



Works Approval

Environmental Protection Act 1986, Part V

Works Approval Holder: J.S.W Holdings Pty Ltd

Works Approval Number: W5948/2016/1

Registered office: 8 Bandicoot Drive
KUNUNURRA WA 6743

ACN: 008 731 593

Premises address: Savannah Hard Rock Quarry
Mining Lease M80/628
KUNUNURRA WA 6743

Issue date: Thursday, 10 March 2016

Commencement date: Monday, 14 March 2016

Expiry date: Wednesday, 13 March 2019

The following category/s from the *Environmental Protection Regulations 1987* cause this Premises to be a prescribed premises for the purposes of the *Environmental Protection Act 1986*:

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
70	Screening etc. of material: premises on which material extracted from the ground is screened, washed, rushed, ground, milled, sized or separated.	More than 5,000 but less than 50,000 tonnes per year	35,000 tonnes per annum

Conditions

This Works Approval is subject to the conditions set out in the attached pages.

Date signed: 10 March 2016

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Alana Kidd

Manager Licensing – Resource Industries
Officer delegated under section 20
of the *Environmental Protection Act 1986*



Works Approval Conditions

1 General

1.1 Interpretation

1.1.1 In the Works Approval, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 In the Works Approval, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986*;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;

Chief Executive Officer
Department Administering the Environmental Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Works Approval;

'Schedule 1' means Schedule 1 of this Works Approval unless otherwise stated;

'Works Approval' means this Works Approval numbered W5948/2016/1 and issued under the Act; and

'Works Approval Holder' means the person or organisation named as the Works Approval Holder on page 1 of the Works Approval.

1.1.3 Any reference to an Australian or other standard in the Works Approval means the relevant parts of the standard in force from time to time during the term of this Works Approval.

1.1.4 Any reference to a guideline or code of practice in the Works Approval means the current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guidelines or code of practice made during the term of this Works Approval.

1.2 General conditions

1.2.1 The Works Approval Holder shall construct the works in accordance with the documentation detailed in Table 1.2.1:



Table 1.2.1: Construction Requirements¹

Document	Parts	Date of Document
Works Approval Application Form	All	21 December 2015
Email from Silvia Woodhead, JSW Holding Pty Ltd, titled "Application to Crush – Part 1/2" (Received Monday, 21 December 2015).	All, including Drawings and Appendices	21 December 2015
Email from Silvia Woodhead, JSW Holding Pty Ltd, titled "Application to Crush – Part 1/2" (Received Monday, 21 December 2015).	All, including Drawings and Appendices	21 December 2015
Mining Proposal: ID 525666. M80/628 and L80/80. "Savannah Hard Rock Quarry". Version 2, November 2014	All, including Drawings and Appendices	November 2014
Email from Silvia Woodhead, JSW Holding Pty Ltd, titled "RE: Clearing permit, separation distances and operating hours" (Received Wednesday, 20 January 2016).	All	20 January 2016
Email from Silvia Woodhead, JSW Holding Pty Ltd, titled "RE: Plant capacity and G80/5" (Received Monday, 8 February 2016).	All	8 February 2016

Note 1: Where the details and commitments of the documents listed in condition 1.2.1 are inconsistent with any other condition of this works approval, the conditions of this works approval shall prevail.

