



Works Approval

Works Approval Number	W6019/2016/1	
Works Approval Holder	Base Marine Pty Ltd	
Works Approval Holder ACN Number	165 441 529	
Registered business address	Unit 6, 280 Bannister Road CANNING VALE WA 6155	
Address for notifications	PO Box 1227 EXMOUTH WA 6707	
Duration	Commencement date	Expiry Date
	02/02/2017	01/02/2020
Prescribed Premises	Category 82 – Boat building and maintenance	
Premises	Exmouth Boat Lift and Heavy Load Out Facility Part Lot 360 on Plan 66260 EXMOUTH WA 6707	

This Works Approval is granted to the Works Approval Holder, subject to the following conditions, on 02/02/2017, by:

Date signed: 2 February 2017

Caron Goodbourn
A/Manager Licensing (Process Industries)
an officer delegated under section 20 of the Environmental Protection Act 1986 (WA)

Premises Description

The **Works Approval Holder** is proposing to construct and operate a boat lifting and maintenance facility, including a boat washdown bay to allow boat maintenance activities to be conducted on commercial vessels.

The Works Approval Holder will be carrying out activities at the **Premises** which fall within *Category 82 – Boat building and maintenance*, and as such the Premises is deemed a Prescribed Premises under the **EP Act**.

Conditions

Environmental compliance

1. The Works Approval Holder must comply with the EP Act and all regulations prescribed under the EP Act applicable to the Premises including:
 - (a) The duties of an occupier under s 61;
 - (b) The duty to notify the CEO of discharges of waste under s 72; and
 - (c) Not causing, or doing anything that is likely to cause, an offence under the EP Act,except where the Works Approval Holder does something in accordance with a **Condition** which expressly states that a defence under s 74A of the EP Act may be available.

Premises

2. The Works Approval Holder must carry out the Works within the Premises in accordance with the requirements set out in Schedule 2.
3. This **Works Approval** applies to the Premises defined in the *Premises Description Table*, and as depicted in the Premises Map in Schedule 1.

Premises Description	
General Location	Legal land description, reserve or tenement (all or part)
Shire of Exmouth	Part Lot 360 on Deposited Plan 66260

Location of Works

4. The Works Approval Holder must locate the Works generally in accordance with the Site Plan in Schedule 3.

Infrastructure and Equipment

5. Key items of infrastructure which are required to be built are listed in the **Infrastructure Requirements Table**. The Works Approval Holder must not depart from the requirements specified in column 2 of the Infrastructure Requirements Table except:
 - (a) where such departure is minor in nature and does not materially change or affect the infrastructure; or
 - (b) where such departure improves the functionality of the infrastructure and does not increase risks to public health, public amenity or the environment;

and all other Conditions in this Works Approval are still satisfied.

Infrastructure Requirements Table	
Infrastructure	Requirements (Design and Construction)
Vessel Washdown Facility	- 800m ² vessel wash down pad , constructed of asphalt or concrete that drains to two central sumps that connect to the Washdown Facility Wastewater Treatment System
Washdown Facility Wastewater Treatment System	- 1 x settling pit which contains a galvanized 1m x 1m x 1m steel cage lined with 50 micron nylon filter cloth for removal of solids >50 micron diameter; and - a series of 3 x interlinked below ground settling pits with three backwashable filters and two polishing filters to remove TSS in wastewater to less than 1 micron (95% efficiency); and - 1 x 2,000L poly tank for storage of treated wastewater prior to discharge to sewer
Boat Lifting Facility	- 320 tonne boat lift facility (mobile gantry unit) for slipping vessels
Premises Stormwater Treatment System	- The premises is graded to drain away from the marine environment and towards the road servicing the premises, Neale Cove - The stormwater system is comprised of a network of gully pits and drains located within the Premises and along Neale Cove - Stormwater flows to be treated via a Humeceptor water treatment system utilising hydrodynamic and gravitational separation to remove TSS and hydrocarbons from the water stream - Treated stormwater is then discharged to sumps and drains along Neale Cove

6. On completion of the Works, the Works Approval Holder must provide to the **CEO** a compliance document confirming the construction of the facility in accordance with the Works Approval.
7. If any departures to the specified Works have occurred, the Works Approval Holder must provide the CEO with a list of departures which are certified as complying with Condition 5 at the same time, and from the same engineer, as the certification under Condition 6.

Records and Information

8. The Works Approval Holder must maintain accurate records including information, reports and data in relation to the Works.
9. All information and records required under this Works Approval must:
 - (a) be legible;
 - (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval; and

(c) be retained for 6 years after the expiry of this Works Approval.

Reports

10. If requested by the CEO from time to time, the Works Approval Holder must provide the CEO with reports or information relating to the Works, the Premises or any condition in this Works Approval (including data from any monitoring conditions or environmental risk assessment studies).
11. Reports or information must be in such form as the CEO may require in a **CEO Request**.

Requests for Information

12. The Works Approval Holder must comply with a CEO Request, within 7 days from the date of the CEO Request or such other period specified in the CEO Request.

Definitions and Interpretation

Definitions

In this Works Approval, the following terms have the following meanings:

CEO Request means a request made by the CEO to the Works Approval Holder in writing, sent to the Works Approval Holder's address for notifications, as described at the front of this Works Approval, in relation to:

- (a) information, records or reports in relation to specific matters in connection with this Works Approval including in relation to compliance with any conditions and the calculation of fees (whether or not a breach of condition or the EP Act is suspected); or
- (b) reporting, records or administrative matters:
 - (i) which apply to all Works Approvals granted under the EP Act; or
 - (ii) which apply to specified categories of Works Approvals within which this Works Approval falls.

Condition means a condition to which this Works Approval is subject under s 62 of the EP Act.

discharge has the same meaning given to that term under the EP Act and, in relation to waste or other matter, includes deposit it or allow it to escape, or cause or permit it to be, or fail to prevent it from being, discharged, deposited or allowed to escape.

EP Act means the *Environmental Protection Act 1986 (WA)*.

EP Regulations means the *Environmental Protection Regulations 1987 (WA)*.

Premises refers to the premises to which this Works Approval applies, as specified at the front of this Works Approval and as shown on the map in Schedule 1 to this Works Approval.

TSS means Total Suspended Solids.

Works Approval refers to this document, which evidences the grant of Works Approval by the CEO under s 57 of the EP Act, subject to the conditions.

Works Approval Holder refers to the occupier of the Premises being the person to whom this Works Approval has been granted, as specified at the front of this Works Approval.

