



Application for Works Approval

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

Works Approval Number W6948/2024/1

Applicant Karara Mining Limited

ACN 070 871 831

File number DER2024/000333

Premises Hinge Iron Ore Project
PERENJORI WA 6620

Legal description –
Mining Lease M59/748-I

As defined by the Premises map in Schedule 1 of the issued
Works Approval

Date of report 10 October 2024

Decision Works approval granted

SENIOR ENVIRONMENTAL OFFICER, INDUSTRY REGULATION
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 W6948/2024/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

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

2.2 Application summary

On 04 July 2024, 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 a mobile crushing unit and time-limited operations at the premises, which is located approximately 72 km north-east of Perenjori.

The premises relates to Category 5: *Processing or beneficiation of metallic or non-metallic ore* and the assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which is defined in works approval W6948/2024/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6948/2024/1.

2.3 Background and overview of premises

The premises is located on mining lease M59/748-I which expires on 18 December 2034.

The premises was previously licensed under the licence L8833/2014/1 which expired on 28 September 2019.

The proposed operations will include mining out the remaining hematite ore at bottom of the current Hinge Iron Ore Project (HIOP) pit from 302 mRL Australian Height Datum (AHD) to 287 mRL AHD, crushing ore at the previous Run of Mine (RoM) pad and transportation of the crushed ore to Karara minesite train load out facility.

The boundary of the premises and proposed location of the mobile crushing unit within the RoM is shown in Figures 1 and 2.

Due to previous works under L8833/2014/1, the RoM area is already disturbed. Rehabilitation of the premises has been undertaken within parts of the premises and no further clearing of native vegetation will be required for the installation of the proposed mobile crushing unit. A buffer will also be set between the proposed operations area and the rehabilitated areas within the RoM pad to ensure minimal impacts to the rehabilitated areas.

