HANSENYUNCKEN

Marine Works Management Plan

Project: new Sydney Fish Market Early Works

Job No: SC132

Rev C | Aug 2020

Uncontrolled Document in Hard Copy

Copies shall not be made without the written
permission of Hansen Yuncken Project Manager

Contents

1 Authorisation

1.1 Review and Approval

I have read this Management Plan, understood and agree to implement the procedure as defined

Position	Name	Sign	Date
Review			
Project Manager	Daniel Yarrow		
Site Supervisor	Eugene Godfrey		
Engineer / Project Administrator	Daniel Cessario		
Cadet			
Liberty Industrial	Antoine Delort		31/07/2020
Polaris Marine Construction	Dane Pettiford		18/7/2020
Approval			
HSE Manager	Tim Redmond		
Construction Manager	Dean Marcon		

1.2 Document Control

Revision	Description	Issued by	Issue date
0	Tender	DY	Mar 2020
A	For Review by - RMS - Harbour Master	DY	Aug 2020
B	IFC with RMS comments	DY	Aug 2020
C	IPC with DPIE comments	DY	Sept 2020

2 INTRODUCTION

2.1 Objectives

The Marine Works Management Plan addresses the following items as required for Marine Contractors to comply with the Deed and the Port Operating Protocol:

a. Interface with marine traffic in Sydney Harbour; and

b. Liaison with key agencies and the Harbour Master.

A copy of this Marine Works Management Plan (MWMP) shall be kept on site and will be reviewed monthly or earlier as required by a change to the project conditions. The effectiveness of the plan will be evaluated at project audits.

The MWMP also covers details of the Project Scope and will fulfil the following minimum requirements:

a. consultation and compliance with the Harbour Master's requirements as set out in the conditions of the Harbour Master's Approval;

b. environmental protection and security measures;

c. program requirements;

d. Procedures to be used for moving construction Vessels during normal operations and inclement weather

e. as constructed information and other records;

f. the provision to Port Authority of New South Wales (PoNSW)' Representative of details of marine works methods and planned resource levels;

g. minimisation of disruption to commercial shipping and operations in Sydney Harbour;

h. management of recreational boating; and

i. communication with the Harbour Master and Sydney Ports VTS.

2.2 Marine Works Management Plan Requirements

Schedule Requirements	Reference
Liaison with key agencies and the Harbour Master	See Section 3.1
Interface with marine traffic in Sydney Harbour	See attached drawings for mooring set-up
Marine Mammals	See Section 3.6

2.3 Reference Documents and Legislation

The primary reference document for this plan is the conditions set out in the Harbour Master's Approval for this project. Works under Construction (WUC) are to adhere to the Harbour Master's Directions (HMD) for Sydney Harbour and Port Botany as well as the following legislation:

NSW Legislation:

- Marine Pollution Act 2012;
- Marine Pollution Regulation 2014 (NSW)
- Ports and Maritime Administration Act 1995;
- Marine Safety Act 1998;
- Marine Safety Regulation 2016 (NSW);
- Work Health and Safety Act 2011 (NSW);
- Work Health and Safety Regulation 2011 (NSW);

Commonwealth Legislation:

- Shipping Registration Act 1981;
- Navigation Act 2012 and Marine Order 64
- Maritime Safety (Domestic Commercial Vessel) National Law Act 2012;
- Marine Safety (Domestic Commercial Vessel) National Law Regulation 2013;
- Maritime Transport & Offshore Facilities Security Act 2003 (Cth);
- Maritime Transport & Offshore Facilities Security Regulations (Cth).

3 Requirements of the Port Operating Protocol

3.1 Liaison with Key Agencies and the Harbour Master

3.1.1 Harbour Master

Best contact is the Manager of Compliance and Planning, Mr Sharad Bhasin. Phone: (02) 9296 4924 Mobile: 0409 811 810.

The Harbour Master is Mr Philip Holliday. Phone: (02) 9296 4650 Fax: (02) 9296 4744

Mobile: 0419 222 639.

The Harbour Master is to review and approve or reject the Marine Works Management Plan (MWMP). Communications with the Harbour Master is absolutely critical to the ongoing safety and efficient movement of vessels within the Marine Works Areas (MWA).

Marine Contractors operates regularly across Sydney Harbour and their construction staff makes regular contact with the Sydney VTS and the Harbour Master regarding vessel movements and communicating construction activities.

