



Application for Works Approval

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

Works Approval Number	W6470/2020/1
Applicant	Kimberley Metals Group Pty Ltd
ACN	114 123 572
File Number	DER2020/000560
Premises	Ridges Iron Ore Project Mining Tenements M80/599, M80/600, L80/55 and G80/15 Great Northern Highway WYNDHAM WA 6740 As defined by the Premises map attached to the issued works approval
Date of Report	05/03/2021
Proposed Decision	Intent to grant works approval

**MANAGER WASTE INDUSTRIES
REGULATORY SERVICES**

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

Table of Contents

1. Decision summary	3
2. Scope of assessment	3
2.1 Regulatory framework	3
2.2 Application summary and overview of Premises	3
3. Risk assessment	5
3.1 Source-pathways and receptors	5
3.1.1 Emissions and controls	5
3.1.2 Receptors	7
3.2 Risk ratings	10
4. Consultation	13
5. Conclusion	13
References	14
Appendix 1: Application validation summary	15

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 W6470/2020/1 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>.

DWER has also had regard to Works Approval W5728/2014/1, in reviewing and assessing this application. W5728/2014/1 was issued in 2014 for the works proposed under this application. The proposed works were not undertaken and W5728/2014/1 subsequently expired. This Works Approval application is for the same works approved in W5728/2014/1.

2.2 Application summary and overview of Premises

On 3 November 2020, 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 an extension of the existing landfill facility at the Premises. The Premises is approximately 104 km south west of Kununurra.

The Works Approval application relates to category 64 (Class II putrescible landfill) and the assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in Works Approval W6470/2020/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guidance Statement: Risk Assessments* (DER 2017) are outlined in Works Approval W6470/2020/1.

The Works Approval Holder proposes to develop an extension to the existing landfill facility at the Premises. The maximum annual throughput of waste at the proposed Landfill Extension will remain the same at 125 tonnes per annum; however, the Applicant has applied to increase the landfill footprint from that originally considered in Works Approval W5728/2014/1 to allow for the storage and burial of an estimated 441 tonnes over five years from 2021 to 2026.

Figure 1 (below) depicts the current and proposed landfill areas.



Figure 1: Location of landfill extension area.
 (the premises boundary is shown by the yellow line).
 Source: Kimberley Metals Group Pty Ltd, W6470/2020/1 Application

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 *Guidance Statement: Risk Assessments* (DER 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

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Construction/excavation of landfill trenches Movement of vehicles in and around the site	Air/windborne pathway	Only one trench will be built at a time. Water cart to be utilised to manage dust generation. Construction activities will not occur during unfavourable weather conditions (e.g. gusty winds and high temperatures). Small footprint for works (0.72ha). Application of dust suppression mixture (Dustex) surface treatment, if required.
Noise	Construction of landfill trenches Movement of vehicles in and around the site	Air/windborne pathway	Landfill trenches placed away from sensitive receptors (e.g. the RIOP camp and office).
Operation			
Potentially contaminated stormwater	Spills Contamination on land Inappropriate storage of non-conforming wastes	Surface runoff and overland flow	Batteries stored on a self-contained bunded impermeable area prior to removal offsite. Stormwater directed away from landfill and active trench by a 1-2m high windrow around the trench and landfill area. The trench will also ensure that potentially contaminated stormwater doesn't leave the landfill area. Only clean fill will be used for cover material.