Interpretation

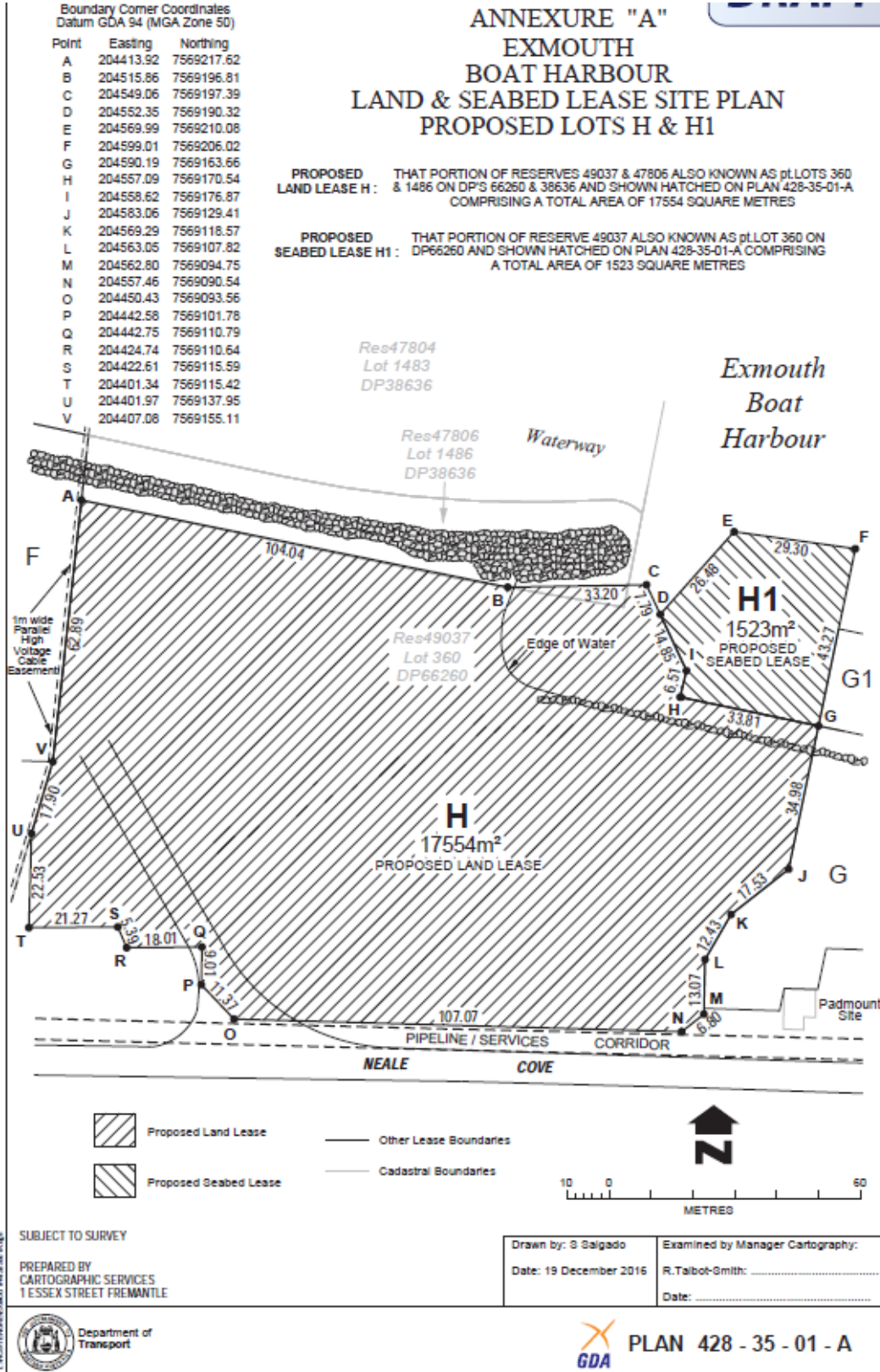
In this Works Approval:

- (a) the words 'including', 'includes' and 'include' will be read as if followed by the words 'without limitation';
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a Condition, each row in a table constitutes a separate Condition; and
- (d) any reference to an Australian or other standard, guideline or code of practice in this Works Approval means the version of the standard, guideline or code of practice in force at the time of granting of this Works Approval and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the Works Approval.

Schedule 1: Maps

Premises Map

The Premises is shown in the map below. The black line depicts the boundary to the Premises.



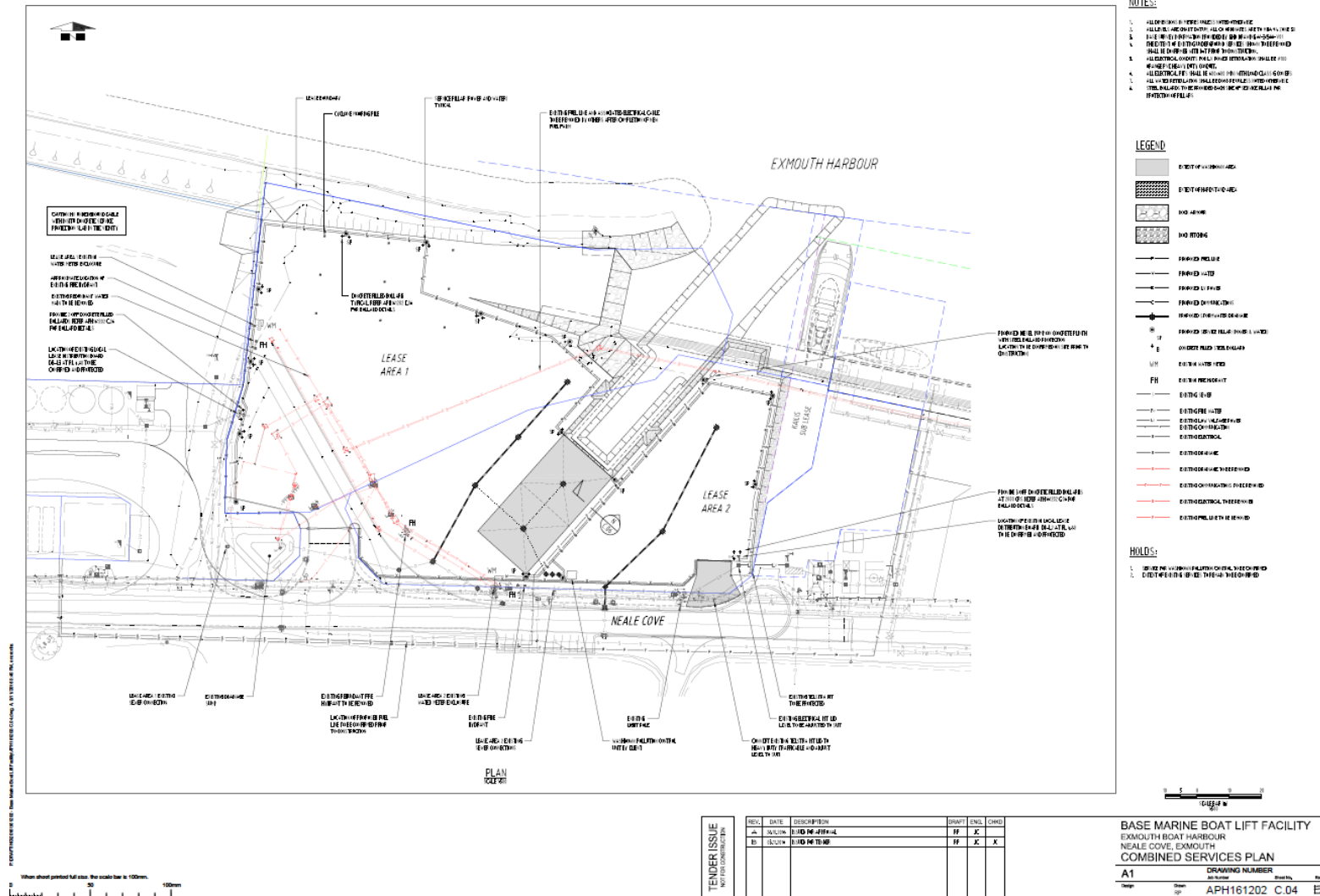
Schedule 2: Works

The Works to be carried out on the Premises are specified in the table below:

