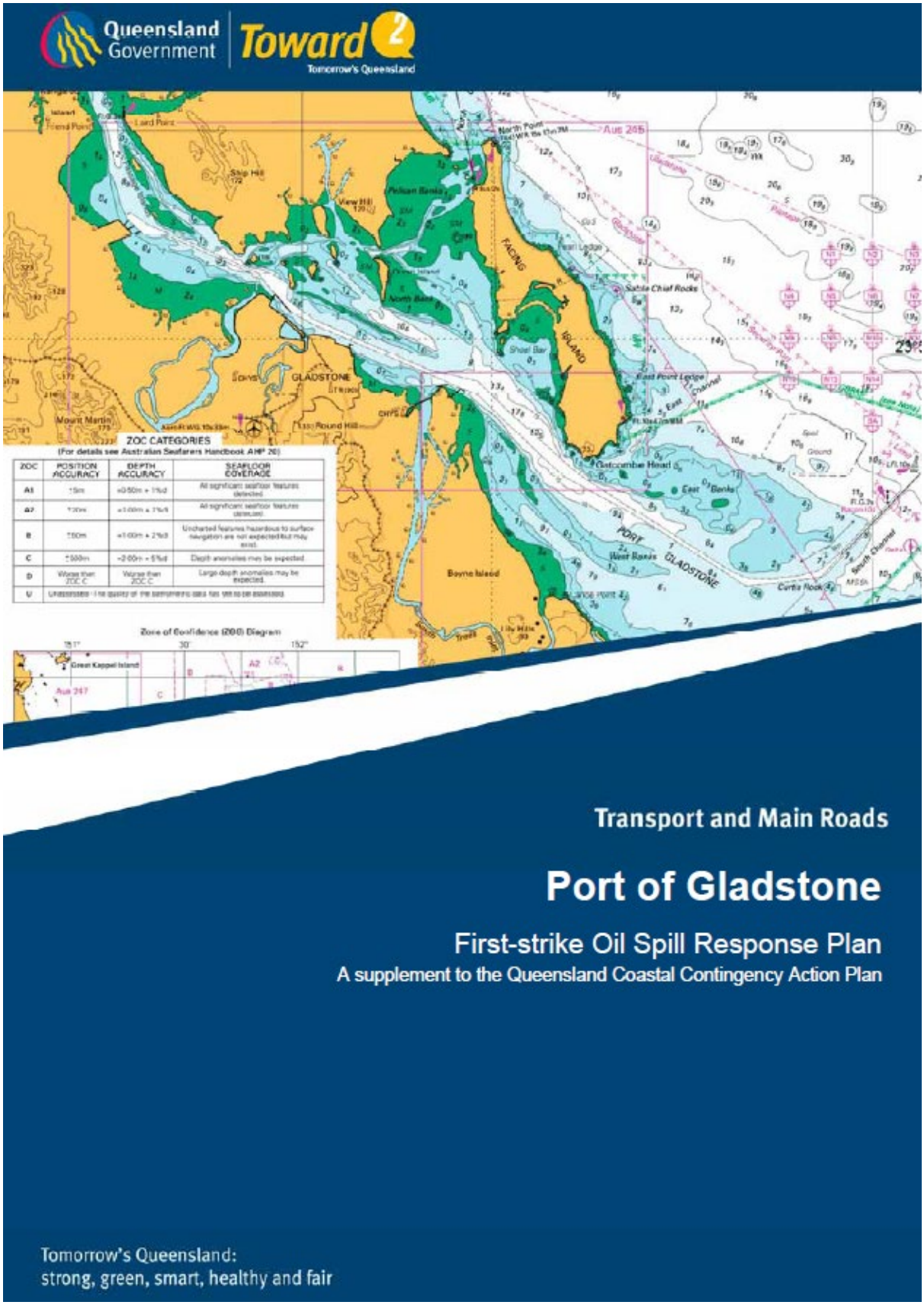
Return means a written **return** completed in the approved form (available at www.qld.gov.au using the publication number ESR/2015/1601 as a search term) that details the quantity of **quarry material removed** by **you** for that period.