Emission	Sources	Potential pathways	Proposed controls
			<p>Any contamination on site cleaned up and removed from site by a licensed waste disposal contractor.</p> <p>Surface water sampling opportunistically from local surface drainage lines downstream of the landfill area.</p>
Landfill leachate	Leaching of waste contaminants from the landfill trenches into surrounding environment	Groundwater	<p>Clear signage installed at the entry to the landfill regarding acceptable waste types.</p> <p>Batteries stored on a self-contained bunded impermeable area prior to removal offsite.</p> <p>Small quantities of putrescible waste to be disposed of onsite (up to 125 tonnes/year).</p> <p>Existing groundwater monitoring program in place.</p> <p>Soil sampling adjacent to the landfill where potential leaching may occur, if leaking suspected.</p>
Dust	<p>Vehicle movements to and from the landfill</p> <p>Excavation of trenches as required</p> <p>Stockpiled soil for refilling trenches</p>	Air/windborne pathway	<p>Water cart to be utilised for dust suppression.</p> <p>Only one trench will be built and exposed at a time, therefore minimal stockpile of soils.</p> <p>Application of Dustex, as required.</p>
Noise	Movement of vehicles in and around the site	Air/windborne pathway	<p>No increase to traffic levels from existing premises' operation.</p> <p>Landfill trenches not in close proximity to sensitive receptors.</p>
Odour	Class II putrescible waste	Air/windborne	<p>Landfill trenches placed away from sensitive receptors (e.g. the RIOP camp and office).</p> <p>Waste covered weekly by earthen material, or as required according to conditions of L8549/2011/1.</p>
Windblown waste	Class II putrescible waste	Air/windborne	<p>Fence around the perimeter of the landfill area.</p> <p>Bellen cage installed over the active landfill trench to prevent windblown waste and fauna access.</p> <p>Waste covered weekly by earthen material, or as required according to conditions.</p>

3.1.2 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 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 (*Guidance Statement: Environmental Siting* (DER 2016)).

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

Human receptors	Distance from prescribed activity
Ridge Iron Ore Project camp and office	Within the premises
Crocodile Hole, Remote community (pop. 16)	8.8km west of the premises boundary
Environmental receptors	Distance from prescribed activity
Priority 1 PEC: Plant assemblages on vertical sandstone surfaces	Within the premises boundary, 1.3km north east of the ROM pad.
Minor, non-perennial watercourses	Numerous within the premises boundary
Threatened Fauna <ul style="list-style-type: none"> - Gouldian Finch (<i>Erythrura gouldiae</i>) - Northern Short-tailed mouse (<i>Leggadina lakedownensis</i>) - Common Sandpiper (<i>Actitis hypoleucos</i>) - Common Greenshank (<i>Tringa nebularia</i>) - Peregrine Falcon (<i>Falco peregrinus</i>) 	Numerous recorded fauna sightings within a 20km radius of the premises.
Environmental siting	
Soils	Soils along the escarpment of the project comprise of shallow red-brown stony soils, overlying laterised Hensman Sandstone, remnant unweathered siltstone and mudstone of Golden Gate Siltstone. The undulating area surrounding the escarpment comprises shallow yellow to pale loamy soils derived from weathering of underlying granitic rocks.
Surface water	Surface water flows are ephemeral, occurring with wet seasons and monsoons. The nearest main surface water body is the Wilson River, approx. 4km west of the works approval area.

