

# **Decision Report**

# **Application for Works Approval**

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

Works Approval Number W6553/2021/1

**Applicant** Sinosteel Midwest Corporation Limited

**ACN** 009 224 800

**File number** DER2018/001042-5~33

Premises Koolanooka Iron Ore Project

Mining Tenements M70/1012, M70/1013, M70/1014, G70/158

and G70/159, Morawa WA 6623

As defined in Schedule 1

**Date of report** 24 September 2021

**Decision** Works approval granted

Melanie Bruckberger A/MANAGER, RESOURCE INDUSTRIES REGULATORY SERVICES

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 W6553/2021/1 (W6553) 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 <a href="https://dwer.wa.gov.au/regulatory-documents">https://dwer.wa.gov.au/regulatory-documents</a>.

# 2.2 Application summary and overview of premises

On 9 April 2021, Sinosteel Midwest Corporation Limited (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 mobile crushing and screening equipment at the Koolanooka Iron Ore Project (Premises). The Premises is approximately 10 km west of the town of Morawa.

The premises relates to the category and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in W6553. 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 W6553.

#### 2.2.1 Operational aspects

Mined ore from the historically mined Southfold pit will be hauled to the ROM pad for storage prior to being loaded into the crushing circuit via a front-end loader into the hopper. The ore will then be processed through a series of crushing and screening plants before being stacked into either a lump or fines stockpile as shown in Figure 1 below.

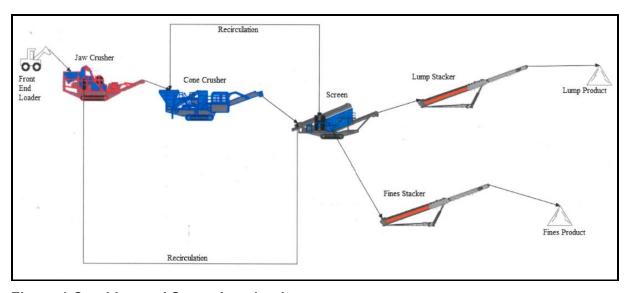


Figure 1 Crushing and Screening circuit

Product from the stockpiles will then be loaded onto road trains for delivery to the Tilley Rail Siding at Morawa for final rail transport to the Geraldton port.

The Applicant proposes approximately 1,000,000 cubic metres of iron ore including waste rock will be mined over a 12-month period. The maximum capacity of the crushing and screening plant based upon operating for 24 hours per day for 365 days is 1,500,000 tonnes. The Applicant proposes to operate the crushing and screening plant on a single day shift (12 hours) for the first eight months before shifting to double shifts (24 hours) for the remaining four months. As a result, the Applicant expects from current modelling this processing rate will result in 706,000 tonnes of iron ore being available for processing at the Premises for the duration of the mine life (12 months). The Applicant has stated the excess capacity in the plant will provide flexibility should additional ore become available.

Dust management at the crushing and screening plant will be through the following measures:

- Ore on the ROM pad will be preconditioned with water from a watercart prior to being loaded into the hopper.
- Transfer points will be fitted with rubber skirts.
- Product stackers will be fitted with a sprinkler system.

#### 2.2.2 Exclusions to the Premises

Infrastructure and associated activities that are not captured by the assessment as they are below prescribed premises thresholds, is detailed below with the locations shown in Figure 2.

- Workshop. Structure consists of two steel shipping containers separated by a hardstand work area. Contaminated water from work areas will be kept separate from clean stormwater. Stormwater from work areas will be directed to an oil water separator.
- Fuel farm. Self-bunded fuel storage tank with a capacity of 50,000 litres.
- Washdown Bay. Consisting of hardstand with wastewater directed to an oil water separator.
- ANFO batching plant.
- Office buildings. All generated waste will be transported to the Morawa Shire landfill for disposal.

