



## Application for Works Approval

### Part V Division 3 of the *Environmental Protection Act 1986*

---

<b>Works Approval Number</b>	W6860/2023/1
<b>Applicant</b>	Cockatoo Island Mining Pty Ltd
<b>ACN</b>	628 239 065
<b>File number</b>	DER2023/000633
<b>Premises</b>	Cockatoo Island Iron Ore Mine and Processing Facility  Legal description - Mining Tenements M04/448, L04/49, G04/33, G04/34, G04/35, G04/36 and G04/37 COCKATOO ISLAND WA 6713
<b>Date of report</b>	7 May 2024
<b>Decision</b>	Works approval granted

## Table of Contents

<b>1. Decision summary</b>	<b>1</b>
<b>2. Scope of assessment</b>	<b>1</b>
2.1 Regulatory framework	1
2.2 Application summary and overview of Premises	1
2.2.1 Overview of Premises	1
2.2.2 Proposed crushing and screening plant	2
2.2.3 Proposed ship loading facility	3
2.2.4 Proposed landfill facility	2
2.2.5 Exclusions	2
2.3 Legislative approvals	2
2.3.1 Part V of the EP Act	2
2.3.2 Part IV of the EP Act	3
2.3.3 Contaminated Sites Act 2003	3
2.3.1 Kimberley Ports Authority	3
<b>3. Risk assessment</b>	<b>3</b>
3.1 Source-pathways and receptors	3
3.1.1 Emissions and controls	3
3.1.2 Receptors	7
3.2 Risk ratings	8
<b>4. Consultation</b>	<b>11</b>
<b>5. Conclusion</b>	<b>11</b>
<b>References</b>	<b>12</b>
Table 1 Waste to be directed to the landfill (Class I, Class II or Class III)	2
Table 2: Proposed applicant controls	3
Table 3: Sensitive human and environmental receptors and distance from prescribed activity	7
Table 4: Risk assessment of potential emissions and discharges from the Premises during construction and operation	9
Table 5: Consultation	11
Figure 1: Crushing and screening plant layout	3
Figure 2: New ship loading facility layout	1

## 1. Decision summary

This decision report documents the assessment of potential risks to the environment from emissions and discharges during the construction and operation of an ore crushing and screening plant, a replacement ship loading facility (SLF) and landfill facility at Cockatoo Island Iron Ore Mine and Processing Facility (the Premises). As a result of this assessment, works approval W6860/2023/1 has been granted.

## 2. Scope of assessment

### 2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

### 2.2 Application summary and overview of Premises

On 22 September 2023, Cockatoo Island Mining Pty Ltd (the applicant) submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction works relating to crushing and screening plant, a replacement ship loading facility (SLF) and landfill facility located within mining tenement M04/448-I within the Premises boundary. Construction of these items will support the recommencement of iron ore mining within the Premises boundary.

The Premises relates to the categories and assessed production or design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6860/2023/1. The infrastructure and equipment relating to the Premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6860/2023/1.

#### 2.2.1 Overview of Premises

The Premises is on Cockatoo Island, which is part of the Buccaneer Archipelago in Yampi Sound, about 5 km west of the Yampi Peninsula and 130 km north of Derby in the Kimberley region of Western Australia. The applicant holds existing licence L6929/1990/16 under Part V of the EP Act to operate the Cockatoo Island Iron Ore Mine and Processing Facility at the Premises. Mining operations ceased in 2015 when the previous owners, Pluton Resources Ltd, entered receivership. The licence was transferred to the applicant on 21 May 2021 and the mine remains under care and maintenance.

Existing infrastructure includes a historical Run of Mine (ROM) pad, Ore Handling Plant (OHP) pad, direct shipping ore (DSO) pad where product was historically stockpiled and SLF that has been deemed unusable and irreparable. Removal (demolition) of the existing SLF will occur within 24 months from first shipment. Licence L6929/1990/16 specifies conditions relating to the OHP Pad, SLF and operation of mine dewater infrastructure, including emissions monitoring and limits for dewater discharge to marine waters.

The applicant is proposing to recommence mining at the Premises for a period of up to ten years, which will be enabled by the works proposed in this application. The first 24 months of operation will comprise mining an existing mine pit behind the existing SLF. Currently, the base of this mine pit is approximately -15m Australian Height Datum (AHD) and will be mined to approximately -30m AHD over the initial 24-month period. The applicant notes that other existing mine pits within the Premises have been mined to approximately -50 AHD.