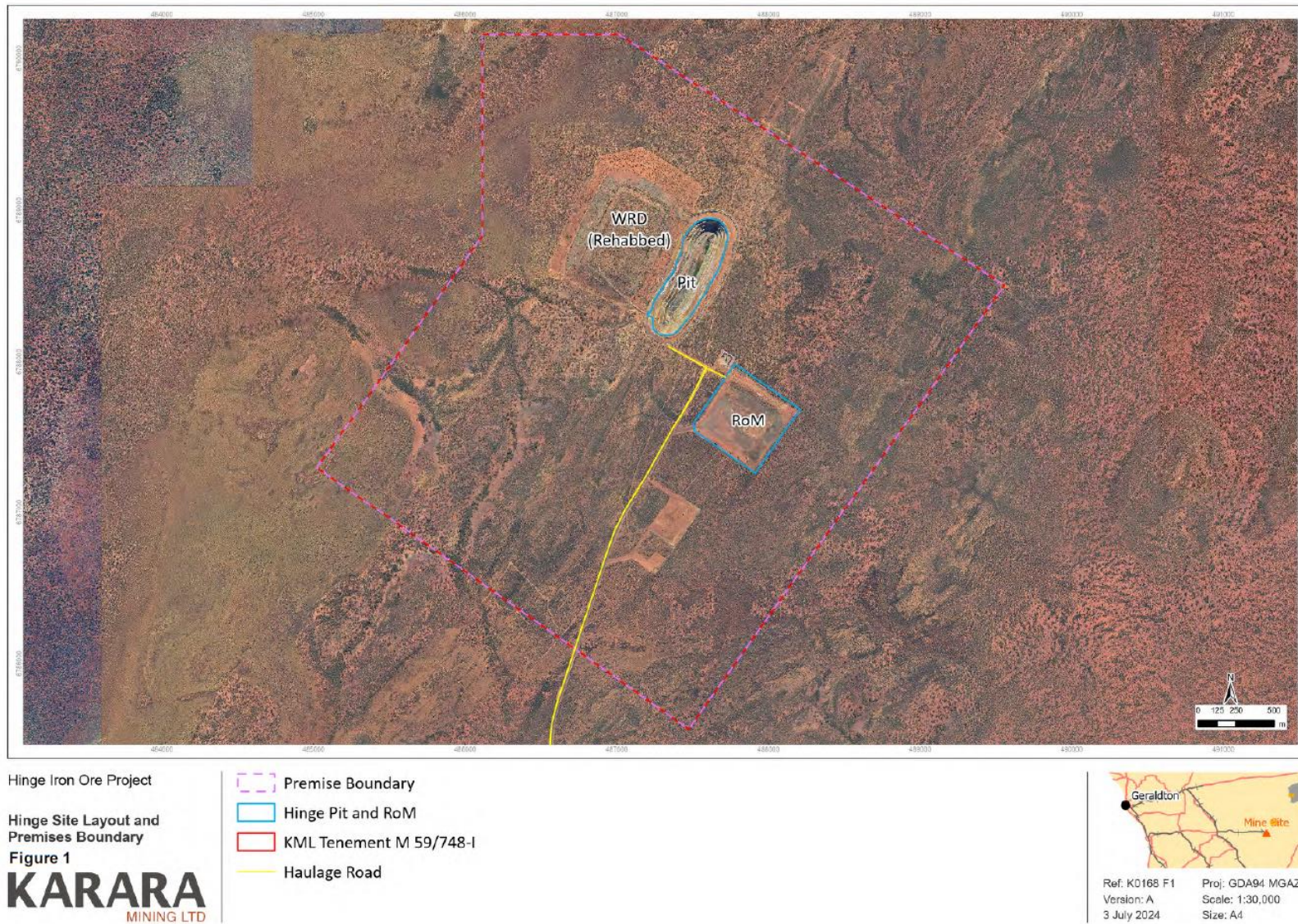


Figure 1: Proposed premises boundary



Figure 2: Location of mobile crusher within RoM area

2.4 Mobile crushing unit

The proposed mobile crushing unit will consist of one jaw crusher, one screen (3 decks), one cone crusher and two transfer conveyor stackers.

The proposed design of the mobile crushing unit is shown in Figure 3. The proposed crushing and screening operations and associated infrastructure will consist of the mobile crusher (including screening plant, stacker and other ancillary equipment), ore stockpiles, lump and fine stockpiles and a waste material stockpiles area – refer to Figure 2.

The ore will be fed into the mobile crusher by loader for processing and the final product will then be stockpiled by loader at designated area at the RoM pad. The proposed mobile crushing unit will be operating on a continuous basis over a 12 hour dayshift (seven days a week) to process a maximum of 180,000 tonnes of ore at a production rate of approximately 400 tonnes/hour. Haulage of product by using existing mining fleet from HIOP RoM pad to the Karara Minesite Train Load Out area.