<p>Groundwater</p>	<p>Along the escarpment, groundwater is present within the underlying Hensman Sandstone and Golden Gate Siltstone with water levels in the broad alluvial valley, down slope of the mining area, varying from 0 m (i.e. discharging along the northern portion of March Fly Creek) to over 20 m below the surface.</p> <p>Current licence conditions require groundwater monitoring and depth to groundwater at Bore RMB04 is 6.5 metres below ground level (mbgl). Bore RMB04 is the closest bore to the landfill (450 m southwest) and is located in a creek line, with a depth to groundwater approximately 5 mbgl. The landfill sits about 3-4m higher than Bore RMB04 on raised ground so the depth to groundwater is likely closer to 8mbgl.</p> <p>Groundwater quality in the area is generally fresh (electrical conductivity ranging from 39 – 1100 µs/cm) and slightly acidic to neutral (pH levels 5.03 – 7.89). Concentrations of bicarbonate, iron, manganese, zinc, lead, aluminium, copper and chromium in background groundwater occur at levels to be expected for a mineralized groundwater aquifer.</p> <p>Groundwater Licence GWL 172778 allows the Works Approval Holder to extract up to 200,000 kL of water per year from the Canning-Kimberley Combined – Fractured Rock Central water source. During the 2019 reporting period, a total of 62,706kL of groundwater was abstracted from the mine site production bores: RMB01 and RMB06.</p>
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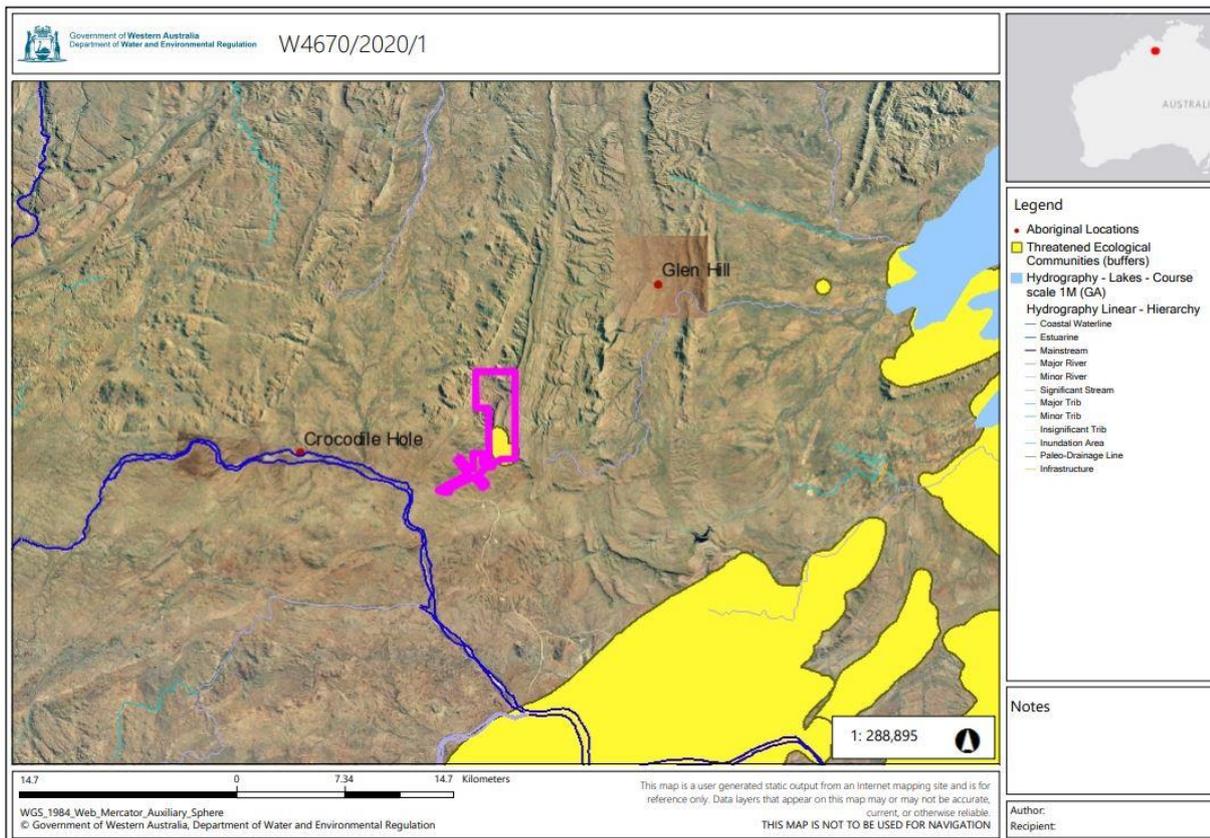


Figure 2: Distance to sensitive receptors outside the premises boundary (the premises boundary is shown by the pink border).

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 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 W6470/2020/1 that accompanies this Decision Report authorises construction of the landfill extension. The conditions in the issued Works Approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

The existing licence for the premises (L8549/2011/1) authorises the operation of the landfill area on the premises. A risk assessment for the operational phase has been included in this Decision Report.

Table 3: Risk assessment of potential emissions and discharges from the Premises during construction and operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Construction/excavation of landfill trenches Movement of vehicles in and around the site Construction of perimeter fencing	Dust	Air/windborne pathway causing impacts to health and amenity	RIOP Camp and offices	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	Condition 1	N/A
	Noise		Remote communities >8 km away	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 1	The <i>Environmental Protection (Noise) Regulations 1997</i> apply
Operations								
Acceptance and burial of waste	Odour	Air/windborne pathway causing impacts to health and amenity	RIOP Camp and offices Remote communities >8 km away	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	To be determined as part of licence amendment	N/A
	Landfill leachate	Seepage impacting groundwater quality	Groundwater approximately 5 m below ground in the vicinity of the landfill area	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	To be determined as part of licence amendment	N/A
	Potentially contaminated stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Wilson River, approx. 4 km to the west Groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	To be determined as part of licence amendment	N/A
	Dust	Air/windborne pathway causing impacts to health and amenity	RIOP Camp and offices Remote communities	Refer to Section 3.1	C = Slight L = Possible Low Risk	Y	To be determined as part of licence amendment	N/A