3.1.2 24hr Emergency Contact

The 24hr contact for the project for shall be:

Hansen Yuncken	Project Manager	Daniel Yarrow	Mob 0418 471 903
Liberty Industrial	Project Manager	Antoine Delort	Mob 0429 776 216
Polaris Marine Construction	Project Manager	Dane Pettiford	Mob 0419 552 208

3.2 Requirements of the Harbour Master's Directions

References of note include:

a. Clause 2.1 Vessel Traffic Service

The Harbour Master directs that all vessels of LOA 30m or over are required to participate in the Vessel Traffic Service (VTS). Also applicable are vessels towing or pushing a tow, where the combined length of the tug and tow are over 30m therefore including the construction barges and the proposed tugs. All participating construction barges and tugs for this project shall seek clearance to move from Sydney VTS 15minutes before moving from berths within the VTS area.

The stakeholder meeting determined that a navigational warning issued by Sydney VTS on VHF Ch 13 would be used for the notification of No Wash Zones at the works area. The Marine Contractor shall provide to VTS at least 30minutes notification of request for No Wash Zone at the project. VTS will then provide notification directly to Harbour City Ferries. No Wash Zones shall generally be required critical stages including the piling works.

b. Clause 2.87 Lights to be exhibited on lighters or barges

All construction barges when moored overnight will exhibit all round white lights at the outer edge of both fore and after ends of the barge, to be visible at a distance of at least one kilometre.

c. Clause 2.88 Mishaps to lighters or barges

The Marine Contractors shall report to PoNSW all circumstances where construction vessels have sunk, capsized or been-wholly or partially submerged, or been involved in any collision or incident. Notification to the Harbour Mater is required within 24 hours of the occurrence.

d. Clause 2.100 Recommended tug usage

Exempt Masters and Pilots may vary the combination or number of tugs used for any barge movements, depending on experience, prevailing conditions or special circumstances that may apply in consultation with the Duty Harbour Master.

3.3 Marine Works Area

The Marine Works Area (MWA) is located at the end of the Black Wattle Bay, Pyrmont. During construction the area will be closed to recreational and fishing vessels and access to the work area will be restricted to essential construction plant.

The Ferry On Demand ferry and the fishing vessels to and from the fish markets will still be able to operate as they are outside the MWA

The MWA, and any obstructions such as anchor lines will be marked with lit yellow marker buoys. Indicative mooring plan in Appendix A shows barge typical location for works. Mooring plans will be adjusted throughout the works to suit various activities.

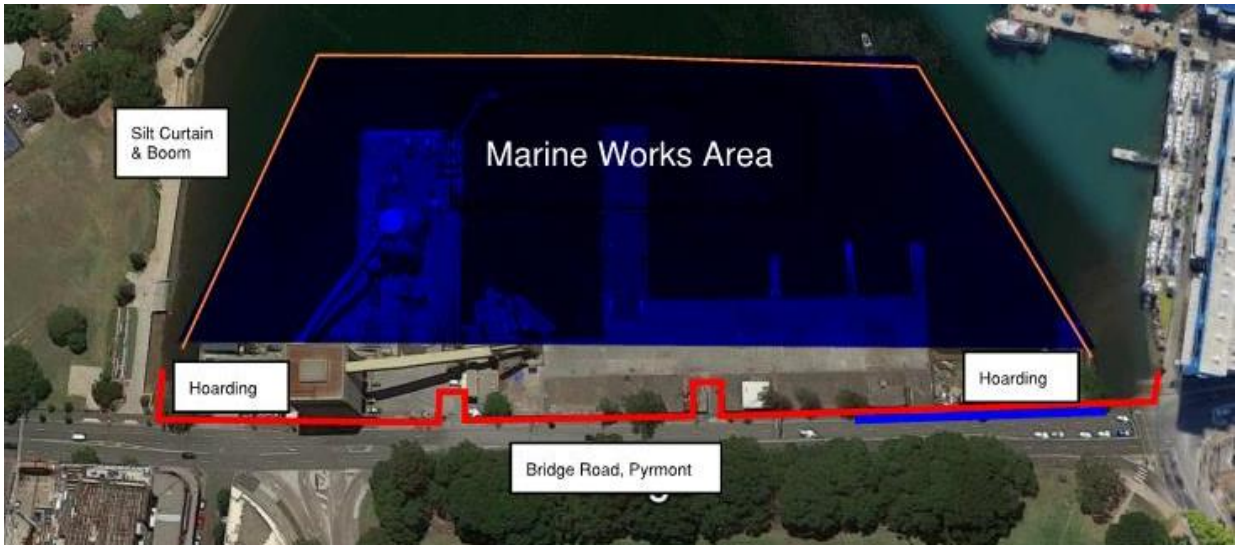


Figure 1: Marine Works Area

3.4 Safety

Working construction crane barges will maintain radio watch on Channel 13 at all times. Where any Construction Vessel has grounded or been involved in a collision or near miss with another vessel, navigation mark, wharf or structure, the master of the Construction Vessel shall immediately report such incident to VTS.