There is no proposed change to the management of pumped dewater, which will be directed to the existing, HDPE-lined settlement pond for removal of suspended solids to reduce the sediment load and turbidity prior to discharge to ocean. This discharge point (E2), located at the seawall embankment, is authorised on the existing licence. An additional licenced discharge point (W1) bypasses the settlement pond and discharges mine water directly from the pits down the seawall. This discharge point is only used if E2 is unavailable or under emergency conditions where additional dewatering capacity is required.

The product is DSO and there is no additional washing, beneficiation, or processing on Cockatoo Island, therefore no tailings will be generated in the processing of ore prior to shipment. The applicant states there will be a relatively efficient 1:1 waste rock to product ratio, with waste rock to be disposed to the existing waste rock dump.

### **2.2.2 Proposed crushing and screening plant**

The applicant is proposing to install mobile crushing and screening plant on the historical DSO pad, which is designed to control stormwater runoff. This area will serve as the new ROM pad, crushing and screening area and product stockpile area. No clearing is required for the plant area or for new haulage routes from the mine to the area.

Ore will be placed in stockpiles or fingers and the mobile crushing and screening unit will operate during dayshift and nightshift. Product will be stockpiled for shipping, with each stockpile holding about 9,000 tonnes. The product is DSO and there is no additional washing, beneficiation, or processing on Cockatoo Island.

The ore has a natural moisture content of about 4% which, according to the applicant, inhibits dust generation. Feed stockpiles can be wetted with sprays or a watercart to further reduce dust generation if required. Product stockpiles will also be wetted if dust generation is observed.

Runoff will be contained in unlined ponds to trap any sediments and prevent stormwater flows into the ocean. A conceptual illustration of the crushing, screening, and stockpiling process is shown in Figure 1. The applicant has proposed a maximum processing throughput of 2,628,000 tonnes per year, which is the assessed throughput on existing licence L6929/1990/16.

All processing infrastructure has been removed from the existing ROM Pad and OHP Pad, located between the Main Pit and Sediment Pond. These pads will be used for crib rooms, administration buildings, workshops, fuel bays and parking areas. Mobile crushing and screening will take place on the historical DSO Pad, where product was historically stockpiled for shipping. This area will serve as a ROM Pad, crushing and screening area, and product stockpile area. As the DSO pad is already constructed with surface water management measures in place, no additional disturbance measures such as earthworks and sheeting are not required.



**Figure 1: Crushing and screening plant layout**

### 2.2.3 Proposed ship loading facility

The new SLF is in the immediate vicinity of the existing ship loader which has been assessed by the applicant and is deemed unusable and irreparable. The location is already disturbed by the existing ship loader and is on the boundary of the existing Jetty Lease Licence issued by Kimberley Ports Authority (KPA). The new SLF has been designed for a small Handymax vessel without the need for any dredging of the seabed. The conceptual layout in Figure 2 shows the new SLF over an aerial photo of the existing ship loader. The new SLF will consist of the following key infrastructure:

- A fixed loading platform on an engineered pile structure;
- A tele-stacking unit with a telescopic, slewing stacker;
- Eight engineered dolphins structures, including:
  - Six berthing dolphin structures; and
  - Two winching dolphin structures;
- A conveyor bridge between the Tele-stacker and ore bins; and
- Fenders to support a berthed vessel at all tide and loading ranges and allow the vessel to slide as it warps.

The loader platform, conveyor bridge, walkways and dolphins will be supported on steel piles and fitted with cathodic rust protection. Installation of steel piles will be undertaken at the beginning of construction and is anticipated to take about one month. An additional 1-2 months are required to complete the new SLF for a total construction period of 2-2.5 months. The one month piling period is based on daytime installation of up to 24 piles, with up to 2 piles driven per day.

The steel piles will be hammered in using a hydraulic hammer and will only take place during daytime hours. It is estimated that driving in the pile to the point of refusal will take between 30 and 60 minutes. Once the pile is driven in the hammer will be removed and, time permitting, the hydraulic hammer will be moved to the next pile.

Ore bins from the existing ship loader will be relocated to the base of the conveyor bridge. These will be fitted with sprays to wet the ore to prevent dust generation. Moisture content will be

continuously measured and water added as required. A maximum moisture content of 4% is allowed for shipping.