2 Information

2.1 Reporting

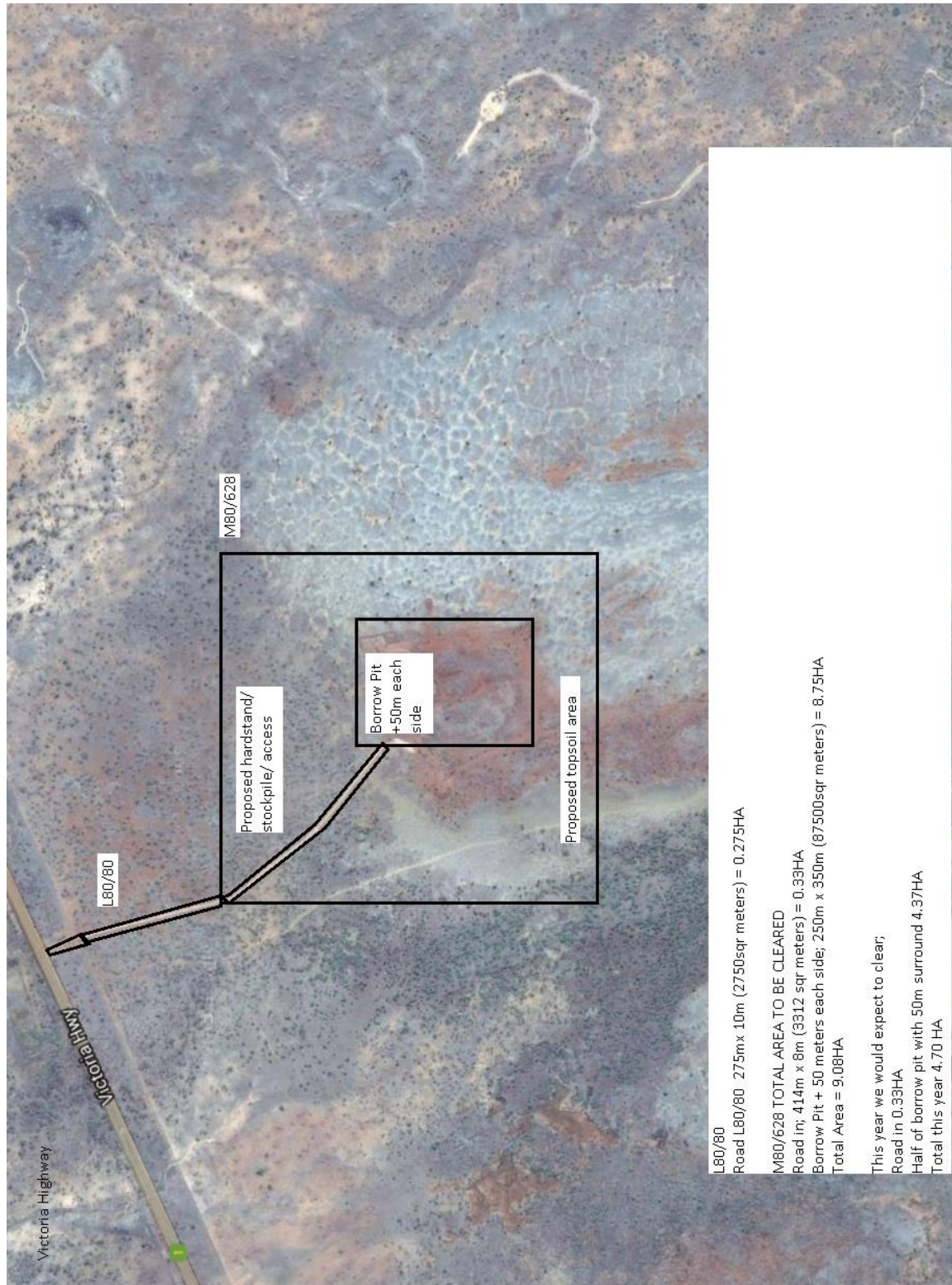
- 2.1.1 The Works Approval Holder shall submit a compliance document to the CEO, following the construction of the Savannah Hard Rock Quarry and prior to operation of the same.
- 2.1.2 The compliance document shall:
- certify that the works were constructed in accordance with the conditions of the Works Approval; and
 - be signed by a person authorised to represent the Works Approval Holder and contain the printed name and position of that person within the company.



Schedule 1: Maps

Premises map

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





Decision Document

Environmental Protection Act 1986, Part V

Proponent: J.S.W Holdings Pty Ltd

Works Approval: W5948/2016/1

Registered office: 8 Bandicoot Drive
KUNUNURRA WA 6743

ACN: 008 731 593

Premises address: Savannah Hard Rock Quarry
Mining Lease M80/628
KUNUNURRA WA 6743
As depicted in Schedule 1.