Royalty means the rate prescribed under a regulation or the price set for the sale that is payable for **quarry material removed** under an **Allocation Notice**

Tidal water has the same meaning as in the *Coastal Protection and Management Act 1995*.

End of approval

9.3 Appendix 3 – MSQ First Strike Response Plan



Document control sheet

Prepared by	Maritime Services Branch
Division	Maritime Safety Queensland
Location	Floor 21, Mineral House, 41 George Street, Brisbane 4001
Version no.	4.0
Revision date	4 April 2011
Status	Final
File Number	225/00028

Document sign-off

Version 1 of this document was approved by the Chair of the Queensland National Plan State Committee in July 2006. Subsequent amendments have been of an administrative nature only and have not changed the intent of the document.

Contact for enquiries and proposed changes

If you have any questions or suggested improvements please phone the Manager, Pollution Response on 07 31207411 or email pollution@msq.qld.gov.au

Contents

1 Introduction

This plan has been prepared by the Department of Transport and Main Roads in accordance with the agreed arrangements of Australia's National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances (National Plan) and the requirements of the Transport Operations (Marine Pollution) Act 1995. It is a supplement to the Queensland Coastal Contingency Action Plan.

2 Scope

This plan deals with first-strike response to oil spills from ships and other sources within the port of Gladstone, Queensland. See Appendix A for details of geographical area.

3 Objective

The aim of this plan is to describe the operational arrangements of the Oil Pollution First-Strike Response Deed between Maritime Safety Queensland and the Central Queensland Ports Authority (formerly Gladstone Port Authority). In doing so the plan describes the first-strike response and handover arrangements for oil spills within the port, identifies available resources, and provides key contact information.

The plan is not a stand alone document and should be read in conjunction with:

- the Queensland Coastal Contingency Action Plan
- Maritime Safety Queensland Standard Operating Procedures for oil spill response
- the Oil Pollution First-Strike Response Deed for the port of Gladstone.

4 Roles and Responsibilities

The roles and responsibilities for first-strike response to oil spills within the port limits of Gladstone are defined as follows:

- Maritime Safety Queensland is both Statutory and Combat Agency for response to all ship sourced oil spills.
- Gladstone Ports Corporation is responsible for first strike response, as per the Oil Pollution First-Strike Deed and this contingency plan, to all oil spills within the port limits.
- The Department of Environment and Resource Management (DERM) is the Statutory Agency for land sourced oil spills and is responsible for assuming the role of Environment and Science Coordinator (ESC) for oil and chemical spills in:
  - harbours and working areas of the port outside of the Great Barrier Reef Marine Park, and
  - coastal waters outside the Great Barrier Reef World Heritage Area.
- This role will be exercised in full consultation and cooperation with the GBRMPA.

- The GBRMPA is responsible for assuming the role of ESC where oil or chemical spills occur within the Great Barrier Reef World Heritage Area and adjacent shorelines, excluding those harbours and working areas of the Port which fall outside of the Great Barrier Reef Marine Park. This role will be exercised in full consultation and cooperation with the DERM.
- Maritime Safety Queensland is the Combat Agency for land sourced oil spills, aside from spills from oil terminals, through a memorandum of understanding with EPA.
- The relevant oil company or terminal operator is the designated Combat Agency for first-strike response to oil spills from oil terminals. The cooperative arrangements for response to oil spills by the Australian oil and associated industries are described under the oil industry's AMOSPlan.
- Gladstone Regional Council is responsible for shoreline cleanup operations outside of the port security area under the direction of Maritime Safety Queensland.

Details of the roles and responsibilities may be found in Schedule 1 to the Inter-Governmental Agreement on Australia's National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances.

5 Direction of Maritime Safety Queensland

Maritime Safety Queensland directs the Gladstone Ports Corporation to initiate and carry out first-strike response operations within the port of Gladstone in accordance with Section 8 of this plan.

6 Threat Assessment

In 2010, Maritime Safety Queensland commissioned a semi-qualitative risk analysis of oil spills from ships over 10 metres in length for all ports in Queensland. The results of the study show there is a risk of an oil spill occurring within the port of Gladstone, with the main risk factors being land-based spills, the frequency of small spills, refuelling activities and navigational hazards within the port. The port also has a high sensitivity rating.