On average, two ore shipments are expected per month, with each taking about two days to load. During loading, DSO will be loaded into a feed hopper on the Island and directed via the conveyor bridge to a purpose-built tele-stacker fitted to a fixed platform. The tele-stacker sits on the loader platform and slews as it loads ore into a berthed ship. The berthed vessel will warp in an East-West direction along the berth line using winches and ropes to maintain an even distribution of material inside each of the five hatches.

The tele-stacker arm has a loading rate of 1,800 to 2,000 tonnes per hour. The applicant proposed a production capacity of 43,200 tonnes per day, based on the lower limit of 1,800 tonnes per hour. The Delegated Officer has determined to assess an increased maximum design capacity based on the upper loading rate of 2,000 tonnes per hour, which allows for up to 48,000 tonnes per day. The tele-stacker will retract and rest in the cradle position when the vessel berths on the berth line, when the vessel warps East to West along the berth line and at all times other than for loading the vessel.

Supply barges will supply the operation with diesel, construction materials, equipment and other supplies and will remove wastes, recyclable materials and other items from the Island. Barges will berth, load and unload at the designated new berth line as well as the existing barge ramp facility which is also licenced by the KPA. Diesel barges will berth at the berth line and supply diesel to a Fuel Storage Facility (FSF) via a singular pipeline. Barges with mining equipment and sustaining operation materials will berth at the land jetty for unloading using a landing craft barge arrangement. On average, one barge is expected to berth at the Premises per week.

The Delegated Officer notes that loading and unloading of supplies is not a prescribed Premises activity under Schedule 1 of the EP Regulations and is to be undertaken in accordance with relevant health and safety and dangerous goods legislation.