Issue date: Thursday, 10 March 2016

Commencement date: Monday, 14 March 2016

Expiry date: Wednesday, 13 March 2019

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue a works approval. DER considers that in reaching this decision, it has taken into account all relevant considerations.

Decision Document prepared by: Ty Hibberd
Licensing Officer

Decision Document authorised by: Alana Kidd
Delegated Officer



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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

2 Administrative summary

Administrative details		
Application type	Works Approval <input checked="" type="checkbox"/> New Licence <input type="checkbox"/> Licence amendment <input type="checkbox"/> Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s) 70	Assessed design capacity 35,000 tonnes per annual period
Application verified	Date: 21/01/2016	
Application fee paid	Date: 09/02/2016	
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	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"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:



Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Department of Water consulted Yes <input type="checkbox"/> No <input type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes include details of which EPP(s) here.	
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.	

3 Executive summary of proposal and assessment

JSW Holdings Pty Ltd (JSW) is proposing to construct and operate the Savannah Hard Rock Quarry (Savannah) on Mining Tenement M80/628 and Miscellaneous Licence 80/80, approximately 35 kilometers (km) west-south-west of Kununurra, Western Australia. JSW intend to crush and screen up to 35,000 tonnes per annum (tpa) of basalt from Savannah for use in rock armouring, road building, channel and drain protection and concrete manufacture. The proposal constitutes a Category 70 Prescribed Activity under Schedule 1 of the *Environmental Protection Regulations 1987* (the EP Regs) and thus requires a Works Approval under Part V of the *Environmental Protection Act 1986* (the EP Act). Mining of Savannah was approved by the Department of Mines and Petroleum (DMP) on 8 October 2015 (Mining proposal ID: 52566).

Construction of Savannah will consist of clearing only. Once sufficient area has been cleared, a Terex Pergson XA400 mobile crushing and screening plant (the plant) will be mobilised to site. During operations, basalt will be extracted via drill and blast methods, excavators and front end loaders and then processed through the plant. No facilities other than the plant are required at Savannah. All other associated works will be serviced from the company's headquarters based in Kununurra, including office administration, maintenance, fuel storage and vehicle storage. No hydrocarbons will be stored onsite.

The plant has a maximum output potential of up to 400 tonnes per hour (tph), and will operate from 7am – 4pm, 5 days a week, for approximately 12 weeks of the year (weather permitting and orders received). This provides 12 operating weeks a year at a production/design capacity of approximately 216,000 tpa. However, JSW's Mining Proposal for Savannah is for 35,000 tpa only, and hence this assessment was based on throughput (35,000 tpa) rather than production/design capacity.

The main emissions from Savannah include dust, noise and contamination to surrounding land or waterways from hydrocarbons. The nearest sensitive receptor is the Molly Springs community 7.6 km north-east. No permanent surface water bodies exist within 10 km of Savannah, and the nearest public drinking water source is Kununurra, approximately 40 km away. Minor drainages lines occur 1.2 km to the west, 0.6 km to the north-east, and 1.4 km to the south-east (Card Creek). Since Savannah will be located far from the nearest sensitive receptor, and no hydrocarbons will be stored onsite, the environmental risk of emissions and discharges from Savannah are low.

