



## Application for Works Approval

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

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**Works Approval Number** W6530/2021/1

**Applicant** IB Operations Pty Ltd

**ACN** 165 513 557

**File Number** DER2021/000135

**Premises** North Star Magnetite Project  
Marble Bar WA 6760  
  
Mining Tenements L45/272, L45/289, L45/291, L45/292,  
L45/320, L45/331, L45/486, L45/487, L45/546 and L45/547

**Date of Report** 27 July 2021

**Proposed Decision** Works approval granted

#### **Manager, Resource Industries**

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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## 1. Decision summary

This Decision Report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the Premises. As a result of this assessment, Works Approval W6530/2021/1 has been granted.

## 2. Scope of assessment

### 2.1 Regulatory framework

In completing the assessment documented in this Decision Report, the department 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 the 12<sup>th</sup> of March 2021, IB Operations 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 operations using mobile screening plants relating to:

- Category 12, for the purpose of screening earth to supply padding material for the construction of underground pipelines from the Canning Basin bore fields to the Iron Bridge Magnetite project

The project consists of an underground pipeline, approximately 240 km long, between the Canning Basin bore fields to the North Star Magnetite Project (L8845/2014/1). The water drawn from the Canning Basin is authorised under groundwater licence GWL175700 and will be used for the processing of magnetite at the applicant's ore processing facility approved under licence L8845/2014/1. The project is located within the infrastructure corridor defined by Ministerial Statement 993.

This application is to undertake construction works relating to the operation of multiple tracked mobile screening facilities, and excavators with screening buckets with an expected throughput of 2.0 Mtpa for the project. This Decision Report and associated Works Approval considers emissions and discharges from the operation of the described equipment for the construction of the Canning Basin raw water pipeline only. Any other operations have not been considered and are not covered by this Decision Report and Works Approval.

An outline of the Premises map can be found in Figure 1. The closest town is Marble Bar, which is located approximately 52 km south east of the premises.

The Premises relates to the category and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in Works Approval W6530/2021/1. 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 2017) are outlined in Works Approval W6350/2021/1.

#### 2.2.1 Padding machines

The padding machines will not require any construction prior to operation. They operate as singular mobile units utilising raw material from the excavated trench and/ or borrow pits as required by the project. The plant will track alongside the trench, reclaiming raw material into the screening plant by the hydrostatic escalator located at the front of the machine. The output feed will supply bedding/padding material for the pipeline trench via the output conveyor belt, oversized material will be discharged from the rear of the plant. These machines will have a variable maximum output, depending on the model and soil type. The proposed machines are

subject to availability but are estimated to have a maximum output between 158 and 300 t/hr.

### **2.2.2 Screening buckets**

The buckets will be mounted to excavators and reclaim raw material is to be screened through the modified buckets directly into the trench to provide safer egress points, as required under Ministerial Statement (MS) 993, and/ or screen material into plant limited locations throughout the pipeline trench. The screen rate is highly variable, based on the design and material encountered within the proposed prescribed premises boundary. Manufacturer theoretical calculations suggest the conservative capacity to be around 200 t/hr. The use of excavators with mounted screening buckets will not be a primary screening method throughout the pipeline project and used more so to supplement the project where the tracked plant may not be able to access or provide service.