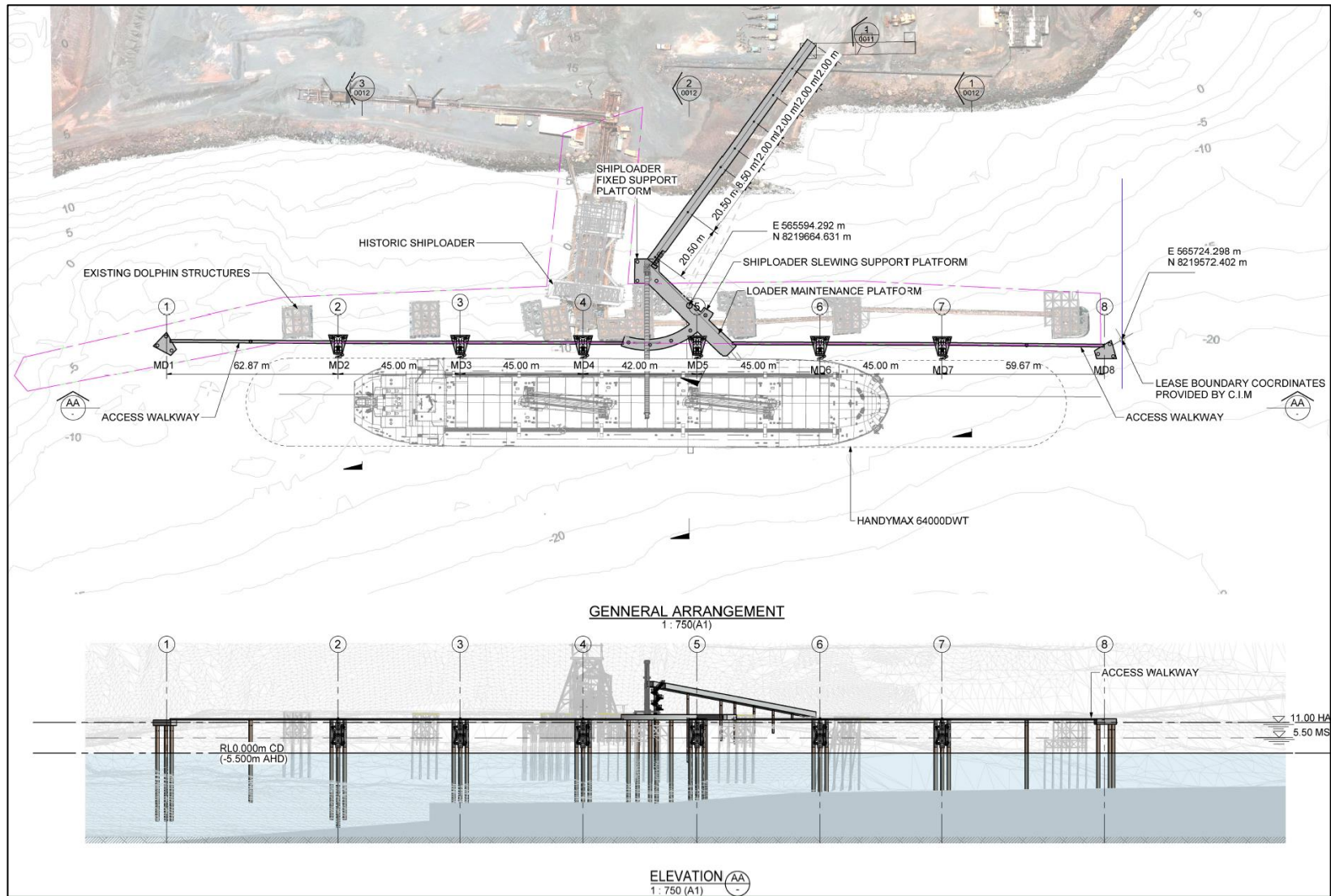


Figure 2: New ship loading facility layout

### 2.2.4 Proposed landfill facility

The applicant is proposing to construct and operate a landfill facility on the existing Homer waste rock landform (WRL). The location was chosen as the area is already highly disturbed, provides some wind protection and is above the water table.

The landfill will be a trench-style facility and no waste will be dumped above the constructed surface of Homer WRL. Trenches will be excavated within the landfill surface with material stockpiled on either side to prevent surface water inflows, provide additional wind protection and provide a source of cleanfill.

Trenches will be progressively backfilled and shaped to shed water once filled. New trenches will be excavated as active trenches are completed to minimise the number of active tipheads. Each trench will be no more than 15 m wide at the base, 5 m deep and 50 m long.

The tiphead in each trench will be managed so that it is no more than 15 m in length and is always below the surface of Homer WRL. Putrescible wastes will be covered at least fortnightly with no less than 100 mm of inert material. Access to the landfill site will be restricted via bunds or a fence and a locked gate.

The materials proposed to be disposed of are described in Table 1. No liquid wastes or hazardous wastes be disposed of in the landfill.

**Table 1 Waste to be directed to the landfill (Class I, Class II or Class III)**

Waste Type	Examples	Amount per year
Putrescible Wastes (Class II)	Domestic and office wastes; food scraps; oily rags; drained and crushed filters; used spill kit material; packaging waste; other biodegradable wastes; empty containers.	Up to 500 tonnes
Other wastes meeting Class 1 or Class 2 acceptance criteria	Contaminated soils; construction wastes.	
Inert Waste Type 2	Plastics; wooden pallets.	
Inert Waste Type 2	Tyres	Up to 100 tyres

### 2.2.5 Exclusions

The Delegated Officer has determined to exclude from the scope of this assessment a review of prescribed activities (and directly supporting activities) that have been previously assessed for the Premises (e.g. dewatering, fuel storage), for which no changes to operations are proposed. Assessment of these activities is considered unnecessary given there will be no change to the risk profile associated with these activities.

## 2.3 Legislative approvals

Several approvals may be required to enable the applicant to recommence shipping operations, including a Dangerous Goods licence for loading supplies. It is the applicant's responsibility to ensure any other (non-Part V of the EP Act) approvals are obtained prior to recommencing mining and shipping operations at the Premises.

### 2.3.1 Part V of the EP Act

As discussed in Section 2.2.1, an active Part V licence (L6929/1990/16) exists for the Premises. Condition 29 of L6929/1990/16 specifies that the licence holder must provide 90 days of notice prior to the recommencement of operations (after a period of care and maintenance).



### 2.3.2 Part IV of the EP Act

Industry Regulation (IR) sought advice from Environmental Protection Authority (EPA) Services regarding whether the activities proposed in the Works Approval Application may pose a significant environmental impact to the environment.

In response, EPA Services advised that the proposed construction of the new (replacement) ship loading facility can be adequately managed under Part V of the EP Act, with the appropriate conditions to ensure adequate monitoring takes place. Further, EPA Services endorsed internal advice that IR received from Marine Ecosystems Branch (MEB) on 23 April 2024 regarding restrictions of piling activities during whale migration season.