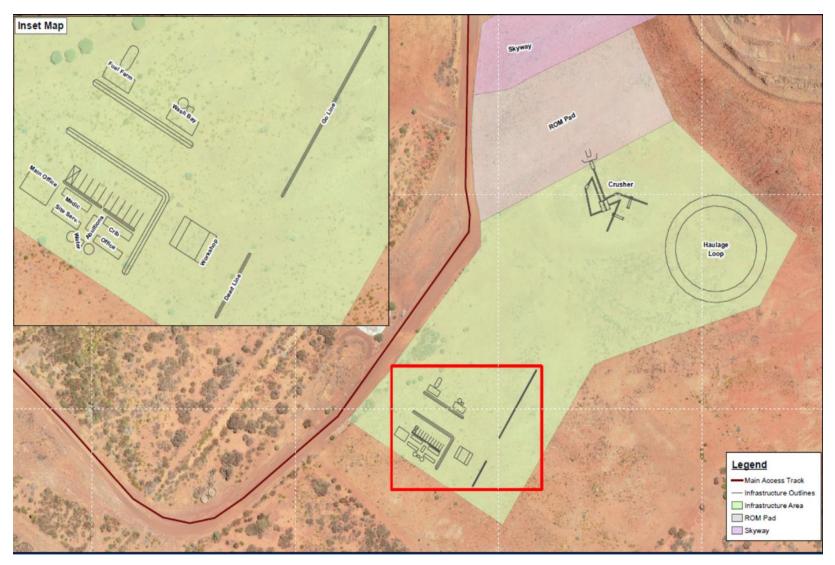


Figure 2 Location of activities excluded from consideration

#### 2.3 Part IV of the EP Act

The Premises was assessed by the Environmental Protection Authority (EPA), and approved under Ministerial Statement 811 (MS 811) on 4 November 2009. MS 811 is for the proposed mining of hematite ore at the Koolanooka Hills and at Mungada West and Mungada East, reinstate the Mungada Haul Road to its original width and construct an accommodation camp at Old Karara

Conditions of MS 811 require the Applicant ensures that mining related activities do not cause the loss of or adverse impacts on any native flora including nearby Threatened Ecological Communities. These conditions also require monitoring of impacts from dust, saline water use for dust control, fire and introduced fauna.

The most recent Section 45C amendment to MS 811 occurred on 21 December 2017. The amendment related to activities occurring on Mungada East and Mungada West (Blue Hills) which are separate to the activities at this Premises (approximately 60 km away).

The Delegated Officer considers the following Ministerial conditions are relevant to the Applicants proposed activities that will occur at the Premises. The requirements of these MS 811 conditions are not re-assessed in this decision report and are not duplicated as conditions in the works approval.

#### Condition 6-3

The proponent shall ensure that mining and mining related activities of this proposal shall not cause the loss of or adverse impacts on any native flora, including the Threatened Ecological Community "Plant assemblages of the Koolanooka System" and the Blue Hills vegetation complex Priority Ecological Community shown in Figures 4 and 5, outside areas approved to be cleared of vegetation, or to act as a dust buffer zone, as specified in Schedule 1.

#### Condition 6-4

The proponent shall monitor impacts from activities undertaken in implementing the proposal, including:

- 1. dust;
- 2. saline water application for dust control;
- 3. fire: and
- 4. attraction of and increase in introduced fauna.

on the health and condition of the Threatened Ecological Community "Plant assemblages of the Koolanooka System" and the Blue Hills vegetation complex Priority Ecological Community shown in Figures 4 and 5. This monitoring is to be carried out to the requirements of the CEO.

#### Condition 6-5

In the event that the monitoring required by condition 6-4 indicates a decline in the health or condition of the Threatened Ecological Community "Plant assemblages of the Koolanooka System" and the Blue Hills vegetation complex Priority Ecological Community shown in Figures 4 and 5, outside areas approved to be cleared of vegetation, or to act as a dust buffer zone, as specified in Schedule 1, the proponent shall:

- · report such findings to the CEO within 21 days of the decline being identified;
- · provide evidence which allows determination of the cause of the decline; and
- · if determined by the CEO to be a result of activities undertaken in implementing the proposal, state the actions to be taken to remediate the decline.

## 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 premises construction/ operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the 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	1						
Dust	Earthworks, vehicle movements, stockpiles and/or stored product.	Air / windborne pathway	Use of water cart to wet down roads, stockpiles and hardstand areas as required.				
Noise	Construction noise.	Air /	Construction activities only occurring during				
	Operating earth moving equipment.	windborne pathway	"day-time" hours (7am to 7pm, Mon – Sat).				
Operation	Operation						
Dust	Crushing and screening of material, vehicle	Air / windborne pathway	Ore on the ROM pad will be preconditioned with water from a water cart prior to loading into the hopper.				
	movements, lift-off from stockpiles.		All transfer points on the crushing and screening plant will be fitted with rubber skirts to minimise dust emissions.				
			Product stackers will be fitted with a sprinkler system to minimise dust emissions from product transferring from the stacker to the cones.				
			Other commitments made by the applicant:				
			<ul> <li>Belt scrapers on the conveyor belt.</li> <li>Collection trays under the belt plough on the return belt.</li> <li>Deluge sprays at the ROM pad area and the hopper.</li> <li>Dust suppression sprinklers at transfer</li> </ul>				