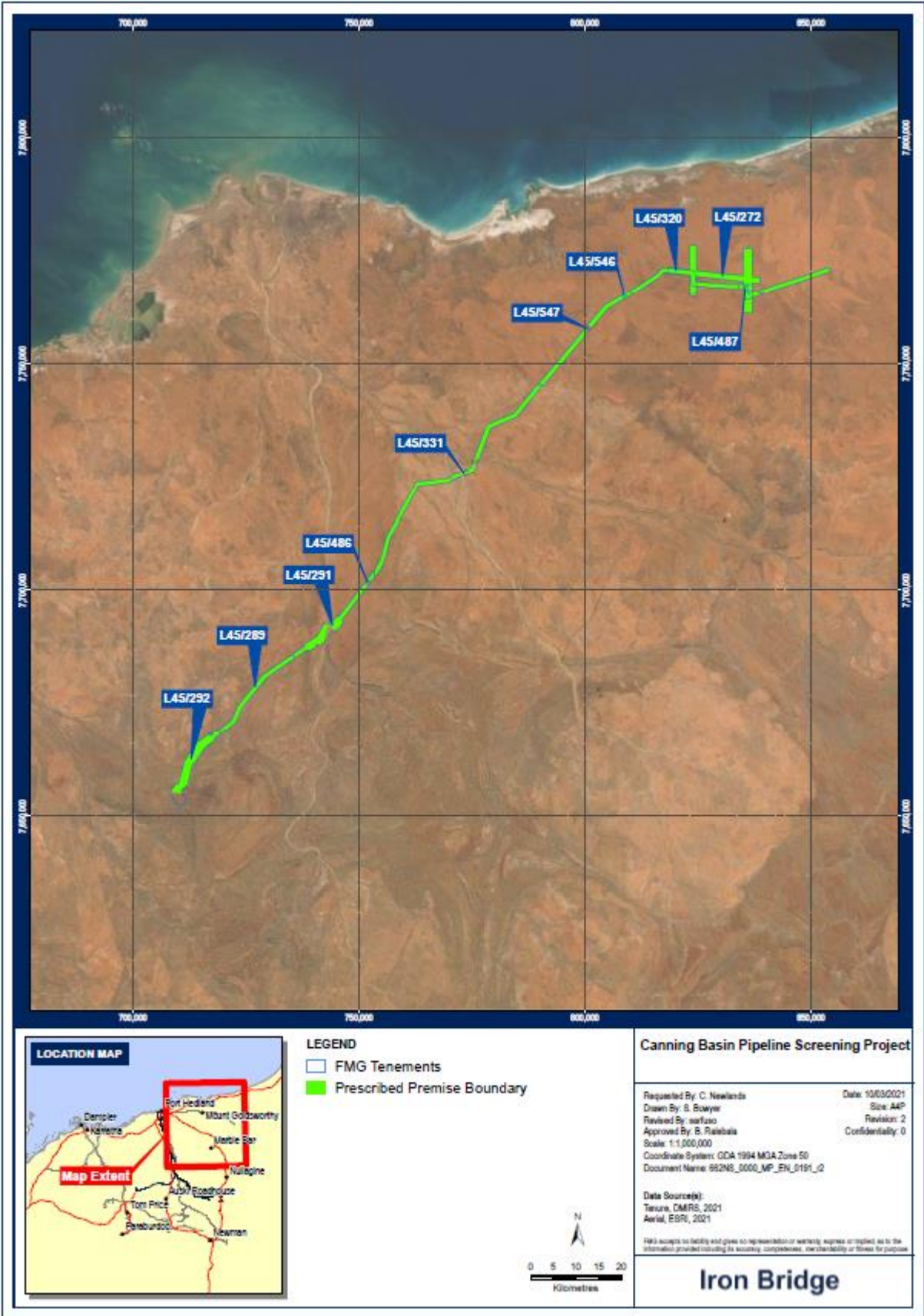


Figure 1: Premises boundary with green area

## 2.3 Part IV of the EP Act

The project and its associated infrastructure corridors has been assessed under Part IV of the EP Act as EPA report number 1514. MS 993 was published on the 5<sup>th</sup> of January 2015 in relation to IB Operation Pty Ltd.'s proposal to develop an open cut iron ore mine and associated infrastructure. The result of the assessment defines the water corridor envelope and contains the following conditions.

- Ensuring that the project is implemented so that it does not affect the viability of *Pityrodia* sp.;
- Ensuring that the linear infrastructure is sited and constructed in a manner that avoids declared rare flora, priority 1 flora species (including *Pityrodia* sp. Marble Bar) and threatened ecological communities where practicable, and minimises the impact to other conservation significant flora;
- Requiring that open trenches associated with construction of linear infrastructure are cleared of trapped fauna by fauna-rescue personnel at least twice daily; and
- Requiring that the proponent shall not undertake any ground disturbance activities for the construction of the borefield within the Water Corridor Development Envelope prior to preparing and submitting a Conservation Significant Flora and Vegetation Survey Plan, to the satisfaction of the CEO.