The port of Gladstone contains a number of diverse environments, some of which are highly sensitive to the effects of marine pollution. These include large areas of mangroves, intertidal flats and seagrass beds close to the shipping channel and port area. Other areas, particularly The Narrows, are extremely sensitive to the environmental effects of oil spills. Similarly the Gladstone marina, Auckland Creek and Barney Point beach, as well as the islands within the harbour, are important recreational areas for the local community.

While the risk of a significant oil spill in the port is small, a number of activities that regularly occur in the port do present a credible threat. These activities include:

- large trading ships entering and leaving the port via a narrow channel
- oil product tankers discharging oil products at South Trees and Auckland Point Berths
- Chemical tankers discharging Caustic Soda at South Trees Wharf, Fisherman's Landing #2 Berth and Bulk Liquid Ammonia at Fisherman's Landing #5 Berth
- Large trading ships calling to load bunkers
- Large trading ships bunkering whilst undertaking cargo operations

- large trading ships coming in contact with berths or other ships
- significant commercial shipping activity and refuelling operations in the Marina
- commercial and recreational shipping activity in Auckland Creek and the adjacent marina
- commercial and recreational shipping activity in the Boyne River.

7 Possible Spill Scenarios

The most common type of oil spills likely to occur in the port are small spills of petrol, diesel fuel or bilge oil from commercial or recreational ships or shore based activities. However it is also possible that the following types of spills may occur within the port.

- 300 tonnes of heavy fuel oil from trading ships resulting from serious contact incidents
- 10 tonnes of petroleum products, including heavy fuel oil, during cargo transfer operations at anchorages and berths during bunkering operations
- 5 tonnes of petroleum products, including heavy fuel oil, during bunkering operations associated with the bunker barge *Larcom*.

While each of the scenarios listed above could escalate beyond what is generally termed 'first-strike response', prompt and effective action will help limit the effects of a spill.

8 Response Options

The following guidelines apply to first-strike response within the port.

Area	Monitor	Contain Recover	Protect Resources	Shoreline Cleanup	Apply Dispersant
Gladstone Marina	Yes	Yes	If viable	If viable	No
Auckland Creek	Yes	If viable	If viable	If viable	No
Fisherman's Landing	Yes	If viable	If viable	If viable	If viable
Clinton Wharves	Yes	If viable	If viable	If viable	If viable
Auckland Point Wharves	Yes	If viable	If viable	If viable	If viable
Barney Point Wharf	Yes	If viable	If viable	If viable	If viable
South Trees Wharf	Yes	If viable	If viable	If viable	If viable
Boyne Wharf	Yes	If viable	If viable	If viable	If viable
Areas seaward of Facing Island	Yes	If viable	If viable	If viable	If viable
Boyne River	Yes	If viable	If viable	If viable	No

Note : Any decision to use dispersants within the port area should be made in accordance with the dispersant use policy and guidelines outlined in the Queensland Coastal Contingency Action Plan. Under the guidelines:

- Prescribed Officers from GBRMPA, AMSA and Maritime Safety Queensland may authorise the use of dispersants within areas of the port that lie within the Marine Park

- Prescribed Officers from AMSA and Maritime Safety Queensland, in consultation with EPA, may authorise the use of dispersants in port areas that are outside the Marine Park.