### 2.3.3 Contaminated Sites Act 2003

Cockatoo Island was classified under the Contaminated Sites Act 2003 (CS Act) on 17 June 2014 as *Contaminated – remediation required* (C-RR). Contamination, including hydrocarbons (such as from diesel or oil), metals, organometallic compounds (such as the marine anti-fouling agent Tri-butyl tin), polycyclic aromatic hydrocarbons (PAHs), ammonia and asbestos has been identified at a number of different locations across the island.

Free-phase hydrocarbons (such as pure petrol/diesel) were detected floating on the surface of the groundwater in the vicinity of the existing SLF, in close proximity to the marine environment. DWER understands that a site management plan including remediation measures has been developed for the site and will be implemented as part of mine closure activities.

### 2.3.1 Kimberley Ports Authority

An Emergency Response Plan (ERP) is required by the Kimberly Ports Authority (KPA) under the applicant’s lease and must be approved by the Harbourmaster. The ERP provides management measures to – includes controls for fuel spills at berth into marine waters.

The ERP will be developed and implemented in consultation with the KPA and any other identified stakeholders.

## 3. Risk assessment

The department assesses the risks of emissions from prescribed Premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

### 3.1 Source-pathways and receptors

#### 3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during construction and operation of the Premises which have been considered in this decision report are detailed in Table 2 below. Table 2 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