Works Approval: W6470/2020/1

Risk Event					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
			>8 km away Priority 1 PEC with Premises					
	Noise	Air/windborne pathway causing impacts to health and amenity	RIOP Camp and offices Remote communities >8 km away	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	To be determined as part of licence amendment	The <i>Environmental Protection (Noise) Regulations 1997</i> apply
	Windblown waste	Air/windborne pathway causing impacts to health and amenity	RIOP Camp and offices Remote communities >8 km away Priority 1 PEC with Premises	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	To be determined as part of licence amendment	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 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 (14/01/2021)	None received	N/A
Local Government Authority advised of proposal (14/01/2021)	The Shire of Wyndham-East Kimberley provided no comment to the proposal.	N/A
Applicant was provided with draft documents on 24/02/2021	The Applicant requested that the 21 day comment period be waived.	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) 2019, *Guideline: Decision Making*, Perth, Western Australia.
2. DER 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
3. DER 2015, *Guidance Statement: Regulatory Principles*, Perth, Western Australia.
4. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
5. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY	
Application type	
Works approval	<input checked="" type="checkbox"/>
Date application received	3 November 2020
Applicant and Premises details	
Applicant name/s (full legal name/s)	Kimberley Metals Group Pty Ltd
Premises name	Ridges Iron Ore Project
Premises location	Mining Tenements M80/599, M80/600, L80/55 and G80/15
Local Government Authority	Shire of Wyndham East Kimberley
Application documents	
HPCM file reference number:	DER2020/000560
Key application documents (additional to application form):	Application Form document and supporting information (DWERDT360615). Note that this works approval application is for the same works approved under W5728/2014/1. The previous works approval expired prior to the commencement of works, so the licence holder has applied for the works approval again.
Scope of application/assessment	
Summary of proposed activities or changes to existing operations.	<p>Extension to existing landfill on the premises.</p> <p>Extension to the existing landfill facility at the Ridges Iron Ore Project (RIOP). The proposed Extension will ensure there is sufficient landfill storage for the life of mine, as mining at Sam and Tony ore bodies recently recommenced.</p> <p>The maximum annual throughput of waste at the proposed Landfill Extension will remain the same at 125 tonnes per annum; however, the storage capacity is proposed to increase to allow for the additional storage and burial of an estimated 441 tonnes over five years from 2021 to 2026.</p> <p>Construction of the landfill extension will entail clearing the additional area required for the proposed extension (approximately 0.72 hectares) and fencing the perimeter of the landfill area. It is proposed that the Landfill Extension will allow the excavation of trenches across the entire approved landfill footprint. Trenches will be dug as required for the placement of putrescible waste generated as part of the RIOP. A maximum of 14 trenches will be dug over the life of mine. The landfill extension will be constructed and operated to comply with current licence conditions listed in Licence L8549/2011/1.</p>

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity
Category 64: Class II putrescible landfill	Previously approved for 50,000 tpa	The throughput will remain unchanged at 125tpa, however the overall volume of the landfill is proposed to increase by 441 tonnes over 5 years (2021-2026).
Category 5: Processing or beneficiation of metallic or non-metallic ore	1.5 million tpa	Nil

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"/>	
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Mining lease / tenement DMIRS payment info
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: If N/A explain why?
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Clearing exempt under Schedule 1 of the clearing regs. Confirmed with NVP.
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"/>	N/A
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A

<p>Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Name: Ord River and tributaries Type: Proclaimed Surface Water Area</p> <p>Name: Ord Irrigation District Type: Proclaimed Irrigation District</p> <p>Name: Canning-Kimberley Groundwater Area Type: Proclaimed Groundwater Area</p> <p>Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/></p> <p>Regional office: North West</p>
<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>N/A</p>
<p>Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004</i>, <i>Environmental Protection (Controlled Waste) Regulations 2004</i>, <i>State Agreement Act xxxx</i>)</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></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 type="checkbox"/></p>	