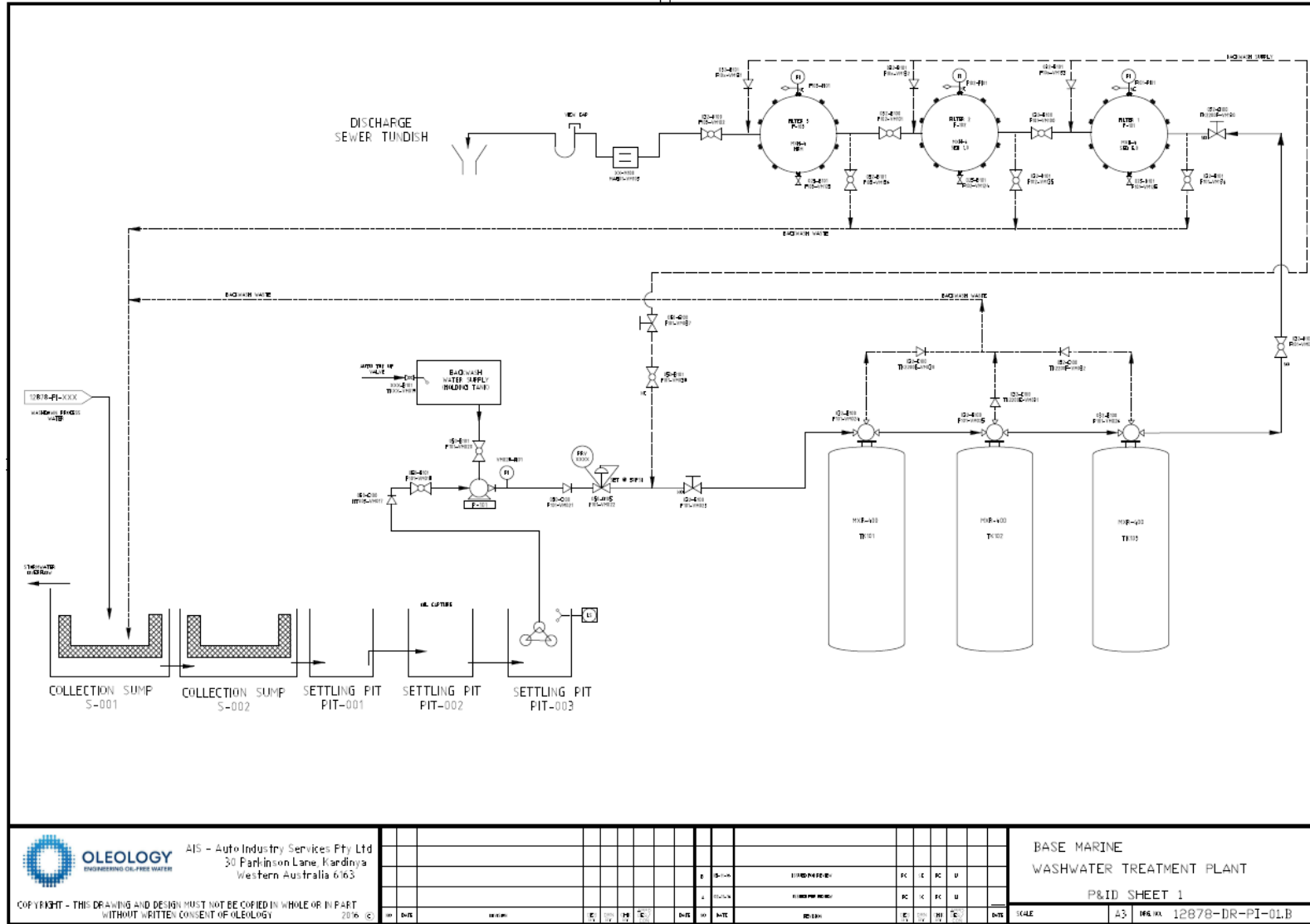
Item	Works	Specifications/Drawings
1	Vessel Washdown Facility	<ul style="list-style-type: none"> - 800m² vessel wash down pad , constructed of asphalt or concrete that drains to two central sumps that connect to the Washdown Facility Wastewater Treatment System - Refer Schedule 3 Site Plan
2	Washdown Facility Wastewater Treatment System	<ul style="list-style-type: none"> - 1 x settling pit which contains a galvanized 1m x 1m x 1m steel cage lined with 50 micron nylon filter cloth for removal of solids >50 micron diameter; and - a series of 3 x interlinked below ground settling pits with three backwashable filters and two polishing filters to remove TSS in wastewater to less than 1 micron (95% efficiency); and - 1 x 2,000L poly tank for storage of treated wastewater prior to discharge to sewer - Refer Schedule 3 Premises Wastewater Treatment System Flow Chart
3	Boat Lifting Facility	<ul style="list-style-type: none"> - 320 tonne boat lift facility (mobile gantry unit) for slipping vessels
4	Premises Stormwater Treatment System	<ul style="list-style-type: none"> - The premises is graded to drain away from the marine environment and towards Neale Cove - The stormwater system is comprised of a network of gully pits and drains located within the Premises and along Neale Cove - Stormwater flows to be treated via a Humeceptor water treatment system utilising hydrodynamic and gravitational separation to remove TSS and hydrocarbons from the water stream - Treated stormwater is then discharged to sumps and drains along Neale Cove - Refer Schedule 3 Premises Stormwater Plan