JSW will need to submit a compliance document to DER after construction of Savannah and prior to operation of the same. JSW will need a Category 70 Registration under Regulation 5B of the EP Regs to allow operations to commence following construction.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval	Condition number W = Works Approval	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	W1.2.1	<p>Construction</p> <p>Condition W1.2.1 will require JSW to construct Savannah in accordance with the supporting documents and general provisions of the <i>Environmental Protection Act 1986</i> (the EP Act).</p> <p>Construction of Savannah will consist of clearing only. Clearing will include up to 9.08 hectares (ha) on M80/628 and 0.275 ha on L80/80 (collectively the "tenements"). JSW assessed clearing as a part of their Mining Proposal and concluded that the tenements are exempt from requiring a Native Vegetation Clearing Permit (NVCP) since clearing will be less than 10 ha. From the information provided it appears the proposed clearing is exempt from requiring a NVCP in accordance with Regulation 5, Item 20, "<i>Clearing: low impact or other mineral or petroleum activities</i>", of the <i>Environmental Protection (Clearing of Native Vegetation) Regulations 2004</i> (Clearing Regs). Environmental impacts associated with clearing will be managed under the Mining Proposal approval, the Clearing Regs and general provisions of the EP Act. Approximately 4.70 ha will be cleared in 2016, and the remainder progressively thereafter.</p>	<p>General provisions of the <i>Environmental Protection Act 1986</i>.</p> <p>Application supporting documentation.</p> <p><i>Environmental Protection (Clearing of Native Vegetation) Regulations 2004</i>.</p>



DECISION TABLE			
Works Approval	Condition number W = Works Approval	Justification (including risk description & decision methodology where relevant)	Reference documents
Premises operation	Registration.	Construction and Operation DER's assessment and decision making are detailed in Appendix A.	General provisions of the <i>Environmental Protection Act 1986</i> . Application supporting documentation. <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> .
Emissions general	N/A.	Construction and Operation There are no conditions relating to general emissions during construction or operation of Savannah.	N/A.
Point source emissions to air including monitoring	N/A.	Construction and Operation There are no proposed point source emissions to air during construction or operation of Savannah. No conditions relating to point source emissions to air or to monitoring of these emissions are required to be added to the Works Approval.	N/A.
Point source emissions to surface water including monitoring	N/A.	Construction and Operation There are no proposed point source emissions to surface water during construction or operation of Savannah. Minor drainages lines occur 1.2 km to the west, 0.6 km to the north-east, and 1.4 km to the south-east (Card Creek). No permanent surface water bodies exist within 10 km of Savannah. No conditions relating to point source emissions to surface water or monitoring of surface water are required to be added to the Works Approval.	General provisions of the <i>Environmental Protection Act 1986</i> . Application supporting documentation. <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> .
Point source emissions to groundwater including	N/A.	Construction and Operation There are no proposed point source emissions to groundwater during construction or operation of Savannah. Savannah is affected by the Canning-Kimberley Ground Water Area GWA/10. Depth to	General provisions of the <i>Environmental Protection Act 1986</i> .



DECISION TABLE			
Works Approval	Condition number W = Works Approval	Justification (including risk description & decision methodology where relevant)	Reference documents
monitoring		groundwater is estimated at approximately 100 m below ground level. This proposal involves shallow surface mining only. Accordingly, mining activities at Savannah are not expected to intercept regional groundwater. No conditions relating to point source emissions to groundwater or the monitoring of groundwater are required on the Works Approval.	Application supporting documentation. <i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i>
Emissions to land including monitoring	N/A.	Construction and Operation There are no proposed emissions to land during construction or operation of Savannah. All domestic and industrial wastes will be removed from site on a daily basis or at the end of each campaign. Material requiring special disposal will be removed to the shire's licenced facility. Appropriate material will be recycled. No conditions relating to emissions to land or the monitoring of emissions to land are required to be added to the Works Approval.	General provisions of the <i>Environmental Protection Act 1986</i> . Application supporting documentation. <i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i>
Fugitive dust emissions		Construction and Operation DER's assessment and decision making are detailed in Appendix B.	General provisions of the <i>Environmental Protection Act 1986</i> . Application supporting documentation. <i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i> DER Guidance Statement: ' <i>Separation Distances. Division 3, Part V of the</i>