In complying with this direction the master of every Construction Vessel involved in such reported collision or incident shall:

- Comply with any direction from Sydney VTS;
- If required prepare a verbal report to the Harbour Master;
- Within 24hrs notify the Harbour Master in writing of the circumstances of the collision or incident;
- A written report detailing the incident will be sent to RMS and Infrastructure NSW and
- Cooperate fully in any subsequent investigation into the collision or incident.

A written report must be forward to Roads and Maritime within 24 hours setting out the particulars of the incident if one of the following applies:

- The incident has resulted in the death, or injury to, a person;
- The incident has resulted in damage in excess of $5,000 to a vessel or any other property;
- Damage or risk to the environment has occurred.

3.5 Navigational Aids, Markers and Exclusion Zones

Working construction barges will need to arrange anchor wire and ropes to minimise impact to the working channel in Sydney Harbour. Denotation of anchors, piles, mooring lines, silt curtains or other obstructions will be required through the deployment of lit yellow marker buoys and lights. Note that as the ferry wharf will remain closed during construction impact to navigable channels will be limited.

Marine contractor's Site Supervisors will be in regular contact with HCF to advise activities in navigable sections of the river where ferries could be affected , (especially at the beginning and end of each shift).

The corners of the barge will be marked with lights.

The silt curtain boom construction boundary will be lit, a low intensity light such as the SL15 from Sealite, or equivalent, is to be attached to a small buoy and will be located at 3 or 4 locations along the silt curtain boom.

3.6 Marine Mammals

Marine Contractors has trained Marine Spotters on board the construction barges and will report the sighting of any marine mammal to VTS as required. The proximity of the marine mammal to the construction works could impact on the works under construction. HY will ensure during the induction process that all personnel are aware of the possibility of risk of injury to marine mammals.

3.7 Fuelling

The re-fuelling of generators/piling powerpacks and mobile equipment on board the construction vessels will be carried out with the diesel fuel cell on board. The flexible pipe connected to the bowser is fitted with a manually operated pump and this is equipped with a lock that will be locked shut when

not in use. The fuel cell has a fire extinguisher and spill kit that is stored nearby and is built with an internal bunded tray. The item being refuelled also needs to be bunded during refuelling.

All personnel involved in fuelling equipment will wear the following PPE:

- Rubberised or chemical gloves
- Appropriate eye protection
- Long pants
- Hi-Vis long sleeve shirt
- Safety boots
- Personal Flotation Device (PFD) and sleeves

3.8 Chemicals & Dangerous Goods Storage

Hansen Yuncken will ensure that all risks associated with the handling, storage and use of hazardous materials are managed as per the Safety Data Sheet (SDS) and in accordance with Safework Australia 'Managing Hazardous Chemicals in the Workplace June 2012. All hazardous materials will be stored in accordance with the manufacturer's specifications and the legislative requirements.

3.9 Vessel Specifications

Marine Contractors will be mobilising pieces of floating plant to the new Sydney Fish Market Early Works Project at Black Wattle Bay, Pyrmont:

- Crane Barge
  - 35T Crane Barge (35T Spud Barge)
  - Favco Crane Barge (20T Crane Barge with 50T Shear Legs)
  - Omeo Crane Barge (3T Self-Propelled Barge)
- Material Transport Barge
  - Service Barge (20x10M Flat top barge)
- Long Reach Excavator on barge