Schedule 3: Premises Plans

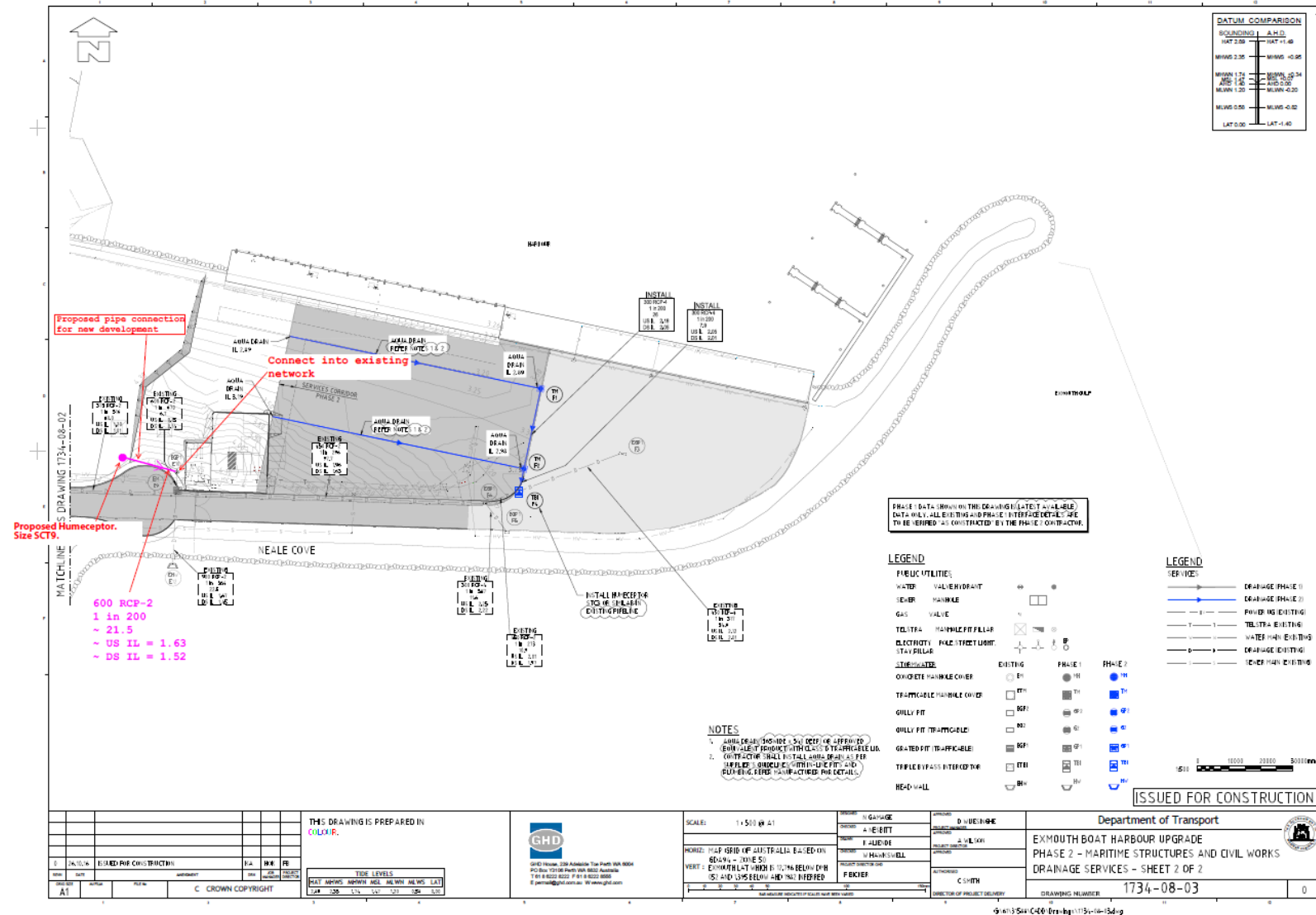
Premises Map



Premises Wastewater Treatment System Flow Chart



Premises Stormwater Plan





Application for Works Approval

Division 3, Part V *Environmental Protection Act 1986*

Applicant:	Base Marine Pty Ltd
ACN:	165 441 529
Works Approval Number	W6019/2016/1
File Number:	DER2016/002295
Premises:	Exmouth Boat Lift and Heavy Loadout Facility Part Lot 360 on Plan 66260 EXMOUTH WA 6707
Date of report:	2 February 2017
Status of Report	FINAL

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Definitions of terms and acronyms

Term	Definition
Applicant	Base Marine Pty Ltd
Category/Categories (Cat.)	categories of prescribed premises as set out in Schedule 1 of the EP Regulations
DER	Department of Environment Regulation
Decision Report	this document
Delegated Officer	An officer under section 20 of the EP Act.
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
m ²	square metres
Issued Works Approval	The works approval issued under Part V, Division 3 of the EP Act following the finalisation of this assessment
Occupier	is defined in the EP Act to mean a person who is in occupation or control of a premises, or part of a premises, whether or not that person is the owner of the premises or part of the premises.
Premises	Exmouth Boat Lift and Heavy Loadout Facility, Part Lot 360 on Plan 66260, Exmouth WA 6707
Prescribed Premises	Premises prescribed under Schedule 1 to the EP Regulations
TSS	Total Suspended Solids
WWTS	Wastewater Treatment System

1. Purpose and scope of assessment

Base Marine Pty Ltd (the **Applicant**) has applied to **DER** for a works approval to construct and operate a boat lift, maintenance and washdown facility on part Lot 360 on Plan 66260, Exmouth (the **Premises**).

This **Decision Report** assesses the emissions and discharges associated with the construction and operation of the boat lift and washdown facility.

2. Background

The applicant currently operates a marine supply base and load out facility at the Exmouth Boat Harbour within Lot 360 on Plan 66260, at Lot 1481 Neale Cove, Exmouth. The Applicant is in the process of expanding the marine supply base by an additional 15,000m² which is intended to operate as a joint boat lifting facility, boat maintenance yard (including boat washdown bay) and heavy load out facility.

The boat lift and maintenance facilities as part of the expansion meet the following **Prescribed Premises Category** as defined in Schedule 1 of the *Environmental Protection Regulations 1987*:

Table 1: Prescribed Premises Categories

Classification of Premises	Description	Approved premises production or design capacity or throughput
Category 82	Boat building and maintenance: premises on which — (a) vessels are commercially built or maintained; and (b) organotin compounds are not used or removed from vessels	Not applicable

3. Overview of Exmouth Boat Lift and Heavy Loadout Facility

3.1 Infrastructure

The premises infrastructure, as it relates to Category 82 activities, is detailed in Table 2 and with reference to the Site Plan (attached in the **Issued Works Approval**).

Table 2: Exmouth Boat Lift and Heavy Loadout Facility Category 82 infrastructure

Infrastructure	
Prescribed Activity Category 82	
The infrastructure to be constructed that relate to the boat building and maintenance activities on the Premises includes:	
1	Vessel Washdown and Abrasive Blasting / Metal Coating Facility (asphalt or concrete lined bay, 800m ²)
2	Washdown Facility Wastewater Treatment System (discharge to sewer)
3	Boat Lifting Facility
4	Premises Stormwater Treatment System

3.2 Operational aspects

The premises typically operates from 7am till 6pm (and sometimes throughout the evening) to conduct marine supply base activities in addition to a range of boat maintenance services that are performed at the vessel slipway area, including fabrication, welding, sand blasting, water blasting, hull painting/anti-fouling application and general engineering and repairs. Existing slipway services will be enhanced by the construction of a new vessel washdown bay, complete with water treatment system that discharges to sewer, as well as a new heavy boat lift facility that can lift vessels up to 12.5m wide, approximately 45m long and up to 320 T.

Vessel Washdown / Abrasive Blasting / Metal Coating Bay and Wastewater Treatment System

The vessel washdown bay will enable water washing of boats using two pressure washers / water blasters, as well as hull cleaning by abrasive blasting typically using garnet material. From time to time vessels will also be spray painted on the premises. The washdown bay will be constructed of an impervious surface (asphalt or concrete) and will drain to two grated sumps. Washwater will flow through the grated sumps and into the wastewater treatment system (WWTS) commencing at settling pit 1 which contains a galvanized 1m x 1m x 1m steel cage lined with 50 micron nylon filter cloth. The liner is removable to allow for cleaning and disposal of collected solids such as garnet, marine growth and anti-fouling paint. From settling pit 1 the filtered water then collects in the collection sump and flows through a series three interlinked below ground settling pits passing through three backwashable filters and two polishing filters to remove TSS to less than 1 micron (95% efficiency). Water is then pumped to a 2,000L poly tank from where it is discharged to sewer. The Applicant will require a discharge permit from Water Corporation to allow discharge of treated washwater to the sewerage system. Solids will be regularly removed from the WWTS for disposal by licensed waste contractors. The WWTS has also been designed to operate as “first flush” system for treatment of the first 10mm of rainwater falling on the 800m² concrete washdown bay, after which any additional rainfall bypasses the WWTS and flows into the premises separate stormwater treatment system.

Dust emissions from abrasive blasting activities will be controlled by the use of mobile modular wind breaks which can be tented in to form an enclosure. Blasting spoil will be collected and disposed of by a licensed waste contractor. Paint overspray from metal coating activities will also be contained using mobile modular wind breaks to form an enclosure.