DECISION TABLE			
Works Approval	Condition number W = Works Approval	Justification (including risk description & decision methodology where relevant)	Reference documents
			<i>Environmental Protection Act 1986</i> (August 2015)
Fugitive light emissions	N/A.	Construction and Operation Savannah will operate from 7am – 4pm, 5 days a week, for approximately 12 weeks of the year. As such, there will be no night-time operations. Accordingly, no conditions relating to light emissions are required on the Works Approval.	N/A.
Odour	N/A.	Construction and Operation The construction and operation of Savannah will include no particularly odorous materials or practices. Potentially odorous materials include hydrocarbons, waste and sewage. No hydrocarbons will be stored onsite and all waste will be removed from site daily, or at the end of each campaign. Portable toilets will be placed onsite; serviced on an as needs basis and then removed at the end of each campaign. Accordingly, no specific conditions relating to odour are required on the Works Approval.	N/A.
Noise	N/A.	Construction and Operation Noise emissions are likely from Savannah however, such issues will be managed by compliance with <i>Environmental Protection (Noise) Regulations 1997</i> . The operation of Savannah complies with the separation distance outlined in the DER Guidance Statement: ' <i>Separation Distances. Division 3, Part V of the Environmental Protection Act 1986</i> ' between Industrial and Sensitive Land Uses. No specific conditions relating to noise are required on the Works Approval.	General provisions of the <i>Environmental Protection Act 1986</i> . Application supporting documentation. <i>Environmental Protection (Noise) Regulations 1997</i> . DER Guidance Statement: ' <i>Separation Distances. Division 3, Part V of the Environmental Protection Act 1986</i> ' (August 2015)



DECISION TABLE			
Works Approval	Condition number W = Works Approval	Justification (including risk description & decision methodology where relevant)	Reference documents
Monitoring general	N/A.	Construction and Operation There are no specific conditions relating to general monitoring required during construction or operation of Savannah.	N/A.
Monitoring of inputs and outputs	N/A.	Construction and Operation There are no conditions relating to monitoring of inputs and outputs required during construction or operation of Savannah.	N/A.
Process monitoring	N/A.	Construction and Operation There are no conditions relating to process monitoring required during construction or operation of Savannah.	N/A.
Ambient quality monitoring	N/A.	Construction and Operation There are no conditions relating to ambient quality monitoring required during construction or operation of Savannah.	N/A.
Meteorological monitoring	N/A.	Construction and Operation There are no conditions relating to meteorological monitoring required during construction or operation of Savannah.	N/A.
Improvements	N/A.	Construction and Operation There are no conditions relating to improvements for Savannah.	N/A.
Information	W2.11 and W2.1.2	Construction and Operation Condition W2.11 requires JSW to submit a compliance document to DER once construction of Savannah has been completed. Condition W2.1.2 specifies the requirements of the compliance document. No additional conditions are required on the Works Approval.	N/A.
Licence Duration	N/A.	This works approval will be issued to JSW for a period of 3 years. After construction of Savannah is complete, JSW will need to submit a compliance document to DER and apply for a Category 70 Registration under Regulation 5B of the EP Regs to allow operations to commence.	N/A.



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
22/02/2016	Application advertised in West Australian (or other relevant newspaper)	XXXX	XXXX
1/03/2016	Draft sent to proponent for comment	Email received on 1/03/2016. No comments given.	N/A.



6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

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



Appendix A

Premises operation

Emission Description

Emission: Stormwater possibly contaminated with hydrocarbons from construction and operation and hydrocarbon spills into the surrounding environment.

Impact: Contamination of surrounding land and waterways.

Controls: No fuel will be stored at Savannah; it will be brought to site from Kununurra on a daily basis. There are no permanent surface water bodies within 10 km of Savannah, only minor drainage lines, the nearest being 0.6 km north-east. Depth to groundwater is estimated at approximately 100 m. Accordingly, the construction and operation of Savannah is unlikely to result in contamination owing to hydrocarbons.