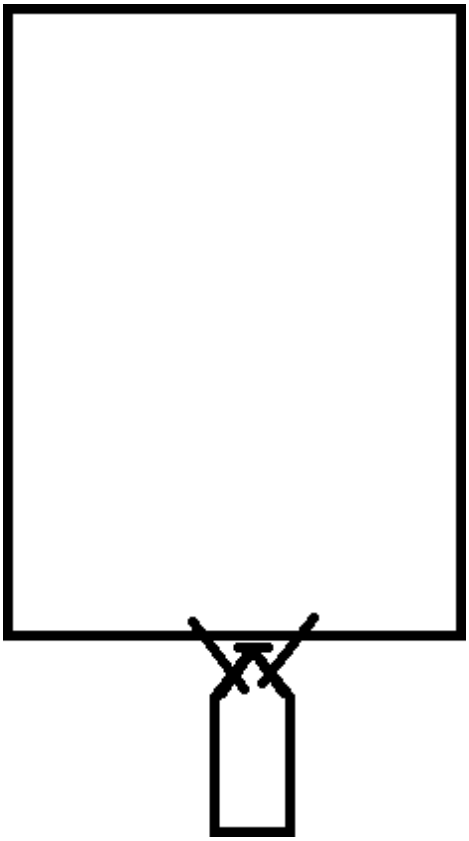


Figure 2: General Towing Arrangement

All tows to and from site will be completed in the arrangement shown in Figure 2. In general terms the stern tug will be attached to the barge in order to form a composite unit engine tug. A spotter will be employed at the front of the barge during tow to scan for any oncoming traffic and obstacles.

Generally the tug will remain as a composite unit for berthing and mooring operations on either the port or starboard side of the barge depending on conditions i.e. wind or current or in the event of having to go alongside a berth the side to required.

In the event of inclement weather it may be necessary for the assisting shoulder tug to tow the barge on a tow line behind the tug.

The workboat when required will be made fast on either port or starboard shoulder depending on operational circumstances in such a manner that it can square off and push/pull at low speed and can provide propulsion and braking assistance as required.

The crane and piling barges are fitted with winches and a 4 point mooring system fit for purpose. The barge anchors will be fitted with buoys and retrieving pennants. The mooring system will enable the barges to anchor and accurately position over the worksite. When not in operation the mooring system will allow the barges to occupy a relatively small mooring envelope given they will not swing at anchor.

The barges and tug will display the appropriate day shapes and lights at all time under the International Rules for Prevention of Collision at Sea, Australian Identification System (AIS) as well as any additional requirement that the PoNSW may deem necessary at the time. The Polaris tug Fern Bay will be used for movements and is fitted with AIS Class B system.

Towage services for the project will be provided by Polaris at various stages.