Emission	Sources	Potential pathways	Proposed controls
			points and stockpiles.
Noise	Crushing and screening of material.  Vehicle movements.	Air / windborne pathway	No noise controls proposed.  The distance to the nearest receptor is considered too great for any noise from the Premises to have an impact.
Contaminated (sediment laden, hydrocarbons)	Stockpiles, ROM pad, crushing and screening hardstand and haul roads.	Overland run-off	Existing culverts will be re-established where possible under roads, embankments and formations to allow free flow of drainage water and to assist in water shedding from the site.
stormwater.			During high rainfall events the effect of stormwater discharge from the site will be controlled. Adequate drainage will be assured through site structures, stockpiles and roadways.
			Final placement of site waste rock and product stockpiles will consider stormwater flow and drainage in the local area. In terms of physical water flow, the project will be implemented to have little impact on surface water runoff in the region, however if proven necessary, a sediment trap system will be incorporated into the site design.
			The support infrastructure will be designed to ensure the safe storage and handling of all hazardous and waste materials to prevent contamination to the project area.
			Appropriate design standards will be applied to allow for the provision of scour protection measures.
			Drainage areas will be suitably designed to minimise contamination of surface water.
			Cleared vegetation and topsoil will be stockpiled away from watercourses and in discrete stockpiles to avoid any interference to surface flows.
			Contaminated water from work areas will be kept separate from clean storm water.
			Water interfacing with work areas will be directed to oil water separators

#### 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 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 2020)).

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

Human receptors	Distance from prescribed activity			
Town of Morawa	10 km west of the Premises.  Screened out – distance is considered too far to be considered a receptor.			
Two uninhabited homesteads. The closest homestead is leased by the Applicant.	Homesteads are located three and five km from the Premises.  Screened out – distance is considered too far to be considered a receptor.			
Environmental receptors	Distance from prescribed activity			
Koolanooka Vegetation System Threatened Ecological Community (TEC).  Beecham Five plant assemblages of the Koolanooka System are now listed as TEC by DBCA (2001).  The Premises was extensively cleared during historical mining activities in the 1960's.  The extent of the TEC area at Koolanooka Hills that has been impacted by previous mining operations at the Premises is 6.1 ha which constitutes 0.30% of the total Koolanooka Hills TEC.	Northwest upper area of the TEC footprint occurs within the boundary of the Premises. See figure 3 below.  The proposed location of the crushing and screening plant is approximately 400 m to the boundary of the TEC area.			
Threatened/Priority Fauna  Three species recorded within area of the Premises:  - Leipoa ocellata (Malleefowl). Listed as 'vulnerable'.  - Egernia stokesii badia (Western Spinytailed skink). Listed as 'vulnerable'.  - Cyclodomorphus banchialis (Gilled Slender Blue-tongue lizard).	Located within this region including at the Premises.			
Surface water - Koolanooka Spring (ephemeral creek line).  Potentially sourced by livestock when flowing.	4 km to the south east of the Premises.  Screened out – distance is considered too far to be considered a receptor.			
Groundwater  Agricultural bores within the region are developed within the underlying bedrock approximately 20 mbgl. The groundwater within the fractured rock aquifer is typically low yielding with salinities between 2,000 to 5,000 mg/L TDS. Fresh groundwater is uncommon.	Approximately 20 mbgl.  Screened out – distance is considered too far to be considered a receptor for the operations of this Premises.			