**Table 2: Proposed applicant controls**

Emission	Sources	Potential pathways	Proposed controls
Construction			

Emission	Sources	Potential pathways	Proposed controls
Dust	Construction of landfill and ship loading facility including supportive steel piles  Installation of crushing and screening equipment  Vehicle movements	Air / windborne pathway	<ul style="list-style-type: none"> <li>• Installation of gravity fed sprinkler system prior to works to suppress dust from vehicles and other construction activities;</li> <li>• Visual monitoring by site personnel;</li> <li>• Operators are to wet down dry areas that could create dust emissions;</li> <li>• Vehicle speeds limits on site set to a rate that will prevent dust emission and form part of the site specific traffic management plan; and</li> <li>• Induction and training of on-site personnel.</li> </ul>
Noise / vibration	Construction of ship loading facility including supportive steel piles	Marine waters	<ul style="list-style-type: none"> <li>• Pile installation will not take place between June and August to avoid whale migration season unless noise reducing techniques such as bubble curtains are used;</li> <li>• Piling contractors and others inducted, informed and supervised to adhere to noise reducing controls;</li> <li>• Use of low noise plant and equipment where practicable;</li> <li>• Soft-start piling to be used for slow buildup of noise, with soft vibration hammering techniques used to drive piles through marine clay and other soft sediments; hammer only to be used for hard rock;</li> <li>• Piling during day-shift only; and</li> <li>• Spotter used during pile installation period to identify any wildlife passing through the area – piling to stop when marine wildlife sighted.</li> </ul>
Hydrocarbons	Spills during construction works	Direct pathway to marine waters  Seepage into groundwater	<ul style="list-style-type: none"> <li>• Training and induction of fuel facility use of operation provided before using equipment.</li> <li>• Fuel truck and fuel storage facility to be equipped with easy accessible stocked spill kits.</li> <li>• Spills to be cleaned up promptly and reported.</li> <li>• Housekeeping requirements included in site induction.</li> <li>• Quick release fuel nozzles, shut off valves or e-stops fitted to fuelling equipment.</li> </ul>
<b>Operation</b>			
Noise	Screening and crushing plant area, including: <ul style="list-style-type: none"> <li>• Product (DSO) stockpiles</li> <li>• Vehicle movements</li> </ul>	Air / windborne pathway	<ul style="list-style-type: none"> <li>• Noise emissions and abatement considered in equipment selection.</li> <li>• Machinery maintained in accordance with manufacturers specifications.</li> <li>• Noise abatement included in site induction.</li> <li>• White noise reverse sirens preferred.</li> <li>• Ship loader and processing sited away from Cockatoo Island Resort.</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
Dust	Screening and crushing plant area, including: <ul style="list-style-type: none"> <li>• Product (DSO) stockpiles</li> <li>• Vehicle movements</li> </ul>	Air / windborne pathway	<ul style="list-style-type: none"> <li>• Ore has a natural moisture content of ~4% minimising dust generation potential;</li> <li>• Wetting of ore and product stockpiles;</li> <li>• Installation of gravity fed sprinkler system prior to commissioning;</li> <li>• Sprays on mobile crushing and screening unit;</li> <li>• Wetting down of access roads and active tipping areas on ROM pad; and</li> <li>• Visual monitoring by site personnel.</li> </ul>
	Ship loading operations, including product handling and stockpiling	Air / windborne pathway	<ul style="list-style-type: none"> <li>• Ore has a natural moisture content of ~4% minimising dust generation potential;</li> <li>• Installation of gravity fed sprinkler system prior to commissioning;</li> <li>• Sprays (water misting) at ore bins ensure DSO is moist prior to loading onto conveyors;</li> <li>• Correct level of moisture to avoid residue run off from conveying belts to be monitored;</li> <li>• The sprinkler system pressure set and locked out to prevent tampering;</li> <li>• Visual monitoring by site personnel; and</li> <li>• Installation of a dust monitoring system at the tele-stacker location and the ore bin conveyor location.</li> </ul>
Sediment or ore laden stormwater / wash water		Runoff from DSO area (ROM pad), product stockpiles	<ul style="list-style-type: none"> <li>• Stormwater on ROM pad prevented from entering ocean and directed to unlined sumps for infiltration and capture of sediment;</li> <li>• Maintain diversion bunding; and</li> <li>• Diversion bunding to be monitored and re-instated after heavy rainfall events.</li> </ul>
Crushed iron ore (product)		Spilled into marine waters during loading	<ul style="list-style-type: none"> <li>• Programable control logic on conveyors and feed bin to prevent overloading of conveyors;</li> <li>• Loading arm only to be operated while a ship is berthed and stationary (not warping);</li> <li>• Ore not to be left on conveyor between shipping events;</li> <li>• Trained and competent ship loading operators;</li> <li>• Emergency stops fitted at operator control point;</li> <li>• Conveyor belt and other critical component of the conveying system checked by a trained and competent maintenance person; and</li> <li>• Trigger Action Response Plans (TARP) developed to determine weather conditions for loading (wind, rainfall, choppy conditions etc).</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
Noise		Air / windborne pathway	<ul style="list-style-type: none"> <li>Noise emissions and abatement considered in equipment selection.</li> <li>Machinery maintained in accordance with manufacturers specifications.</li> <li>Noise abatement included in site induction.</li> <li>White noise reverse sirens preferred.</li> <li>Ship loader and processing sited away from Cockatoo Island Resort.</li> </ul>
Hydrocarbon spill		Marine waters	<ul style="list-style-type: none"> <li>Diesel to be piped directly to fuel store using engineered system.</li> <li>Connections to be onboard the barge to capture any spills.</li> <li>Procedures to be followed.</li> <li>Dangerous Goods Requirements and KPA requirements to be followed.</li> <li>Berth will be manned during transfers.</li> <li>Emergency stop used if any spill is observed.</li> <li>Hydrocarbon absorbent booms deployed to capture and contain any spills.</li> <li>Emergency Response Plan approved by KPA.</li> </ul>
Leachate	Operation of Class II / III landfill facility receiving tyres, putrescible wastes, contaminated soils	Infiltration and lateral migration in groundwater	<ul style="list-style-type: none"> <li>Landfill sited above the watertable;</li> <li>Surface water prevented from flowing into trenches;</li> <li>Completed trenches backfilled with clean fill and mounded to form water shedding structures;</li> <li>No liquid wastes to be disposed of in landfill; and</li> <li>Access to landfill restricted with a locked gate to prevent dumping of unapproved wastes.</li> </ul>
Solid waste from landfill		Air / windborne pathway	<ul style="list-style-type: none"> <li>Waste to be only disposed below ground;</li> <li>Landfill sited on leeward side of Homer WRL;</li> <li>Windrows of excavated material will act as a windbreak;</li> <li>Putrescible and potentially dispersive wastes to be covered with no less than 100 mm of clean fill at least fortnightly;</li> <li>Tiphead to be no more than 15m in length; and</li> <li>Windblown wastes to be collected and returned to landfill at least monthly.</li> </ul>
Odour			<ul style="list-style-type: none"> <li>Putrescible wastes to be covered with at least 100 mm of inert material no less than fortnightly.</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> <li>Landfill sited away from human receptors.</li> <li>Landfill sited on an active Waste Rock Landform away from fauna habitat areas.</li> <li>Incidents relating to odour captured in site complaints register.</li> </ul>

### 3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant’s employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 3 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed Premises (*Guideline: Environmental Siting* (DWER 2020)).