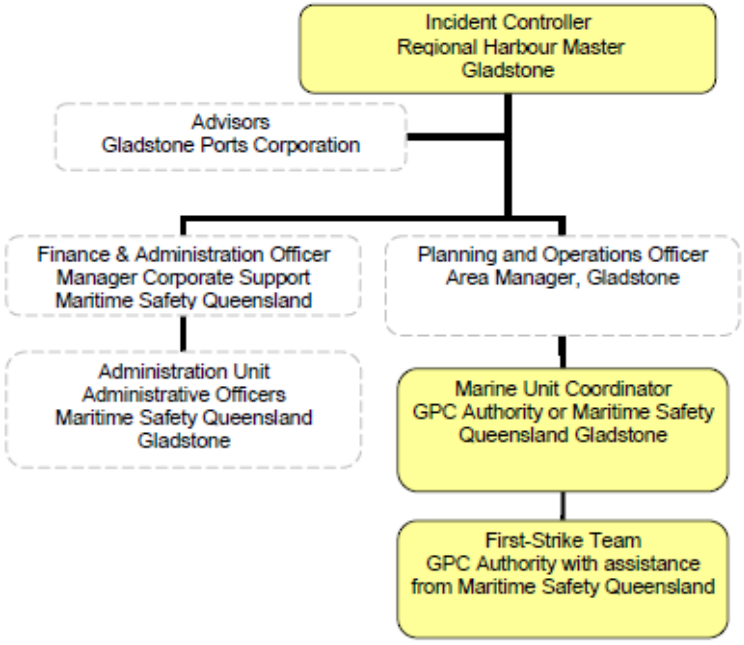
9 Response and Handover Arrangements

Early first-strike response action should include an assessment of the time and resources required to effectively manage each incident. Where a response is likely to be prolonged or exceed the port's first-strike response capacity, GPC should request assistance from Maritime Safety Queensland. When determining the need for assistance and hand-over of the response, GPC should consider the number and availability of local trained response personnel, their ability work safely without the need for excessive work hours, and the capacity of the ports' first-strike response equipment. Requests for assistance should be made as soon as possible and preferably in the first or subsequent SITREPs.

10 Incident Control Centre

The Incident Controller may elect to establish an Incident Control Centre (ICC) to aid in management of an incident within the port. If required, the ICC will be established in the office of the Regional Harbour Master (Gladstone).