The development of the corridor will require clearing of up to 557 ha which is authorised under MS 993. Any potential disturbance to flora and vegetation and fauna during construction of the raw water pipeline has been considered to comply with the conditions set out in MS 993.

## 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 2017).

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 premises construction which have been considered in this Decision Report are detailed in Table 1 below. Table 1 also details the proposed control measures the applicant has proposed to assist in controlling these emissions, where necessary.

**Table 1: Proposed applicant controls – construction and operation**

Emission	Sources	Potential pathways	Proposed controls
<b>Construction and operation (including time limited operations)</b>			
Dust	Mobile screening plant operation and operational vehicle movements.	Air/windborne pathway	<ul style="list-style-type: none"> <li>• Manage in accordance with the Mine and Rail Dust Management Plan</li> <li>• Enforce speed limits in work areas</li> <li>• Ongoing visual assessment based on</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
			atmospheric conditions. <ul style="list-style-type: none"> <li>• Utilise water carts where possible</li> <li>• Water for dust suppression to be sourced from groundwater bores under licences GWL204162, GWL204174, GWL204473 and GWL204160(2).</li> </ul>
Sediment laden stormwater	Mobile screening plant operation, waste rock	Overland runoff	<ul style="list-style-type: none"> <li>• Screening plants to be located away from watercourses where practicable.</li> <li>• Work near major watercourses to be undertaken during dry conditions.</li> <li>• Waste rock to be managed onsite and contoured to ensure there is no impact to surface water</li> </ul>
Contaminated runoff	Mobile screening plant operation. Operational vehicle movements	Overland runoff.	<ul style="list-style-type: none"> <li>• Store hydrocarbons, lubricants and greases in bunding in accordance with AS 1940-2004 and Chemical and Hydrocarbon Storage Procedure.</li> <li>• Position spill kits near areas with hydrocarbon spill potential.</li> <li>• Utilise spill trays and other containment mechanisms during maintenance.</li> </ul>

### 3.1.2 Receptors

In accordance with the *Guideline: Risk assessment* (DWER 2017), the Delegated Officer has excluded employees, visitors and contractors of the applicant's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 2 and Figure 2 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 2016)).

**Table 2: Sensitive human and environmental receptors and distance from prescribed activity**

Human receptors	Distance from prescribed activity
<p><u>Mulyia, Etrick and Warralong homesteads</u> This is the closest human receptors to the premises boundary. No human receptors have been considered to be impacted by the activities.</p>	<p>15 km from the proposed prescribed premises boundary.</p>
Environmental receptors	Distance from prescribed activity
<p><u>Proclaimed Pilbara Surface water regions Shaw River, Coongan River and Talyirina Pool</u> The watercourses are not permanent, however there are several permanent and semi-permanent pools that are proximal.</p>	<p>Intersects premise boundary, the pipeline has been proposed to cross underneath the riverbed.</p>
<p><u>De Grey River – Environmentally Sensitive Area</u> This river is not a permanent watercourse. Clearing and ground disturbance in this area is managed under MS 993.</p>	<p>Intersects premise boundary the pipeline has been proposed to cross underneath the riverbed.</p>