Premises Stormwater Treatment System

The premises has a separate and dedicated stormwater treatment system onsite to treat stormwater flows across the entire site during rainfall events. Stormwater falling across the premises flows from north to south and is captured via a network of drains and gully pits that report to triple bypass interceptors (Humeceptor stormwater treatment systems) located adjacent to the road servicing the premises, Neale Cove. The Humeceptor system is an underground pre-cast concrete water treatment system that utilises hydrodynamic and gravitational separation to remove TSS and hydrocarbons from the water stream. Treated stormwater is then discharged to stormwater retention sumps and drains adjacent to the premises and allowed to evaporate / infiltrate soils. Separated solids and hydrocarbons will be regularly removed from the triple bypass interceptors via licensed waste contractors.

4. Legislative context

4.1 Other relevant approvals

4.1.1 Planning approvals

The Shire of Exmouth granted Planning Approval (PA116/16) for the Premises on 11 October 2016. Planning Approval was granted for a Marine Support Facility and Marine Filling Station

which includes the boat lift and maintenance infrastructure.

4.2 Part V of the EP Act

4.2.1 Guidance Statements

The overarching legislative framework of this assessment is the EP Act and EP Regulations. Additionally, abrasive blasting activities are regulated under the following Regulations:

- *Environmental Protection (Abrasive Blasting) Regulations 1998*; and
- *Environmental Protection (Metal Coating) Regulations 2001*.

DER Guidance Statements which inform this assessment are:

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Land Use Planning (October 2015)*
- *Guidance Statement: Licence Duration (November 2015)*
- *Guidance Statement: Publication of Annual Audit Compliance Reports (May 2016)*
- *Guidance Statement: Decision Making (November 2016)*
- *Guidance Statement: Risk Assessment (November 2016)*
- *Guidance Statement: Environmental Siting (November 2016)*

5. Consultation

The application for a category 82 works approval was advertised in the West Australian on 02/01/2017 as a way of alerting stakeholders and to seek public comment. No comments were received in response to the advertisement.

The application was also referred to the Shire of Exmouth on 03/01/2017. The Shire of Exmouth responded on 25 January 2017, indicating that conditions on the issued Planning Approval (PA116/16) for the Premises are sufficient to address matters from a planning perspective.

DER referred the draft works approval and decision report to the Applicant on 23 January 2017. The Applicant indicated that some metal coating activities are expected to occur on the premises, and requested that this be considered in the assessment of operations. DER has considered potential emissions from metal coating activities in the risk assessment in section 7 of this report. Applicant comments on the drafts are provided in further detail in section 10 below.

6. Location and siting

6.1 Siting context

The premises is located within the Exmouth Boat Harbour, located 2 km south of Exmouth. The Exmouth Boat Harbour is vested within the Department of Transport. The total harbour area is approximately 5 hectares. The fishing, charter and recreational industries have been the principal users of the facility, however with the extensive growth in large scale resources projects in the Pilbara and Gascoyne regions, other maritime support/service industries are now accessing the facility.

6.2 Residential and sensitive premises

The distances to residential and sensitive receptors are as follows:

Table 3: Receptors and distance from activity boundary

Sensitive Land Uses	Distance from Prescribed Activity
Residential Premises	155m northwest of the premises boundary
Novatel Ningaloo Resort (Tourist Accommodation)	170m north of premises boundary

6.3 Specified ecosystems

The distances to specified ecosystems are shown in Table 4.

Table 4: Specified ecosystems

Specified ecosystems	Distance from the Premises
<i>Threatened Ecological Community (TEC)</i> – Karst Cave Community – Cameron’s Cave	Approximately 1,100m southwest of premises boundary
Exmouth Boat Harbour – marine ecosystem	Within and directly adjacent to the premises boundary.

6.4 Groundwater and water sources

The distances to groundwater and water sources are shown in Table 5.

Table 5: Groundwater and water sources

Groundwater and water sources	Distance from Premises	Environmental Value
Proclaimed RIWI Act (<i>Rights in Water and Irrigation Act 1914</i>) Gascoyne Groundwater Area	Runs along Exmouth coast (including beneath premises) and entire Gascoyne Region.	Groundwater in the vicinity of Exmouth Boat Harbour is likely to be saline and is not used for potable or industrial use. Groundwater system is linked to the marine ecosystem.
Proclaimed RIWI Act Pilbara Surface Water Area	Runs along Exmouth coast (including beneath premises) and comprises entire Pilbara Region	Protection of surface water bodies in the Pilbara Region. The closest surface water body to the Exmouth Boat Harbour is an unnamed perennial watercourse around 1,085m west southwest of the premises boundary.
Priority 1 Drinking Water Area	2.3km east.	Public water source area proclaimed under the <i>Country Areas Water Supply Act 1947</i>

6.5 Soil type

Soils in the Exmouth area comprise low-lying alluvial and marine sediments extending from the landward side of the dunes westward to approximately RL 10 m AHD. A narrow coastal plain runs north to south and contains soil unit Fy2; with some saline flats and a few sand

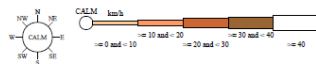
dunes: Chief soils appear to be shallow loams on limestone (Um5.11) and (Um5.5 l) with sands (Uc5.11) also overlying limestone. There are some red sands (Uc5.1) in dunes and a coastal fringe of recent shelly sand (Uc1.11).

The land area upon which the premises is located (Exmouth Boat Harbour) is understood to have been excavated of sands and marine sediments and filled with limestone and road base sourced from adjacent quarries. Embankment walls and breakwaters have been lined and constructed from hardrock armourstone.

6.6 Meteorology

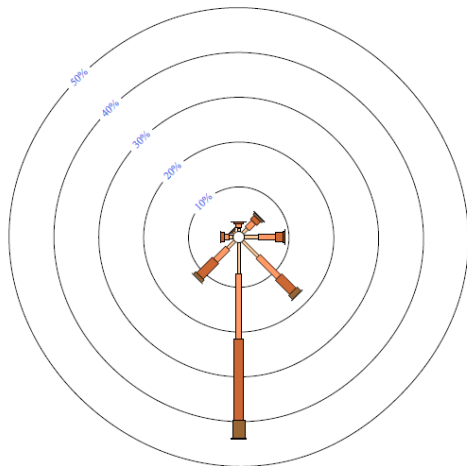
The Bureau of Meteorology provides the following wind roses for wind direction and wind strength (9am and 3pm, from 1975 to 2010) at the nearest weather station to the premises, Learmonth Airport, 32km south of Exmouth:

Rose of Wind direction versus Wind speed in km/h (01 Mar 1975 to 30 Sep 2010)
 Custom times selected, refer to attached note for details
LEARMONTH AIRPORT
 Site No: 30537 - Opened Jan 1945 - 281 Open - Latitude: -22.2496° - Longitude: 114.0967° - Elevation 5m
 An asterisk (*) indicates that calm is less than 0.5%.
 Other important info about this analysis is available in the accompanying notes.

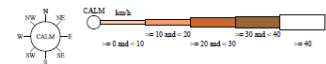


9 am
 12974 Total Observations

Calm 6%

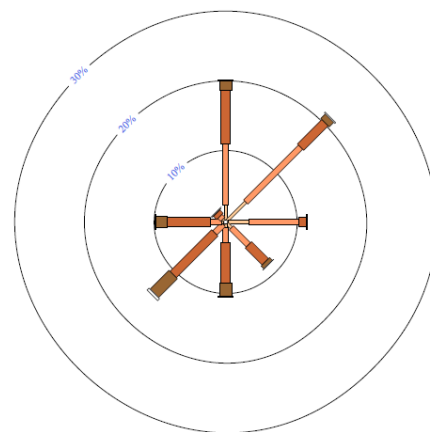


Rose of Wind direction versus Wind speed in km/h (01 Mar 1975 to 30 Sep 2010)
 Custom times selected, refer to attached note for details
LEARMONTH AIRPORT
 Site No: 30537 - Opened Jan 1945 - 281 Open - Latitude: -22.2496° - Longitude: 114.0967° - Elevation 5m
 An asterisk (*) indicates that calm is less than 0.5%.
 Other important info about this analysis is available in the accompanying notes.