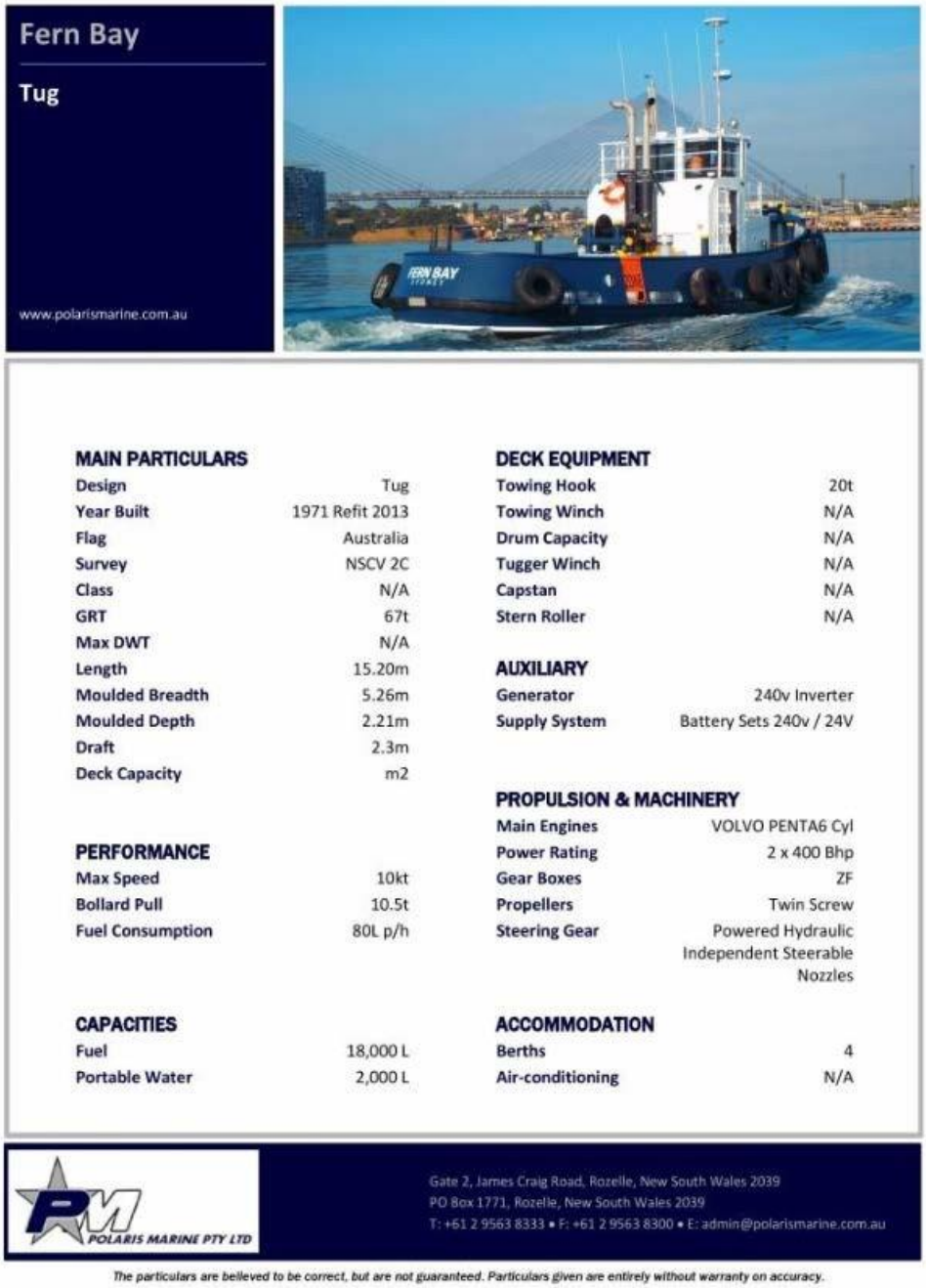


Figure 3: Polaris Fern Bay Tug Specifications

3.10 Traffic Management Plan

The travel path for the barges to and from site to the designated Marine Contractor's Yard at Rozelle Bay is outlined in Appendix B.

During marine pile (removal and test holes) and lifting works a no wash zone is required to reduce barge movements.

Where any Construction Vessel has grounded or been involved in a collision or near miss with another vessel, navigation mark, wharf or structure, the master of the Construction Vessel shall immediately report such incident to Harbour Control.

In complying with this direction the master of every Construction Vessel involved in such reported collision or incident shall:

- Comply with any direction from Sydney VTS;
- If required prepare a verbal report to the Harbour Master;
- Within 24hrs notify the Harbour Master in writing of the circumstances of the collision or incident; and
- Cooperate fully in any subsequent investigation into the collision or incident.
- All incident reporting shall comply with all State & Commonwealth marine legislation regarding the reporting of marine related incidents.

A written report must be forward to Roads and Maritime within 24 hours setting out the particulars of the incident if one of the following applies:

- The incident has resulted in the death, or injury to, a person;
- The incident has resulted in damage in excess of $5,000 to a vessel or any other property;
- Damage or risk to the environment has occurred.

3.11 Noise and Vibration Management

The following mitigation measures will be put in place to keep noise to a minimum;

- Diesel powered machines such as cranes will not be left idling unnecessarily, particularly during rest breaks
- Machinery engine covers to be closed at all times
- Operators will be encouraged to use less than full engine speed, where full power is not required, to minimise noise.
- Plant and equipment will be regulary inspected to ensure they are in good working order.

Noise will be monitored, using a hand held metering device, during the high noise periods. The results will be used to devise control methods where required.

3.12 Communications with stakeholders

All communication with stakeholders to be directed through Hanson Yuncken / Infrastructure NSW communications team. Elton Consulting have been engaged as the Communications Consultant for the project.

Contact details have been established for the Project for stakeholders and the public for communication regarding the works:

P: 1800 962 221

E: blackwattle.bay@infrastructure.nsw.gov.au

Hansen Yuncken will have signage installed on the hoarding to direct community members to the correct point of contact.

3.13 Emergency Management

Emergency Management will be as per the WHS Management Plan submitted and approved for the project