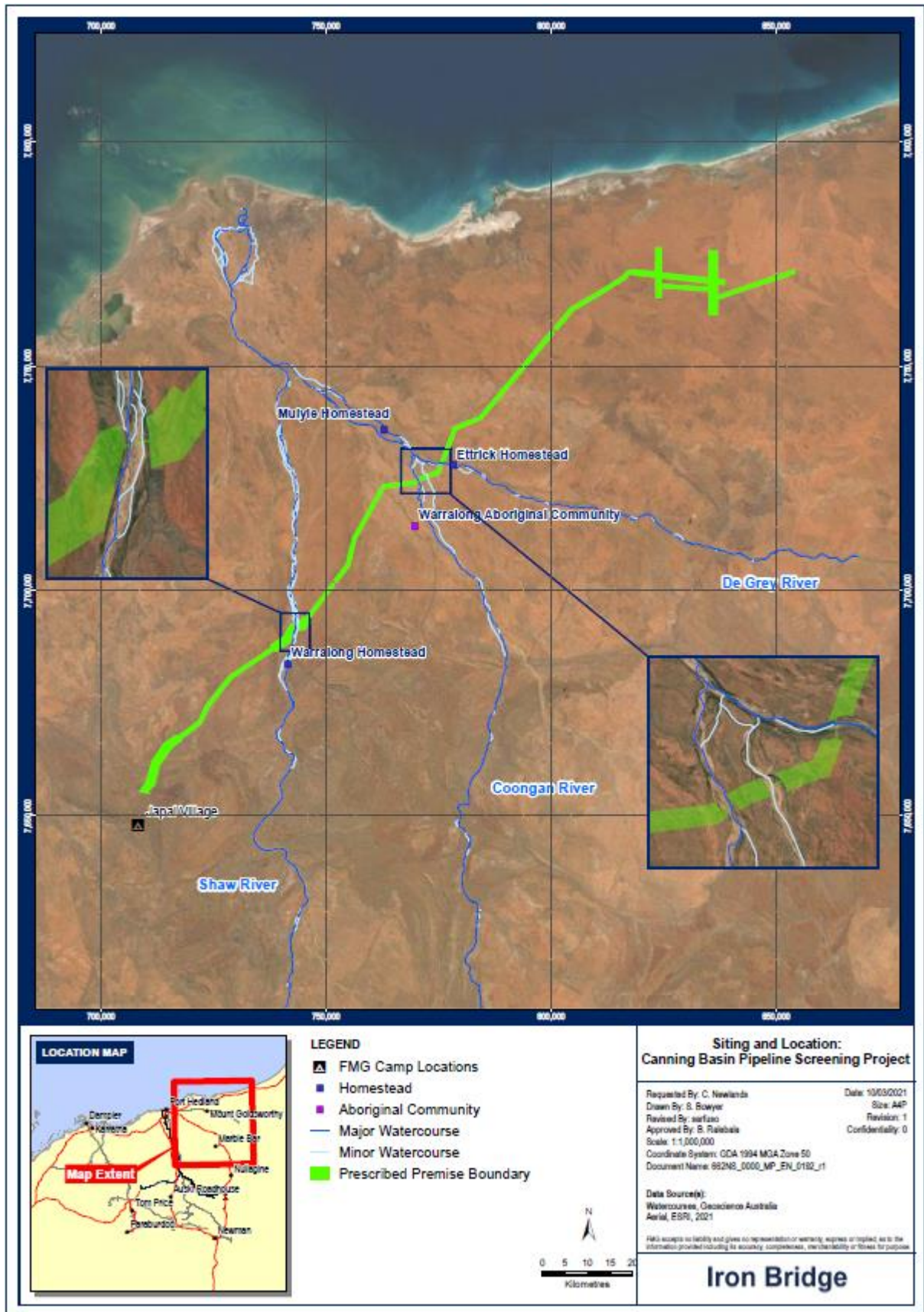


Figure 2: Distance to sensitive receptors

## 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk assessments* (DWER 2017) 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 3.

Works Approval W6530/2021/1 that accompanies this Decision Report authorises construction and time-limited operations. The conditions in the issued Works Approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the operation of the Premises i.e. screening activities. 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 3: Risk assessment of potential emissions and discharges from the Premises during construction.**

Risk Event					Risk rating <sup>1</sup>	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood			
<b>Operations (including time limited operations)</b>								
Mobile screening plant and excavator with screening bucket operation and operational vehicle movements	Dust	Air/windborne pathway causing impacts to vegetation and waterway health	Shaw and De Grey Rivers, Coongan River and Talyirina Pool	Refer to Section 3.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 6, Table 2, Operational requirements, dust controls	N/A
	Contaminated stormwater runoff	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Shaw and De Grey Rivers, Coongan River and Talyirina Pool, Proclaimed Pilbara surface water area.	Refer to Section 3.1	C = Minor L = Rare <b>Low Risk</b>	Y	Condition 1, Table 1, design and construction installation requirements, Stormwater controls  Condition 6, Table 2, Operational requirement, waste and leachate	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2017).