3 pm
 12982 Total Observations

Calm 1%



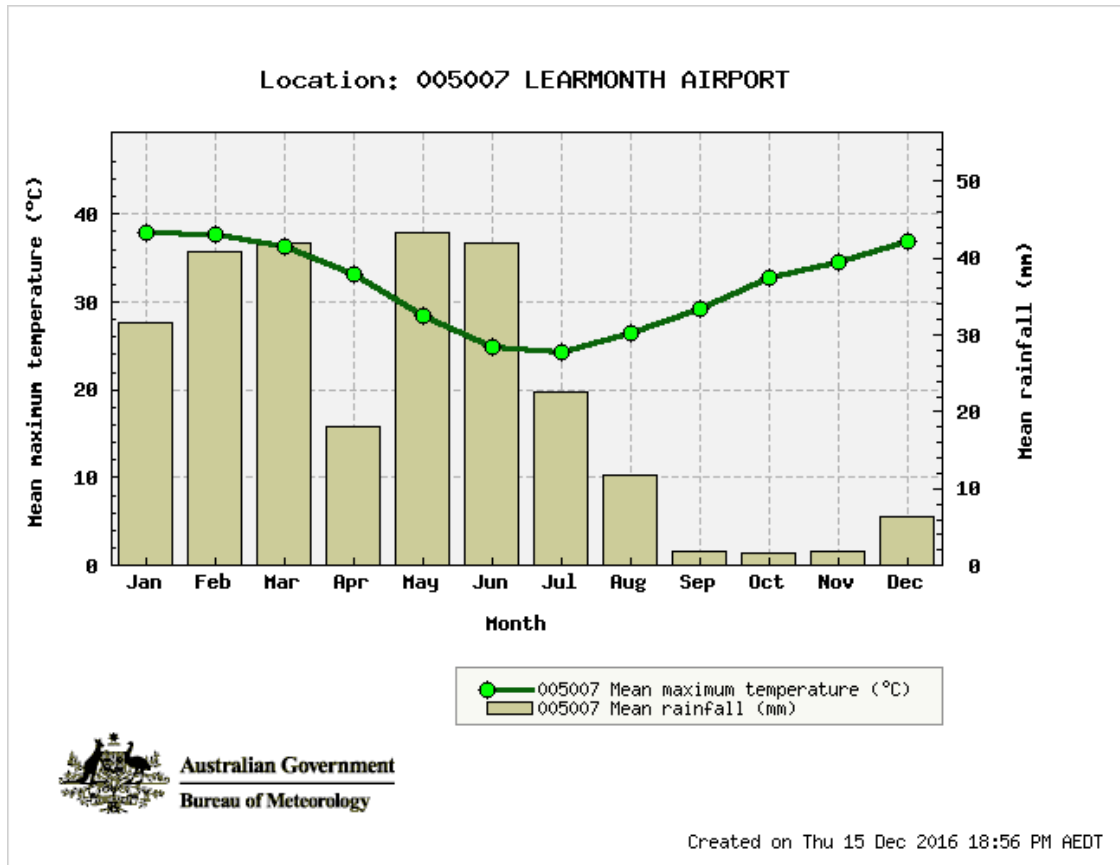
Southerly winds predominate in the mornings with south to south-east winds between 5 and 30 km/hr, with winds tending slightly more south-easterly in the winter months. During the summer, afternoon sea breezes arise from the west and south-west, while easterly directions are more common during winter afternoons. Strong winds from the north and north-east are infrequent but are commonly associated with tropical cyclones when they do occur.

6.6.1 Regional climatic aspects

Exmouth is located within a hot, semi-arid climatic zone. Summers (October to April) are very hot with temperatures frequently exceeding 30° Celsius (C) with January being the hottest month. A temperate climate occurs over the remainder of the year, (average annual minimum temperatures range from 15° to 27°C), with the coolest month being July. Annual rainfall averages 300mm, but is highly variable. Most rainfall occurs within a "wet season" from January to July with heaviest falls occurring early in the season (February to March) as a

result of tropical lows and cyclones. Cyclones may result in rainfall as high as 400mm in 48 hours or higher, thereby causing extensive flooding in the region. The rainfall is offset by high evaporation rates which range from 1700-3050 millimetres per year, depending on seasonal conditions. Figure 1 shows the mean maximum temperature and mean rainfall as measured at Learmonth Airport.

Figure 1: Learmonth Airport mean maximum temperature and mean rainfall



7. Risk assessment

7.1 Confirmation of potential impacts

Identification of key potential emissions, pathways, receptors and confirmation of potential impacts are set out in Tables 6 and 7 below. Tables 6 and 7 also identify which potential emissions will be progressed to a full risk assessment. Some potential emissions/impacts may not receive a full risk assessment where a potential receptor or pathway cannot be identified or where the emission/impacts are regulated under a Ministerial Statement.

Table 6: Identification of key emissions during construction

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
Source (see Section 8 for infrastructure references)	Construction, mobilisation and positioning of infrastructure	Construction earthworks associated with installing concrete washdown bay and wastewater treatment system	Noise	Residential premises located 155m northwest of the premises.	Air / wind dispersion	Potential amenity impacts	No	The Delegated Officer considers that the likelihood of noise emissions affecting amenity during the construction period is negligible. The construction phase is expected to last for a short duration will entail operation of heavy machinery. Noise emissions are regulated by the <i>Environmental Protection (Noise) Regulations 1997</i> .
			Dust				No	Dust emissions are not expected to be significant during the construction period, which will only occur for a short duration. Prevailing winds are predominantly southerly in the mornings and easterly in the afternoons, away residential premises. The Delegated Officer considers that the provisions of section 49 of the <i>Environmental Protection Act 1986</i> are sufficient to regulate dust emissions during construction

Table 7: Identification of key emissions during operation

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
infrastructure (see Section 8 for infrastructure references)	Category 82 boat building and maintenance activities	Operation of vessel washdown bay	Noise	Residential premises located 155m northwest of the premises.	Air / wind dispersion	Potential amenity impacts	No	Noise will be emitted from the pressure blasters and power tools during vessel maintenance activities and pumps associated with the WWTS. Noise emissions will be intermittent and are expected to comply with the <i>Environmental Protection (Noise) Regulations 1997</i> during operation
			Dust / abrasive blasting garnet overspray from abrasive blasting activities				Yes	Due to the close proximity of residences the potential for dust emissions impacting residential amenity has been assessed in section 7.4
			Paint overspray from metal coating activities				Yes	Due to the close proximity of residences the potential for spray painting emissions impacting residential amenity has been assessed in section 7.4

		Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
		Potentially contaminated stormwater (mainly sediment from across entire premises which is constructed of compacted road base)	Spoil and groundwater Surface water (marine waters of Exmouth Boat Harbour)	Direct discharge to land or harbour waters (marine)	Land and groundwater pollution. Impacts to surface water (marine ecosystem) and beneficial use of the harbour	No	The Premises has a purpose built stormwater treatment system to treat potentially contaminated stormwater from across all operational areas of the site; <i>The Environmental Protection (Unauthorised Discharges) Regulations 2004</i> prohibit discharge of certain materials to the environment; including but not limited to, discharges of degreaser, detergent, paint, hydrocarbons and sediment.
	Operation of waste water treatment system (attached to the washdown bay)	Wastewater overflow from sumps and tanks from malfunction of system	Soil and groundwater Surface water (marine waters of Exmouth Boat Harbour)	Direct discharge	Land and groundwater pollution. Impacts to marine ecosystem and beneficial use of the harbour	No	The Premises has a purpose built WWTS to service the vessel washdown bay. Treated wastewater from the washdown bay will discharge to sewer. <i>The Environmental Protection (Unauthorised Discharges) Regulations 2004</i> are sufficient to regulate any overflows from the premises WWTS.