24/7 Contact

PoNSW– Sydney VTS VHF Channel 13 /92964003

Hansen Yuncken – Daniel Yarrow Mob: 0418 471 903

Liberty Industrial – Antoine Delort Mob: 0429 776 216

Polaris Marine Construction – Dane Pettiford Mob: 0419 552 208

4 Appendices

Appendix 1: Indicative Mooring Plan

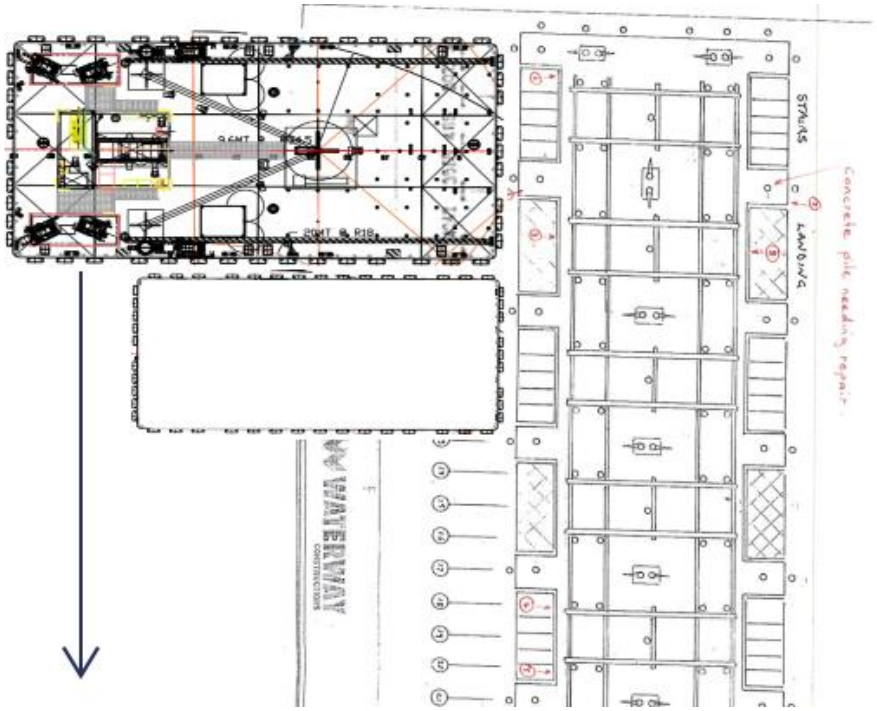
Appendix 2: Marine Traffic Management Plan for Site