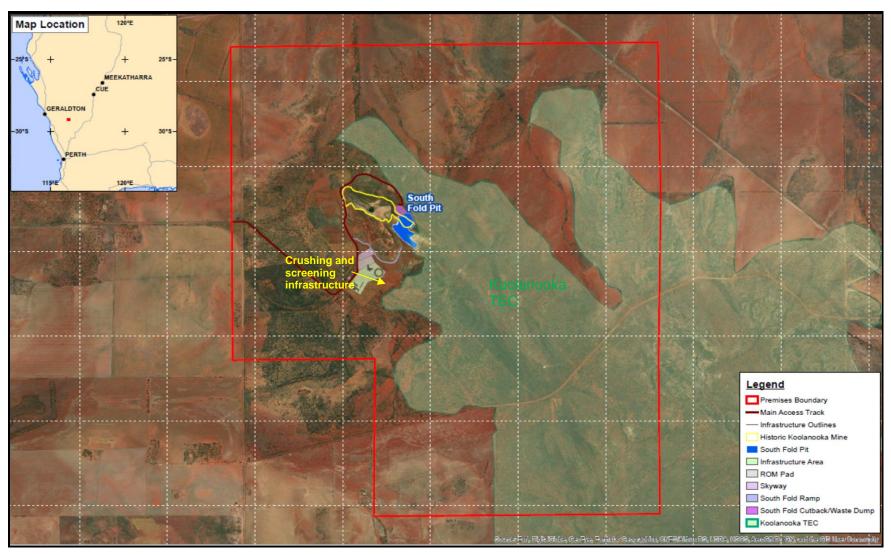


Figure 3 Distance to sensitive receptors

# 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 3.

W6553 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. Category 5 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 and operation

Risk events				Risk rating <sup>1</sup>	Annlicant		Justification for	
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	additional regulatory controls
Construction								
Placement of mobile crushing and screening plant and associated equipment, earth moving and vehicle movements.	Dust	Air / windborne pathway causing impacts to the nearby Koolanooka TEC.	Boundary of the Koolanooka TEC approximately 400 m to the east of the crushing/screening plant.	Refer to Section 3.1	C = Minor  Low level onsite impacts with minimal off-site impacts.  L = Unlikely  The risk event will probably not occur in most circumstances.  Medium Risk	Y	Conditions 1, <b>2, 3, 9, 10</b> and <b>11</b>	Compliance documentation to be submitted certifying the infrastructure has been built in accordance with the works approval.  Monitoring for dust impacts at the Koolanooka TEC are managed through conditions of MS811 and therefore monitoring conditions in the works approval are not required
	Hydrocarbon spills from refueling and equipment failure including storage.	Overland runoff potentially causing ecosystem disturbance.	Boundary of the Koolanooka TEC approximately 400 m to the east of the crushing/screening plant.  Surrounding soils	Hydrocarbons stored in bunded areas or self-bunded tanks.  All refueling and vehicle maintenance to occur within a bunded area.  Use of spill	C = Minor  Low level onsite impacts with minimal off-site impacts.  L = Possible  The risk event could occur at some time.  Moderate Risk	Y	Not applicable	N/A

Risk events					Risk rating <sup>1</sup>	Annlinant		Justification for
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	additional regulatory controls
				kits.				
Operation (including time-lin	nited-operations	operations)						
	Dust	Air / windborne pathway causing impacts to the nearby Koolanooka TEC.	Boundary of the Koolanooka TEC approximately 400 m to the east of the crushing/screening plant.	Refer to Section 3.1	C = Moderate  Mid level onsite impacts with low level off-site impacts.  L = Unlikely  The risk event will probably not occur in most circumstances.  Medium Risk	Y	Conditions 1, <u>2, 3, 4, 5, 6, 7, 8, 9, 10</u> and <u>11</u>	Compliance documentation to be submitted certifying the infrastructure has been built in accordance with the works approval.  Standard administration and reporting requirements.
Screening, crushing, unloading, loading and storage of material	Sediment laden stormwater from stockpiles	Overland runoff potentially causing ecosystem disturbance.	Boundary of the Koolanooka TEC approximately 400 m to the east of the crushing/screening plant.  Surrounding soils	Refer to Section 3.1	C = Minor  Low level onsite impacts with minimal off-site impacts.  L = Unlikely  The risk event will probably not occur in most circumstances.  Medium Risk	Y	Not applicable	N/A
	Accidental hydrocarbon spills from	Overland runoff potentially causing	Boundary of the Koolanooka TEC approximately 400	Hydrocarbons stored in bunded areas	C = Slight  Minimal onsite	Y	Not applicable	N/A

Risk events	Risk rating <sup>1</sup>	Applicant		Justification for				
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	consequence	Applicant controls sufficient?	approval re	additional regulatory controls
	equipment failure and refueling.	ecosystem disturbance.	m to the east of the crushing/screening plant. Surrounding soils	or self- bunded tanks.  All refueling and vehicle maintenance to occur within a bunded area.  Use of spill kits.	impacts only.  L = Possible  The risk event could occur at some time.  Low Risk			

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 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 on 24 June 2021	None received	N/A
Applicant was provided with draft documents on 17 August 2021	Applicant provided response 22 September 2021.  Proposed changes to the description of the dust controls to be installed at the crushing and screening plant.	Supported. Changes made.
	Correction of typographical error in condition 6 and also in section 3.1.2 of the Decision Report.	