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

## 4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

**Table 4: Consultation**

Consultation method	Comments received	Department response
Application advertised on the Department's website (07/06/2021)	No comments received	N/A
Shire of East Pilbara advised of proposal (04/06/2021)	No comments received	N/A
Department of Mines and Industry Regulation (DMIRS) advised of proposal (04/06/2021)	<p>The comments received were</p> <ul style="list-style-type: none"><li>• FMG has an approved Mining Proposal (REG ID 87630) for the Iron Bridge Pipelines and has recently submitted an amendment to the approved mining proposal (REG ID 97061) which is currently under assessment. The construction of pipelines, borrow pits and other infrastructure has been approved under REG ID 87630, however a screening plant is not listed as an activity in the disturbance table. DMIRS will seek clarification from Fortescue as part of assessment of REG ID 97061 on that matter.</li><li>• DMIRS understands that the operation of these facilities are regulated under Part V of the EP Act and that the project has been approved under Part IV. DMIRS assessment of proposals containing these facilities will focus on management of risks during decommissioning and closure.</li></ul>	<p>Noted</p> <p>DWER acknowledges that the mining proposal has been approved and is currently undergoing amendment, and that further clarification regarding the screening plants will be sought by DMIRS. Decommissioning and closure risks will be assessed by DMIRS.</p>

## 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

Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.

1. Department of Water and Environmental Regulation (DWER) 2016, *Guideline: Environmental siting*, Joondalup, Western Australia.
2. DWER 2017, *Guideline: Risk assessments*, Joondalup, Western Australia.
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. Email titled "North Star Stage 2 Works Approval Application\_WCB", dated 12/03/2021 authored by IB operations Pty Ltd, available at DWER records (DWERDT426693).

## Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

Condition	Summary of applicant's comment	Department's response
N/A	Administrative error under heading Works Approval History, W6350 (instead of W6530)	Amended
1. The works approval holder must (a) construct and/or install the infrastructure and/or equipment; (b) in accordance with the corresponding design and construction / installation requirements	The applicant notes plant to arrive to site already constructed, ready to operate	The Department recognises and accepts that the plant comes to site pre-constructed and has adjusted the works approval conditions wording accordingly to require installation and not construction.
1. Table 1 Design and construction / installation requirements Excavators with screening buckets	Request to remove commissioning/construction requirements for the screening buckets since they are not the primary screening method.	The use of screening buckets will not be the primary source of screening and the works approval has been amended accordingly. The Department also notes that the screening buckets will be used for the installation of wildlife egress ramps, as regulated under Ministerial Statement 911 and therefore is viewed as a control under Part IV of the EP Act. Therefore, this requirement has been removed from the works approval.
2. The works approval holder must within 60 calendar days of an item of infrastructure or equipment required by condition 1 being constructed and/or installed: (a) Undertake an audit of their compliance with the requirements of condition 1; and Prepare and submit to the CEO an Environmental Compliance Report on that compliance	Request to submit a single compliance report inclusive of all plant <ul style="list-style-type: none"> <li>Look to submit a letter to the Department for the confirmation of the arrival as each piece of equipment to site as it will be 'constructed' and ready to operate</li> <li>When all equipment of present, send all-encompassing Compliance Report for <u>all</u> mobile equipment.</li> </ul> <p>Three padding machines are expected to arrive at the end of September within days of each other.</p>	The Department added into the conditions the provisioning of a single all-encompassing compliance document after all machines have arrived on site.  This document should include the dates of initial operation and relevant inspection certification for each individual piece padding machine for the purpose of tracking time limited operations.