11 Response Team Structure



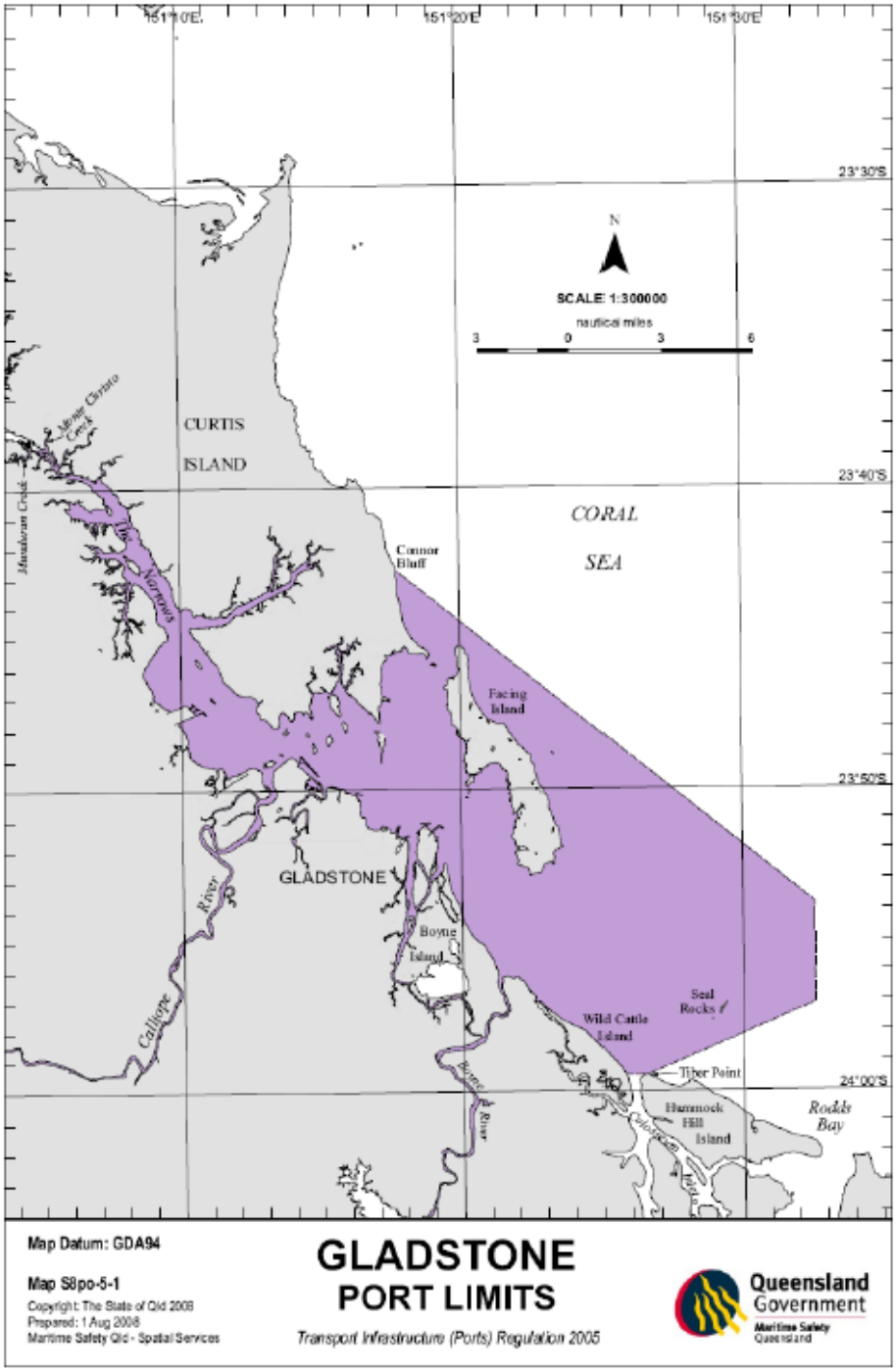
12 First-Strike Equipment

Equipment	Maritime Safety Queensland Marine Operations Base Alf O'Rourke Drive, Gladstone
Boom (Structurflex GP)	300 metres
Boom (Structurflex Land/Sea)	60 metres
Skimmer (Foilex weir and Spate pump)	1
Container (10m³ Flexidam)	2
Anchor Kit	1
Sorbent Boom	120 metres
Sorbent Pads	500 pads
Sorbent Mops	150 mops