### 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 (2020), *Guideline: Environmental Siting*, Perth, Western Australia.
- 3. DWER 2020, Guideline: Risk Assessments, Perth, Western Australia.
- 4. Ministerial Statement 811, published 4 November 2009, Koolanooka/Blue Hills Direct Shipping Ore mining Project Shires of Morawa and Perenjori.
- 5. DWER Works Approval Application form for the Koolanooka Iron Ore Project, Sinosteel Midwest Corporation Limited, 8 April 2021.
- 6. Sinosteel Midwest Corporation Limited, Koolanooka Iron Ore Project, *Works Approval Application Supporting Information*, April 2021.

# **Appendix 1: Application validation summary**

SECTION 1: APPLICATION SUMMARY						
Application type						
Works approval	$\boxtimes$					
Date application received		9 April 2021	9 April 2021			
Applicant and Premises details						
Applicant name/s (full legal name/s	)	Sinosteel Midwest Corpo	ra	tion Limited		
Premises name		Koolanooka Mine				
Premises location		Mining tenements M70/10 G70/158 and G70/159, N				
Local Government Authority		Shire of Morawa				
Application documents						
HPCM file reference number:		DER2018/001042-5				
Key application documents (addition to application form):	<ul> <li>Koolanooka Works Approval Supporting information, April 2021</li> <li>Ministerial Statement 811 including Attachment 5 (s45C dated 21/12/2017)</li> <li>Koolanooka/Blue Hills Direct Shipping Iron Ore (DSO) Mining Project, Environmental Plan, December 2009 (current)</li> </ul>					
Scope of application/assessment	t					
Summary of proposed activities or changes to existing operations.		Works approval: Installation of a crushing and screening mobile plant to produce approximately 706,000 tpa of hematite iron ore mined at the premises. The maximum capacity of the plant is 1.5 Mtpa (based upon operating 24 hours a day for 365 days). This excess capacity will provide flexibility should additional ore become available.				
		Operations at the premises are only expected to last for a period of 12 months.				
Category number/s (activities that Table 1: Prescribed premises cat		·	on	ne prescribed premises)		
· · · · · · · · · · · · · · · · · · ·		pposed production or sign capacity		Proposed changes to the production or design capacity (amendments only)		
Category 5: Processing or beneficiation of metallic or non-metallic ore.	1,50	00,000 tpa (design capacity)				
Legislative context and other app	orov	als				
Has the applicant referred, or do the intend to refer, their proposal to the	Yes □ No ⊠	R	Referral decision No:			

EPA under Part IV of the EP Act as a significant proposal?		Managed under Part V □ Assessed under Part IV □
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ⊠ No □	Ministerial statement No: MS811 Last amended (s45C) 21/12/2017 EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes □ No ⊠	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ⊠ No □	Certificate of title □  General lease □ Expiry:  Mining lease / tenement ⊠  Expiry: 17/12/2040  Other evidence □ Expiry:
Has the applicant obtained all relevant planning approvals?	Yes □ No □ N/A ⊠	Approval: Expiry date: If N/A explain why? Area zoned for mining purposes
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes □ No ⊠	CPS No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes □ No ⊠	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ⊠ No □	Application reference No: Licence/permit No: GWL 159255 (5)
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes □ No ⊠	Name: N/A Type: Has Regulatory Services (Water) been consulted? Yes □ No □ N/A □ Regional office:

Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes □ No ⊠	Name: N/A  Priority: P1 / P2 / P3 / N/A  Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)?  Yes □ No □ N/A □
Is the Premises subject to any other Acts or subsidiary regulations (e.g. Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx)	Yes ⊠ No □	Dangerous Goods Safety Act 2004
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes □ No ⊠	
Is the Premises subject to any EPP requirements?	Yes □ No ⊠	
Is the Premises a known or suspected contaminated site under the Contaminated Sites Act 2003?	Yes □ No ⊠	Classification: N/A Date of classification: N/A