JSW will implement the following controls to minimise risk of land or surface waters becoming contaminated by activities at Savannah;

- Spill response equipment will be available during all mining and transporting activities ;
- Fuel spill response procedures will be communicated effectively to all staff;
- Any spill will be cleaned up immediately and resulting hydrocarbon contaminated material disposed of to an appropriately licenced waste disposal facility;
- No mining will be carried out when there is the risk of a heavy rainfall event;
- The access road on L80/80 is position so that it does not cross any watercourse or areas where surface sheet flow may be affected; and
- Stockpiles will be located such that critical water drainage run-off will not be impeded.

JSW considers that the operation of Savannah has a very low risk of contamination of surrounding land and water resources.

Risk Assessment

Consequence: Minor

Likelihood: Rare

Risk Rating: Low

Regulatory Controls

W1.2.1 requires that JSW construct the works in accordance with the supporting documentation and general provisions of the *Environmental Protection Act 1986*. No further conditions are required for the Works Approval.

Residual Risk

Consequence: Minor

Likelihood: Rare

Risk Rating: Low



Appendix B

Fugitive Emissions - Dust

Activities at Savannah can generate dust that, if inadequately controlled, has the potential to cause nuisance and cause offsite impacts, such as smothering of vegetation. Activities on-site that may generate dust emissions include:

- Wind action on topsoil stockpiles and disturbed areas;
- Topsoil stripping, blasting, extraction and transportation (earthmoving machinery ground-interaction, materials digging, rehabilitation works, loading and dumping, haul truck tyre/unsealed road interaction, unsealed roads, material spillage from haul trucks);
- Plant operations; and
- Product stockpiling and dispatch (stockpiles and stockpile pads, product loading, truck tyre-road interaction, material spillage from trucks).

Emission Description

Emission: Dust emissions produced from clearing, excavation, crushing and screening activities.

Impact: Dust emissions can be harmful to human health and the environment. Elevated total suspended particulates (TSP) can impact ambient environmental quality resulting in amenity impacts and can smother vegetation. Particulate matter (PM) that is less than 10 (PM₁₀) or 2.5 (PM_{2.5}) micrometres (µm) in diameter can be drawn deep into the lungs causing human health impacts. The chemical and physical properties of the particles, the size of the particles and the duration of exposure are all factors which may affect human health impacts.

Controls: Given the proposed throughput (35,000 tpa), operating schedule (approximately 12 weeks per annum) and the significant buffer distance between Savannah and the nearest sensitive receptor, being the Molly Springs community 7.6 km north-east, the construction and operation of Savannah is unlikely to cause nuisance dust. Vegetation surveys in the region have identified no sensitive communities.

To manage and control fugitive dust emissions from Savannah, JSW has committed to the following infrastructure and management practices:

- Dust will be suppressed by water carts and sprays;
- Water will be supplied and dispensed to Savannah on an as needed basis from the JSW's operation headquarters in Kununurra;
- The plant has an in-built dust suppression system that comprises spray bars with atomiser nozzles mounted over the crusher mouth, product conveyor feed and discharge points;
- Material to be crushed or screened will be wet prior to feeding into the plant to reduce dust emissions;
- Onsite dust will be suppressed via any of six vehicle or trailer water trucks as needed, with water application rates of 1,200 litres per minute; and
- Any complaints received will be entered into a complaints register and investigated.

The operation of Savannah complies with the separation distance outlined in the DER Guidance Statement: 'Separation Distances. Division 3, Part V of the Environmental Protection Act 1986' between Industrial and Sensitive Land Uses. The required minimum distance for extractive industries performing quarrying, crushing and screening is 0.5 km for Category 70.

Risk Assessment

Consequence: Insignificant

Likelihood: Possible

Risk Rating: Low



Regulatory Controls

JSW's management commitments and general provisions of the *Environmental Protection Act 1986* are considered sufficient to manage the risk of fugitive dust. No specific conditions are required for the Works Approval.

Residual Risk

Consequence: Insignificant

Likelihood: Possible

Risk Rating: Low