Appendix 3: Barge Specifications

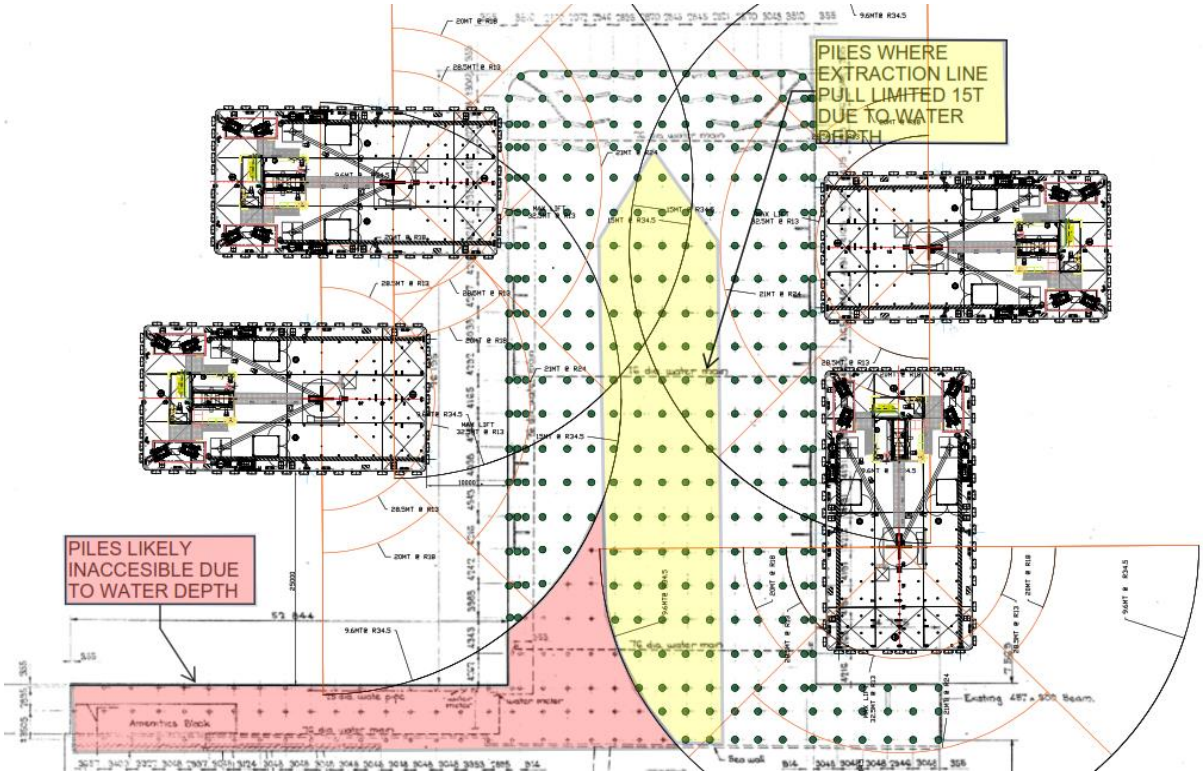
Appendix 4: Project Overview Plan

4.1 Appendix 1: Indicative Mooring Plan

Finger Wharf Demolition



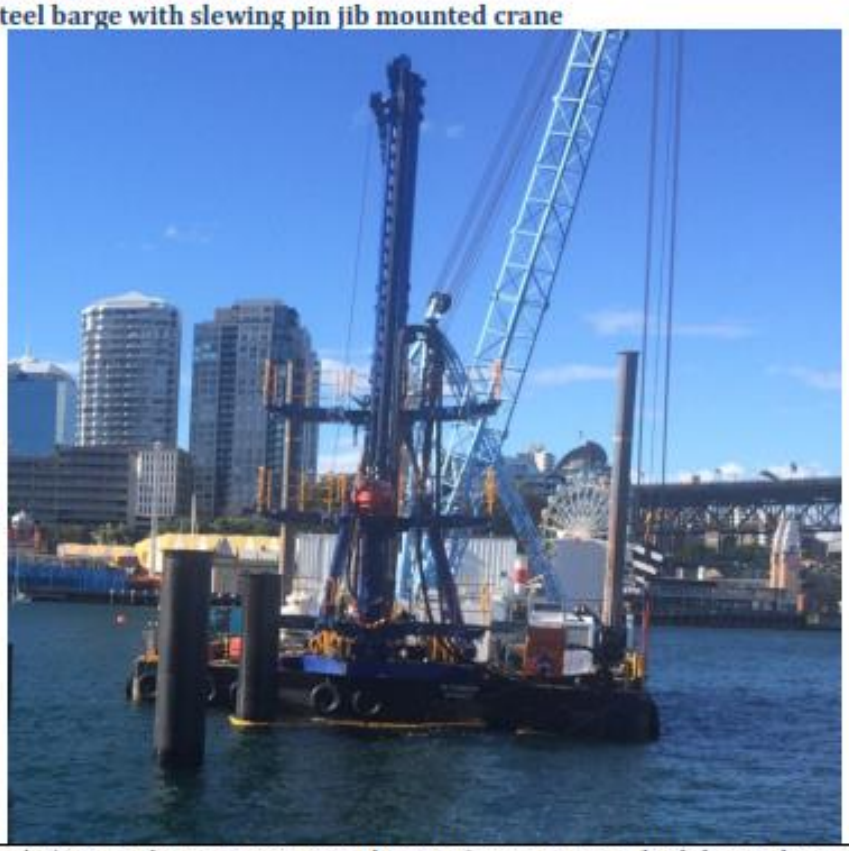
Hansen Wharf Dolphin & Pile Removal



4.2 Appendix 2: Marine Traffic Management Plan for Site

4.3 Appendix 3: Barge Specifications

Crane Barge – new '35 Tonner'
32 m steel barge with slewing pin jib mounted crane



The new '35 Tonner' was commissioned in 2015, on a purpose-built barge designed and constructed by Damen Shipyards. The barge has the versatility of spudded or anchored mooring tailored to the specific job and conditions, and the crane has flexibility for 30m and 38m boom configurations depending on project requirements.

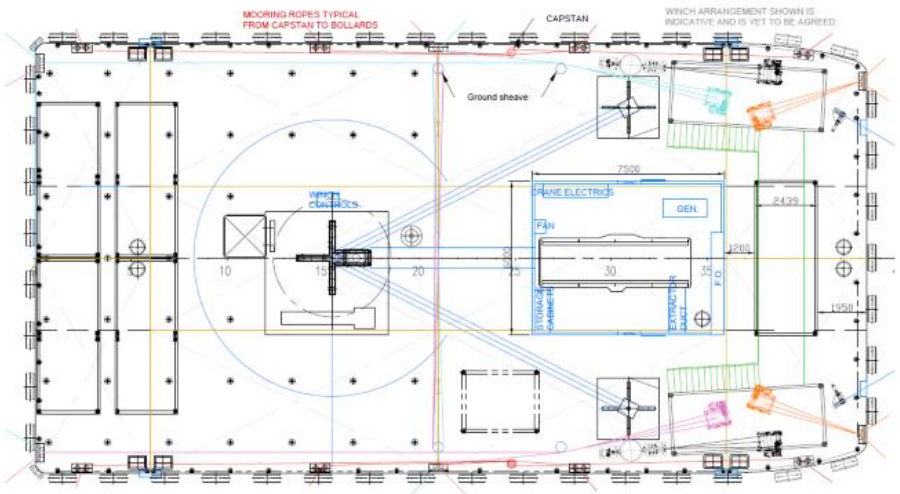
The barge can be used for a variety of marine works requiring a heavy lift crane barge, including vibratory and hammered piling works, marine structure maintenance and major construction, dive works, demolition and salvage