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
			Odour from storage of marine fouling (removed from vessels) on the premises	Residential premises located 155m northwest of the premises.	Air / wind dispersion	Amenity impacts	No	<p>Solid wastes will be regularly removed from traps and sumps of the WWTS and stored in containers for removal and disposal as required.</p> <p>The Delegated Officer considers that the provisions of section 49 of the <i>Environmental Protection Act 1986</i> are sufficient to regulate odour emissions during operation</p>
		Operation of slipway and vessel servicing area	Noise from operation of water and sand blasters	Residential premises located 155m northwest of the premises.	Air / wind dispersion	None	No	<p>Noise emissions from operation of the boat maintenance facilities are not expected to be appreciably different to existing noise emissions already occurring at the premises. No noise complaints have been received to date, and all operations will be consistent with local planning approvals.</p> <p>The Delegated Officer considers that the provisions of <i>Environmental Protection (Noise) Regulations 1997</i> are sufficient to regulate noise emissions during operation.</p>

7.2 Risk Criteria

During the assessment the risk criteria in Table 8 below will be applied to determine a risk rating set out in this section 7.

Table 8: Risk Criteria

Likelihood	Consequence				
	Slight	Minor	Moderate	Major	Severe
Almost Certain	Medium	High	High	Extreme	Extreme
Likely	Medium	Medium	High	High	Extreme
Possible	Low	Medium	Medium	High	Extreme
Unlikely	Low	Medium	Medium	Medium	High
Rare	Low	Low	Medium	Medium	High

Likelihood		Consequence		
The following criteria has been used to determine the likelihood of the risk / opportunity occurring.		The following criteria has been used to determine the consequences of a risk occurring:		
		Environment	Public Health* and Amenity (such as air and water quality, noise, and odour)	
Almost Certain	The risk event is expected to occur in most circumstances	Severe	<ul style="list-style-type: none"> on-site impacts: catastrophic off-site impacts local scale: high level or above off-site impacts wider scale: mid level or above Mid to long term or permanent impact to an area of high conservation value or special significance[^] Specific Consequence Criteria (for environment) are significantly exceeded 	<ul style="list-style-type: none"> Loss of life Adverse health effects: high level or ongoing medical treatment Specific Consequence Criteria (for public health) are significantly exceeded Local scale impacts: permanent loss of amenity
Likely	The risk event will probably occur in most circumstances	Major	<ul style="list-style-type: none"> on-site impacts: high level off-site impacts local scale: mid level off-site impacts wider scale: low level Short term impact to an area of high conservation value or special significance[^] Specific Consequence Criteria (for environment) are exceeded 	<ul style="list-style-type: none"> Adverse health effects: mid level or frequent medical treatment Specific Consequence Criteria (for public health) are exceeded Local scale impacts: high level impact to amenity
Possible	The risk event could occur at some time	Moderate	<ul style="list-style-type: none"> on-site impacts: mid level off-site impacts local scale: low level off-site impacts wider scale: minimal Specific Consequence Criteria (for environment) are at risk of not being met 	<ul style="list-style-type: none"> Adverse health effects: low level or occasional medical treatment Specific Consequence Criteria (for public health) are at risk of not being met Local scale impacts: mid level impact to amenity
Unlikely	The risk event will probably not occur in most circumstances	Minor	<ul style="list-style-type: none"> on-site impacts: low level off-site impacts local scale: minimal off-site impacts wider scale: not detectable Specific Consequence Criteria (for environment) likely to be met 	<ul style="list-style-type: none"> Specific Consequence Criteria (for public health) are likely to be met Local scale impacts: low level impact to amenity
Rare	The risk event may only occur in exceptional circumstances	Slight	<ul style="list-style-type: none"> on-site impact: minimal Specific Consequence Criteria (for environment) met 	<ul style="list-style-type: none"> Local scale: minimal to amenity Specific Consequence Criteria (for public health) met

^ Determination of areas of high conservation value or special significance should be informed by the *Guidance Statement: Environmental Siting*.

* In applying public health criteria, DER may have regard to the Department of Health's, *Health Risk Assessment (Scoping) Guidelines* "on-site" means within the prescribed premises boundary.

7.3 Risk Treatment

DER will treat risks in accordance with the Risk Treatment Matrix in Table 9 below:

Table 9: Risk Treatment

Rating of Risk Event	Acceptability	Treatment
Extreme	Unacceptable.	Risk event will not be tolerated. DER may refuse application.
High	Acceptable subject to multiple regulatory controls.	Risk event will be tolerated and may be subject to multiple regulatory controls. This may include both outcome-based and management conditions.
Medium	Acceptable, generally subject to regulatory controls.	Risk event is tolerable and is likely to be subject to some regulatory controls. A preference for outcome-based conditions where practical and appropriate will be applied.
Low	Acceptable, generally not controlled	Risk event is acceptable and will generally not be subject to regulatory controls.

7.4 Risk Assessment – Dust and paint overspray

7.4.1 General hazard characterisation and impact

Operation

Dust emissions may be generated as a result of abrasive blasting activities at the washdown bay, during maintenance activities on vessels. Dust may comprise small particles or pieces of the substrate being removed from vessels or blasting medium, garnet.

Dust has the potential to impact public amenity and public health. Long-term repeated exposure to dust is much more detrimental than sporadic short-term exposure. Dust, or particulate matter (PM), can have detrimental effects on the human respiratory system. PM less than 10 µm in diameter (PM₁₀) poses greater health risks as they may be drawn deep into the lungs, whilst larger particulates are typically trapped in the nose, mouth or throat.

Paint spray emissions may be generated as a result of metal coating activities (spray painting) on vessels at the washdown bay, as part of boat maintenance activities. Paint overspray has the potential to impact public amenity (including nuisance impacts) and public health. No organotin compounds will be removed from vessels or applied to vessels at the premises.

7.4.2 Criteria for assessment

Fugitive dust and paint overspray can be assessed against air quality standards set for the protection of health. Amenity impacts can also be assessed as to whether the emission unreasonably interferes with the health, welfare, convenience, or comfort of anyone at the receptor locations.

The *Environmental Protection (Abrasive Blasting) Regulations 1998* specify requirements for management of visible dust during abrasive blasting operations.

The *Environmental Protection (Metal Coating) Regulations 2001* specify requirements for management of paint overspray during spray painting operations.

7.4.3 Proponent controls

Abrasive blasting and metal coating activities are only expected to occur periodically. The applicant controls to manage dust and / or paint spray emissions are listed below:

- During abrasive blasting and spray painting operations operators will use mobile, modular wind breaks that will be tented in to form an enclosure to contain dust and overspray;
- Operations will be visually monitored to ensure no unacceptable dust or paint emissions cross the boundary of the premises;
- Blasting spoil and paint waste will be collected at the end of each campaign and stored for reuse or disposed of by licensed waste contractors;
- The Applicant has compiled a comprehensive Environmental Risk Assessment/Risk Register and the risk associated with all tasks performed on the premises (including during vessel maintenance activities such as abrasive blasting and spray painting) is assessed on an ongoing basis and controlled by the highest means available; and
- Standard Workplace Procedures will be developed for abrasive blasting, spray painting and other vessel maintenance activities to ensure minimal risk to operators and the environment.