**Table 3: Sensitive human and environmental receptors and distance from prescribed activity**

Human receptors	Distance from prescribed activity
<p>Staff and tourists at Cockatoo Island Resort</p> <p>The licence holder has provided a letter from Cockatoo Island Resort Management confirming that they agree to not be considered a receptor with respect to the assessment of emissions and discharges from the proposed activities.</p>	<p>About 2 km west-northwest from the proposed mobile crushing and screening plant area and ship loader</p> <p>About 400 m from landfill</p> <p><i>Receptor screened out due to consent from receptor.</i></p>
Environmental receptors	Distance from prescribed activity
<p>Yampi Sound (a Port Area Crown Reserve) tidal marine environment, including benthic primary producer habitat with fringing coral reefs and intertidal mud flat zones</p>	<p>Overlapping southern Premises border</p>
<p>Groundwater (shallow, recharged by rainfall) – no identified beneficial use</p>	<p>Underlying Premises</p>
<p>Terrestrial fauna, including:</p> <ul style="list-style-type: none"> <li>Priority 1 - <i>Mormopterus loriae cobourgiana</i> (Little Northern Freetail Bat)</li> <li>Vulnerable - <i>Macroderma gigas</i> (Ghost Bat)</li> <li>Priority 2 - <i>Hipposideros stenotis</i> (Northern Leaf-nosed Bat)</li> </ul> <p>The most recent fauna survey was conducted in the dry (8 –14 August 2013) and wet (7 –13 February 2014) seasons. Six broad fauna habitat types were identified within the survey area including woodlands (with rocky ridgelines and exposed rocky areas), mangroves, rocky hummock grassland (with rocky ridgelines), coastal dunes, rocky coastline (cliffs) and regrowth shrublands. Of the identified fauna</p>	<ul style="list-style-type: none"> <li>Little Northern Freetail Bat has been recorded about 250 m north of proposed crushing and screening area</li> <li>Ghost Bat has been recorded about 250 m north of proposed landfill</li> <li>Northern Leaf-nosed Bat has been recorded about 250 m north of proposed landfill</li> </ul>

<p>species, ten are considered conservation significant, with the status of five of those found to be either vulnerable, under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) or Priority 1, 2 or 4 under the Department of Biodiversity, Conservation and Attractions (DBCA) priority fauna list.</p>	
<p>Migratory marine fauna</p>	<p>Several migratory whales, dolphins, dugongs and turtles may be found within Yampi Sound. Migration season in the region typically occurs from the start of June through to the end of October.</p>
<p>Native vegetation, including conservation significant flora:</p> <ul style="list-style-type: none"> <li>• <i>Triodia sp. Hidden Island</i> (P1)</li> </ul>	<p>Some vegetation exists in the undisturbed areas within the northwest portion of the Premises.</p> <p><i>Triodia sp. Hidden Island</i> has been reported in the northwest corner of the Premises at approximately 250 m from the landfill and 2km from the mobile crushing and screening plant, and proposed ship loading facility.</p> <p><i>Receptor screened out due to separation distance from prescribed activity.</i></p>

### 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

Works approval W6860/2023/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 4 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence amendment is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the Premises i.e. the new crushing and screening plant, ship loading facility and landfill. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