Barge Specifications			
Length	32 m	Class VSL	2D
Breadth	17 m	Port of Registry	Sydney
Moulded Depth	2.13 m	Official Number	21467
Draft	1.0 m	Built	1993 refurbished 2015
Free Deck Area	270 m2	Crew	6
No. of Bulkheads	16		
Crane Specifications			
Crane Type	Slewing pin jib mounted crane	Crane Capacity (Over-bow)	35 tonne at 36.7 meters
Main Engine		Crane Capacity (Over-side)	14.7 tonne at 36.7 meters

Boom Length(s)	30 m 38 m	Maximum hook height	31.2 m 38.2 m
Degrees of Rotation	270 ^{0}		
Deck Equipment			
4 x Hydraulic drum winches 4 x 2.5 tonne anchor blocks 1 x 6 m work punt with 40 hp outboard 1 x Site shed 1 x Tools store 1 x 240V power supply 2 x Diver access ladders		8 x Double bollards 4 x Ground sheaves 6 x Winch wire fairleaders (Stern, Bow and Centre) 1 x Amenities and containment 1 x Dangerous goods store	
All first aid, fire-fighting, electrical and safety equipment current, tagged and tested.			

Load Chart – 30 meter boom (Maximum rated capacity – 35 tonnes)			
Radius (m)	Over-bow (t)	Over-side (t)	Hook Height Above Deck (m)
5.4	35	35	31.2
10	35	35	30.4
14	35	35	28.8
18	35	35	26.5
22	35	25.96	21.0
26.83	28.70	19.50	15.8
28.2	28.00	19.02	12.6

Load Chart – 38 meter boom (Maximum rated capacity – 35 tonnes)			
Radius (m)	Over-bow (t)	Over-side (t)	Hook Height Above Deck (m)
5.4	35	35	31.2
10	35	35	30.4
14	35	35	28.8
18	35	35	26.5
22	35	25.96	21.0
26.83	28.70	19.50	15.8
28.2	28.00	19.02	12.6



Crane Barge – 'Favco'

18 m flat top barge with pedestal mount Favco 500 STD crane

The Favco has is used for all forms of marine based crane works requiring a crane barge with a SWL of 10 tonnes. The 18 meter flat top barge with pedestal mount slewing crane offers diverse flexibility in operations with 360 ^{0} range of motion and approximately 195 m^2 of free deck space at the bow. The barge comes fitted with a stern mounted A-frame capable of up to 50T line pull.			
Barge Specifications			
Length	18.0 m	Class VSL	2D
Breadth	11.98 m	Port of Registry	Sydney
Moulded Depth	2.0 m	Official Number	21446
Draft	0.8 m	Built	1972
Free Deck Area	130 m^2	Capacity	170 tonnes
Crew	6		
Crane Specifications			
Crane Type	Favco 500 STD	Crane Capacity (Over-bow)	10 tonne at 19.8 meter
Boom Length(s)	19.7 m	Crane Capacity (Over-side)	8.7 tonne at 19.8 meter
Degrees of Rotation	360 ^{0}	Maximum hook height	22.2 m
Deck Equipment			
4 x Hydraulic drum winches		1 x Lunch room	

Service Barge – 'BP 1'

21m flat top dumb barge

BP1 is one of four equal-dimension and capacity ballast punt barges maintained in the PMC Fleet. Offering use as either a single pontoon service barge or multiple configurations as a catamaran crane barge, PMC's 'BP' barges offer greater usability to the traditional flat top dumb barge.

Barge Specifications			
Length Overall	21.34 m	Class VSL	2D, 2E
Keel Length	17.45 m	Port of Registry	Sydney
Breadth	7.32 m	Official Number	55026
Moulded Depth	1.93 m	Weight	44 tonnes
Draft (Lightship)	0.2 m	Capacity	210 tonnes
Free Deck Area	155 m^2	Draft (Max capacity)	1.6 m
Barge Alternative Uses			
Interstate Deployment	Yes	Crane Barge	No
Pontoon Crane Barge	BP1 can be configured with any of PMC's other 'BP' barges in a catamaran configuration for use as a crane barge.		

4.4 Appendix 4: Project Overview Plan