Condition	Summary of applicant's comment	Department's response
<p>3. The Environmental Compliance Report required by Condition 2, must include as a minimum the following:</p> <p>(a) Certification by a suitably qualified person that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1.</p>	<p>Equipment arrives to site constructed, so can this be certified by a plant inspection, performed by a suitable qualified person.</p>	<p>The Department recognises that the machines come fully constructed and ready to operate. A suitably qualified person conducting a plant inspection upon arrival of the plant to site will be acceptable.</p>
<p>4. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1 where, the Environmental Compliance Report as required by condition 2 has been submitted by the works approval holder for that item of infrastructure</p>	<p>Request that TLO can commence post commissioning checks on each plant and not conditioned by the submission of the compliance report. The compliance report will be submitted within 60 days. It is requested that TLO can occur once each piece of equipment has been checked upon arrival.</p>	<p>The works approval has been amended to allow compliance after all plant onsite, or partial compliance documents can be submitted if there is an extended period between arrival.</p>
<p>6. Table 2 Infrastructure and equipment requirements during time limited operations</p> <ul style="list-style-type: none"> <li>• Work on or near major rivers or watercourses shall be undertaken during the dry season between June and December</li> </ul>	<p>Request to reword the condition to allow for operation at any time so long as the conditions are dry, given the uncertainty of seasonal conditions.</p>	<p>Amended The Department recognises that the Pilbara climate is arid and rainfall is highly variable and the chance of dry conditions on any day of the year is likely. The Department also notes that the padding machines require dry material to operate, so screening work will have to cease during any wet conditions regardless.</p>

## Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)	
<b>Application type</b>	
Works approval	<input checked="" type="checkbox"/>
Date application received	1203/2021
<b>Applicant and Premises details</b>	
Applicant name/s (full legal name/s)	IB Operations Pty Ltd
Premises name	North star Magnetite Project
Premises location	L45/272, L45/289, L45/291, L45/292, L45/320, L45/331, L45/486, L45/487, L45/546 and L45/547.
Local Government Authority	Shire of East Pilbara
<b>Application documents</b>	
HPCM file reference number:	DER2018/001042-5
Key application documents (additional to application form):	West Canning Basin Raw Water Pipeline Mobile Screening Project Supporting Document Attachment 2 Location Map Attachment 3B Supporting Document Attachment 7 Siting and location map Attachment 8A PPB coordinates Raw Water PV coordinates
<b>Scope of application/assessment</b>	
Summary of proposed activities or changes to existing operations.	<p>Proposal to construct of an underground water pipeline to transport raw water from the Canning Basin bore field to the North Star Magnetite project.</p> <p>The pipeline is approximately 240 km in length and will be the primary source of raw water to the mining operation.</p> <p>Category 12 to operate multiple mobile tracked screening plants, as well as excavators with screening buckets. The purpose being to supply 'padding' (screened earth) material to the pipeline for burial to reduce the risk of large rocks causing damage to the pipeline</p>
Category number/s (activities that cause the premises to become prescribed premises)	
Table 1: Prescribed premises categories	
Prescribed premises category and description	Proposed production or design capacity
Category 12: <i>Screening etc. of material: premises (other than premises within category 5 or 8) on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.</i>	1.6 million tonnes

Legislative context and other approvals		
Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: 993 EPA Report No: 1514
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Reference No: EPBC 2012/6689
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Mining lease / tenement <input checked="" type="checkbox"/> Expiry: L45/272 Expiry: 20/01/2033 L42/289 Expiry: 21/12/2033 L45/291 Expiry: 25/07/2034 L45/292 Expiry: 11/08/2034 L45/320 Expiry: 15/02/2039 L45/331 Expiry: 21/10/2034 L45/486 Expiry: 22/07/2040 L45/487 Expiry: 07/05/2040 L45/546 Expiry: 21/05/2041 L45/547 Expiry: 21/05/2041
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	If N/A explain why? Activities conducted on mining tenement
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CPS No: N/A Clearing is managed under Part IV
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Licence/permit No: GWL204160, GWL204162, GWL204174, GWL204473.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Type: Proclaimed Groundwater Area/Surface Water Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Regional office: North West



<p>Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: N/A  Priority: N/A  Are the proposed activities/ landuse compatible with the PDWSA (refer to <a href="#">WQPN 25</a>)?  Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>
<p>Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Mining Proposal Reg I.D. 87630</p>
<p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	