7.4.4 Key findings

The Delegated Officer has reviewed the information regarding the potential for dust impacts from the premises and has found:

1. *The Applicant has adequate and existing controls to manage dust during abrasive blasting operations;*
2. *The Applicant has adequate and existing controls to manage paint overspray during metal coating operations;*
3. *The Environmental Protection (Abrasive Blasting) Regulations 1998 specify requirements for management of visible dust during abrasive blasting operations; and*
4. *The Environmental Protection (Metal Coating) Regulations 2001 specify requirements for management of paint overspray during spray painting activities.*

7.4.5 Consequence

The Delegated Officer has had regard to the frequency that abrasive blasting and spray painting activities will occur during boat maintenance activities, the infrastructure controls in place and the distance to the nearest sensitive receptors (residence located 155m northwest). The Delegated Officer has determined that dust may have minimal offsite impacts at a local scale and low level impacts to amenity. Therefore, the Delegated Officer considers the potential consequence from abrasive blasting and spray painting activities to be **slight**.

7.4.6 Likelihood of consequence

Based upon the applicant's infrastructure and management controls the Delegated Officer has determined that the likelihood of dust and / or paint overspray impacting on amenity will

probably not occur in most circumstances. Therefore, the Delegated Officer considers the consequence to be **unlikely**.

7.4.7 Overall rating

The Delegated Officer has compared the consequence and likelihood ratings described above for the Risk Criteria (Table 8) and determined that the overall rating for the risk of dust and / or paint overspray impacting on sensitive receptors during operation is **low**.

7.5 Summary of risk assessment and acceptability

A summary of the risk assessment and the acceptability of the risks with treatments are set out in Table 10 below. Controls are described further in section 8.

Table 10: Risk assessment summary

	Emission		Pathway and Receptor	Proponent controls	Impact	Risk Rating	Acceptability with treatment (conditions on instrument)
	Type	Source					
	Dust / abrasive blasting garnet overspray and paint overspray	Abrasive blasting and metal coating operations at the vessel maintenance / washdown bay	Air / wind dispersion	Infrastructure and management controls	Public health / amenity	Slight consequence Unlikely Low Risk	Acceptable, generally not controlled.

8. Determined Regulatory Controls

A summary of the risks with corresponding controls are set out in Table 11. The risks are set out in the assessment in section 7 and the controls are detailed in this section.

Table 61: Summary of regulatory controls to be applied

		Controls
		8.1 Industry Specific Regulations
Risk Items (see risk analysis in section 7)	1. Dust and paint overspray from Abrasive Blasting and / or Metal Coating activities during vessel maintenance	•

8.1 Industry Specific Regulations

The *Environmental Protection (Abrasive Blasting) Regulations 1998* (AB Regulations) specify requirements for operators carrying out abrasive blasting activities. For blasting that cannot be carried out in a blasting chamber because of the size, shape, position or location of the object being blasted (such as a large ocean going vessel or small ship), then in accordance with regulation 6 of the AB Regulations, blasting may be carried out in the open provided no visible dust escapes from the premises. It should be noted that Regulation 4 of the AB Regulations specifies the requirement for a blasting chamber to be used if possible, which would include smaller vessels that can be reasonably expected to fit in blasting chambers at alternative premises.

The *Environmental Protection (Metal Coating) Regulations 2001* (MC Regulations) specify requirements for operators carrying out metal coating activities. For metal coating that cannot be carried out in a spray painting booth because of the size, shape, position or location of the object being blasted (such as a large ocean going vessel or small ship), then in accordance with regulation 5 of the MC Regulations, metal coating may be carried out provided that no paint over spray escapes from the premises boundary (or if there are no defined boundaries to the premises, no such paint over spray escapes onto any place to which the public has access). Regulation 10 of the MC Regulations specifies how paint and other chemicals must be stored at any premises conducting spray painting.

Table 12 details the environmental controls that the applicant will implement to ensure compliance with the AB Regulations and the MC Regulations:

Table 2: Summary of controls for management of dust during abrasive blasting operations

Site Infrastructure	Description
Vessel maintenance and washdown bay	<ul style="list-style-type: none"> • During abrasive blasting and spray painting operations operators will use mobile, modular wind breaks that will be tented in to form an enclosure around the area of the vessel being blasted; • Operations will be visually monitored to ensure no unacceptable dust or paint spray emissions cross the boundary of the premises; and • Blasting spoil and paint wastes will be collected at the end of each campaign and stored for reuse or disposed of by licensed waste contractors.

9. Appropriateness of Works Approval conditions

The conditions in the Issued Works Approval in Attachment 1 have been determined in accordance with DER's *Guidance Statement on Setting Conditions*.

DER's *Guidance Statement on Licence Duration* has been applied and the Issued Works Approval expires in 3 years from date of issue.

Condition Ref	Grounds
Environmental Compliance Conditions 1, 2, 3 and 6	Environmental compliance conditions are valid, risk-based conditions to ensure appropriate linkage between the works approval and the EP Act.
Infrastructure and Equipment Conditions 4 and 5	These conditions are valid, risk-based and contain appropriate controls
Departure from Specified Works Condition 7	This condition is valid, risk-based and enables flexibility in operations
Information Conditions 8, 9, 10, 11 and 12	These conditions are valid and are necessary administration and reporting requirements to ensure compliance.

DER notes that it may review the appropriateness and adequacy of controls at any time, and that following a review, DER may initiate amendments to the works approval under the EP Act.

10. Applicant's comments

The applicant was provided with the draft decision report and draft issued works approval on 23 January 2017. The applicants' comments included advising DER that it is likely that spray painting activities will occur on the premises during vessel maintenance activities, and requested this be included in the assessment. The applicant also advised that it is likely the vessel washdown bay will be constructed of asphalt, as opposed to concrete, which is also acknowledged by DER and has been included in the assessment.

11. Conclusion

This assessment of the risks of activities on the premises has been undertaken with due consideration of a number of factors, including the documents and policies specified in this decision report.

Based on this assessment, it has been determined that the Issued Works Approval will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

The Works Approval Holder will be required to apply for a Category 82 Registration to allow operations at the premises to commence.

Caron Goodbourn

A/Manager Licensing (Process Industries)

Delegated Officer under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Key Documents

	Document Title	Availability
1	DER <i>Guidance Statement on Regulatory principles</i> , July 2015	accessed at http://www.der.wa.gov.au
2	DER <i>Guidance Statement on Setting conditions</i> , September 2015	
3	DER <i>Guidance Statement on Licence duration</i> , November 2014	
4	DER <i>Guidance Statement on Risk Assessment</i> , November 2016	
5	DER <i>Guidance Statement on Decision Making</i> , November 2016	
6	DER <i>Guidance Statement on Environmental Siting</i> , November 2016	
7	<i>Environmental Protection (Noise) Regulations 1997</i>	Accessed at www.slp.wa.gov.au
8	<i>Environmental Protection (Abrasive Blasting) Regulations 1998</i>	
9	<i>Environmental Protection (Metal Coating) Regulations 2001</i>	
10	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>	