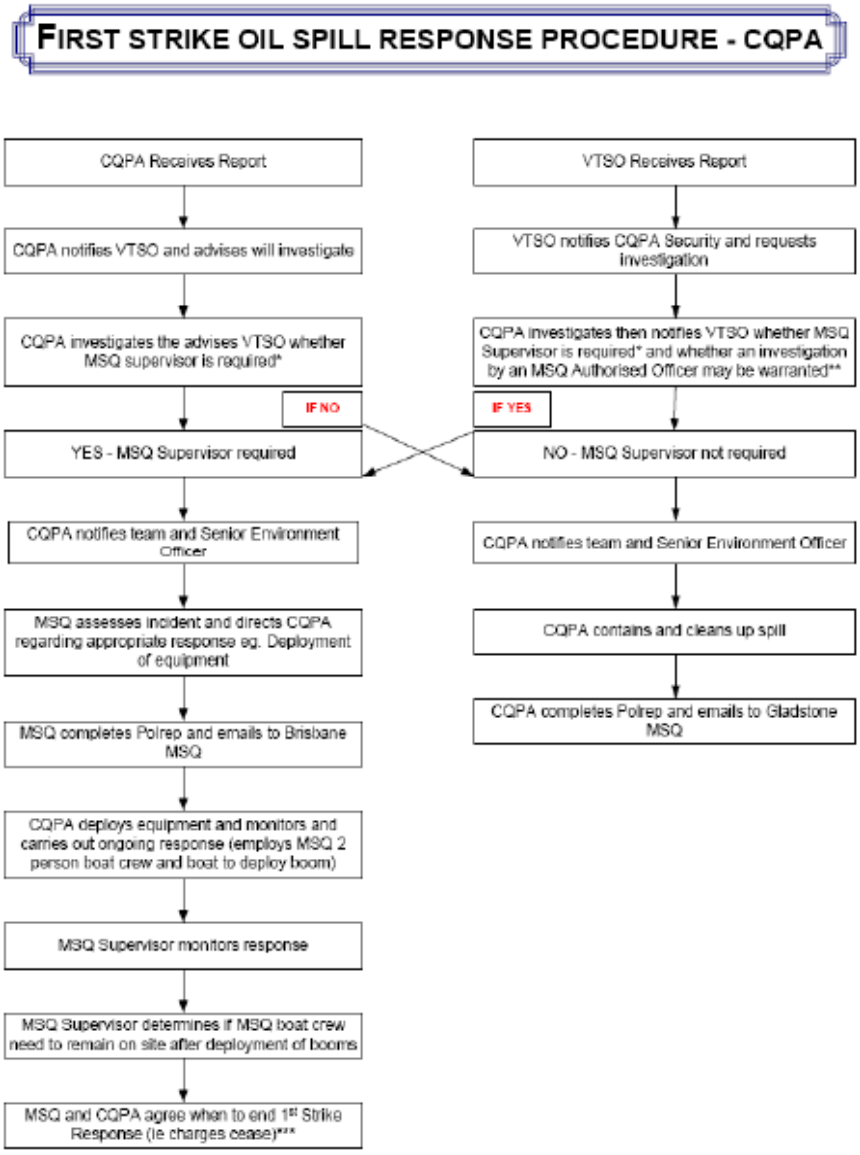
13 Contact List

Role	Position	Phone	Mobile
Gladstone Port Control	Duty VTS Officer	4973 1208	24 hours
MSQ Incident Controller	Regional Harbour Master, Gladstone	4973 1200	0407 878852
Planning & Operations Officer	Assistant Harbour Master (Gladstone)	4973 1208	0428 113089
Finance & Administration Officer	Manager Corporate Support, MSQ Gladstone	4973 1200	0409 340365
Marine Unit Coordinator	Gladstone Ports Corporation	4976 1333	24 hours
Environment and Science Coordinator for spills that are unlikely to impact the GBRMP	Environmental Protection Agency	4971 6500 0427 401931 0408 758802	1300 130372 24 hours 0427 401931 0408 758802
Environment and Science Coordinator for spills that are likely to impact the GBRMP	GBRMPA	4750 0700	24 hours 3830 4919 quote 'oil spill'
Shoreline Cleanup Coordinator	Gladstone Regional Council, (Health Leading Hand)	0407 379906 or 4970 0700	After hours Emergency 4979 1134

Appendix A – Map of Gladstone Port Limits



Appendix B – CQPA Oil Spill Response Procedure



Marine Pollution Report (POLREP)

Queensland Government
Maritime Safety Queensland

To: **Pollution Response Unit** Fax number: **(07) 3120 7420**

Urgent ☐ **Standard** ☐ **Information only** ☐

This form is used to record the initial details of a reported/sighted marine pollution spill. The form is faxed to the Pollution Response Unit on the fax number listed.

Date of incident

Time of incident

POLREP ID number

Incident investigation Yes ☐ No ☐

Marine incident number

Location of pollution

Lat . . .

Long

Category

Location

Pollution source Ship ☐ Land ☐ Unknown ☐

Ship type Recreational ☐ Commercial ☐ Fishing ☐ Trading ship ☐ Tanker ☐

Ship name

Ship registration

Pollutant

Sheen ☐ Diesel ☐ Bilge ☐ HFO ☐ Other ☐ ▶

Extent

Size of the slick (length and width in meter)

or

Litre

Report details

Has the discharge stopped? Yes ☐ No ☐ Unknown ☐

Weather conditions (tide and wind)

Photos taken ☐ Video taken ☐ Samples taken ☐ ▶ Sample taken by

Original report source

Statutory agency

Combat agency

Initial response brief

Sender details

Name

Position

Agency

Contact phone (mobile/office)

Fax number

Signature

Date

Time

Document & Forms Management
Form F3968 ES
Apr 2008

9.4 Appendix 4 – Revision history

Revision date	Revision description	Author	Endorsed by	Approved by
22/07/2020	Review and minor amendment to timeframes and volumes of 2020 campaign	Terese Tobin, Environment Specialist	Port Infrastructure Manager Owen Barton	PSD General Manager (delegate) Port Infrastructure Manager Owen Barton