**Table 4: Risk assessment of potential emissions and discharges from the Premises during construction and operation**

Risk events					Risk rating <sup>1</sup>	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood			
<b>Construction</b>								
Construction of landfill and ship loading facility Installation of crushing and screening equipment Vehicle movements	Dust		Marine waters and benthic communities		C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 1 – construction requirements	N/A
Construction of shiploading facility including pile driving works to install supportive steel works for new ship loading facility	Noise, including underwater noise	Air / windborne pathway causing impacts to health and amenity	Terrestrial fauna (bats) Marine Fauna (whales, dolphins, turtles, dugongs)	Refer to Section 3.1.1	C = Major L = Possible <b>High Risk</b>	N	Condition 1 – construction requirements <b>Condition 1 – Pile installation must not occur between 1<sup>st</sup> June and 30<sup>th</sup> October</b> <b>Condition 1 – Use of Marine Fauna Observers and cessation of piling activity if marine fauna is spotted within 1 km</b>	The proposed pile driving works will generate underwater noise that may impact whales and other marine species (dolphins, turtles and dugongs), with potential impacts including acute changes in their hearing sensitivity. The applicant proposed an exclusion period for pile driving works between June and August to mitigate this risk. However, internal technical advice received on 23 April 2024 from MEB recommended an exclusion period between June and October to align with whale migration season. Further, MEB advised that this is the most effective management approach to minimise the disturbance to these migratory species. Another proposed condition, bubble curtains, are likely to be ineffective in the Kimberley region due to the large tidal movement (11m range). The Delegated Officer has therefore specified an extended restriction period for piling activities from 1 June to 30 October in the works approval.  Outside of migration season, the Delegated Officer considers the use of a marine fauna spotter to be sufficient in mitigating potential impacts from underwater noise. This is an applicant proposed control, however specific requirements have been set to clarify the role of the Marine Fauna Observer and operational response and reporting action should significant marine fauna be spotted during piling activities.
Construction of landfill and ship loading facility Installation of crushing and screening equipment	Hydrocarbons	Marine environment and seepage into groundwater	Marine waters and benthic communities Groundwater		C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 1 – construction requirements	N/A
<b>Operation (including time-limited-operations operations)</b>								
Screening and crushing plant area (formerly DSO area), including: • ROM pad • Product stockpiles • Vehicle movements	Dust	Air / windborne pathway causing impacts to health and amenity	Marine waters and benthic communities	Refer to Section 3.1.1	C = Minor L = Likely <b>Medium Risk</b>	Y	Condition 7 – operational requirements	N/A
	Sediment laden stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Marine waters and benthic communities		C = Moderate L = Possible <b>Medium Risk</b>	Y	Condition 7 – operational requirements	N/A
Ship loading operations, including product handling and stockpiling	Fugitive dust	Air/windborne pathway causing impacts to health and amenity	Marine waters and benthic communities	Refer to Section 3.1.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	Condition 7 – operational requirements	N/A
	Crushed iron ore (product)	Spilled into marine waters during loading	Marine waters and benthic communities		C = Minor L = Possible <b>Medium Risk</b>	Y	Condition 7 – operational requirements	N/A
		Iron ore contaminated stormwater/wash water	Runoff from ROM pad, product stockpiles and berth to marine waters	Marine waters and benthic communities	Refer to Section 3.1.1	C = Minor L = Possible <b>Medium Risk</b>	Y	Condition 7 – operational requirements

Risk events					Risk rating <sup>1</sup>	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood <b>Medium Risk</b>			
	Hydrocarbons	Marine environment	Marine waters and benthic communities		C = Minor L = Unlikely <b>Medium Risk</b>	Y	N/A	N/A <i>Unauthorised Discharge Regulations 2003 apply.</i>
Operation of Class II / III landfill facility receiving tyres, putrescible wastes, contaminated soils	Seepage of leachate	Infiltration and lateral migration in groundwater	Soil and groundwater Marine waters and benthic communities	Refer to Section 3.1.1	C = Minor L = Possible <b>Medium Risk</b>	Y	Condition 7 – operational requirements	N/A
	Odour	Air/windborne pathway causing impacts to health and amenity	Terrestrial fauna		C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 7 – operational requirements	N/A
	Solid waste from landfill	Wind blown	Marine environment Terrestrial fauna		C = Moderate L = Possible <b>Medium Risk</b>	Y	Condition 7 – operational requirements	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk Assessments* (DWER 2020).

Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.



## 4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

**Table 5: Consultation**

Consultation method	Comments received	Department response
Application advertised on the department's website on 5 December 2023	None received	N/A
Application advertised in the West Australian newspaper on 11 December 2023	None received	N/A
Shire of Derby - West Kimberley (LGA) advised of proposal on 11 December 2023	None received	N/A
Cockatoo Island Resort advised of proposal 11 December 2023	None received	N/A
Wanjina-Wunggurr (Native Title) Aboriginal Corporation RNTBC advised of proposal on 11 December 2023	None received	N/A
Kimberly Ports Authority (KPA) advised of proposal on 11 December 2023	None received	N/A
Applicant was provided with draft documents on 7 May 2024	The applicant confirmed on 7 May 2024 that they had no comments on the draft package.	N/A

## 5. Conclusion

Based on the assessment in this decision report, the Delegated Officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

## References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Environmental Protection Authority (EPA) 2018, *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual*, Environmental Protection Authority, Perth, WA.