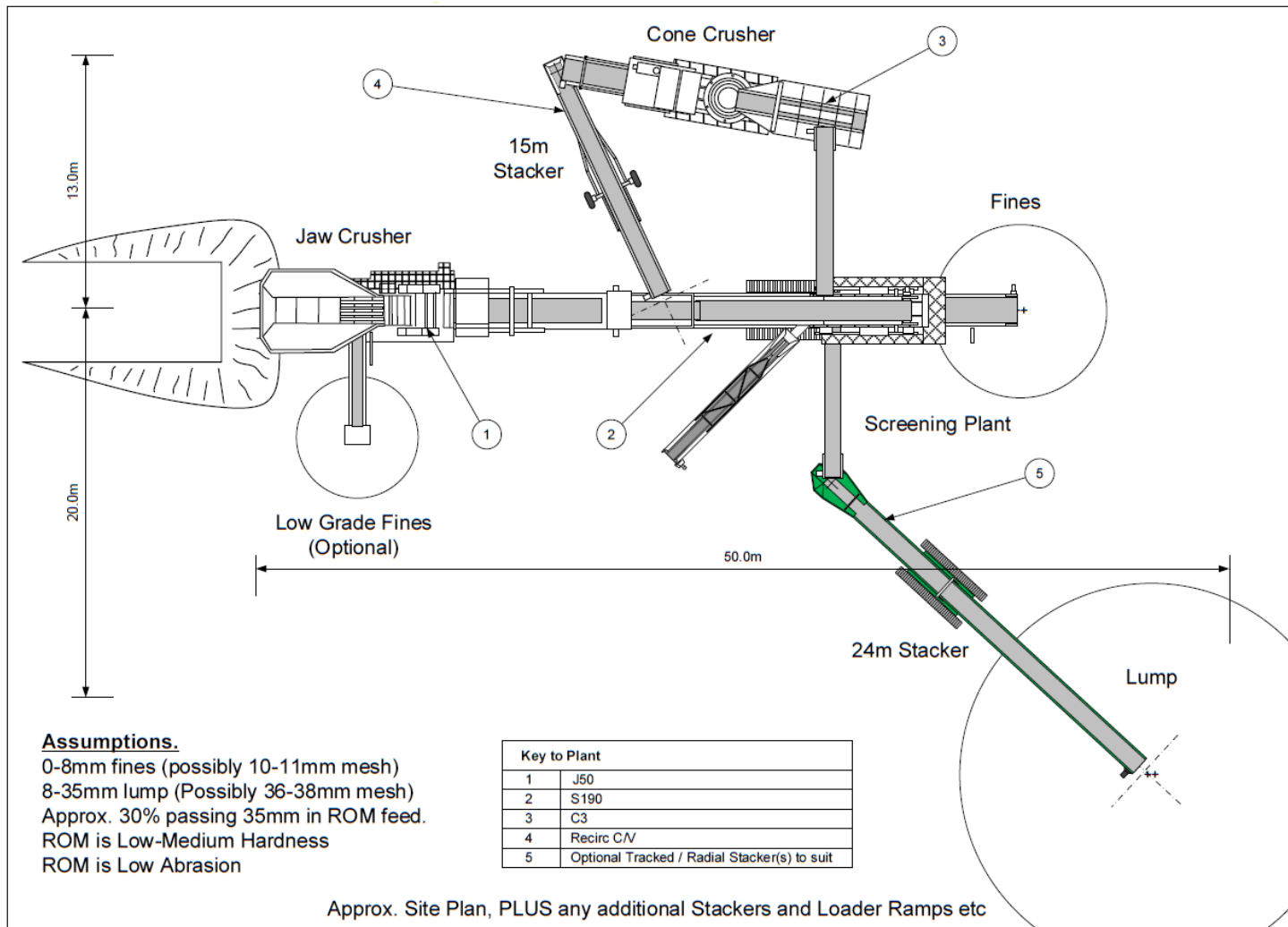


Figure 3: Conceptual layout of the mobile crushing unit

2.5 Part IV of the EP Act

The HIOP was referred to the Environmental Protection Authority (EPA) by Karara Mining Limited in 2013. The proposal was to develop and operate an iron ore mine, supporting infrastructure and a haul road, 76 km north-east of Perenjori in the Midwest region. The proponent was authorised to develop the HIOP under Ministerial Statement 968 (MS 968), which was published in 2014.

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 and 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			
Dust	Installation of Mobile Crushing Unit	Air/windborne pathway	No controls proposed by the applicant
Noise			No controls proposed by the applicant
Spills and leaks of hydrocarbons		Overland runoff Seepage to groundwater	No controls proposed by the applicant
Operation			
Dust	Mobile Crushing Unit	Air/windborne pathway	- Water misting sprays fitted on crusher and stacker between transfer points. - Dust suppression of raw materials, product stockpiles and the haulage road via water truck. - Dust Management Plan. - Scheduled Inspections and Audits. - Incident Reporting.

Emission	Sources	Potential pathways	Proposed controls
Noise			- Vehicle / mobile plant will comply with speed limits. - HIOF RoM pad and the proposed mobile crusher will only run during dayshift. - Scheduled maintenance of the plant and equipment
Spills and leaks of hydrocarbons		Overland runoff Seepage to groundwater	- Spill kits available at the works area. - Scheduled maintenance of the plant and equipment. - Appropriate handling and disposal of hydrocarbons as per 'Storage and Use of Hazardous Substances Standard CORP-HS-STD-1042' and 'Environmental Waste Management Plan CORP-ENPLN-1013'. - Use of drip trays/temporary liners and temporal self-bounded pods for lubricants/ oil storage.
Stormwater		Overland runoff Seepage to groundwater	- The mobile crusher unit and associated infrastructure area (e.g. the existing Hinge RoM pad) bunded to be capable of holding a 1-in-20 year 72-hour storm event. - Existing culverts are in place under roads, embankments and formations to permit free flow of drainage water and to assist in water shedding from the site. - Potential surface runoff with elevated sediment levels/erosion to be managed via sediment reduction controls such as sedimentation ponds/traps as needed.

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
Perenjori	Is approximately 72 km south-west of the premises <i>Note: due to the separation distance, this receptor has been screened out - no further consideration in the risk assessment process.</i>
Karara Homestead	Is approximately 27 km away from HIOP RoM pad. <i>Note: due to the separation distance, this receptor has been screened out - no further consideration in the risk assessment process.</i>
Karara Rangeland Park	The premises is within the Karara Rangeland Park which is a public camping ground. The area stretches across six former pastoral stations. The HIOP is approximately 28 km north of the Damperwah Camp Zone and approximately 33 km west of the Meleya Camp.
Aboriginal and Other Heritage Sites	Registered sites ID 31760 and 31761 are located 1 km and 700 m away from the proposed mobile crushing unit.
Environmental receptors	Distance from prescribed activity
Priority Ecological Communities (PEC)	A buffer for a Priority 1 PEC overlaps the proposed premises boundary.
Threatened and/or Priority Fauna	Prospective habitats have been identified by the applicant across the HIOP site for Malleefowl and Spiny-tailed Skink. Nearest Malleefowl mound 200 m north of the proposed crushing unit Nearest Skink site is 1.3 km west of the proposed crushing unit.
Threatened and/or Priority Flora	The applicant has located <i>Prostanthera sp. Karara</i> (Priority 1) about 350 m south of the proposed crushing unit.
Surface waterbodies	A non-perennial watercourse runs within the south-east of the premises boundary. A series of non-perennial lakes occur 4 km south-west of the proposed crushing unit.

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and considers 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 W6948/2024/1 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 ongoing operation of the premises. 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 ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls / DWER comments
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction Phase								
Installation of mobile crushing unit	Dust	Pathway: Air/windborne Impact: smothering of native vegetation inhibiting photosynthesis/ growth cycle.	Priority Fauna & Flora PEC Aboriginal Heritage Sites	Refer to section 3.1.1	C = Minor L = Unlikely Medium Risk	Y	Condition 1 – construction requirements for the mobile crushing unit include dust controls. The general provisions of the EP Act apply.	The Delegated Officer has conditioned the dust suppression sprays on the infrastructure through condition 1. Impacts to vegetation and rehabilitated areas are to be minimised by a buffer from the working area.
	Noise	Impact: Reduction in amenity and health of local fauna.	Priority Fauna & Flora	Refer to section 3.1.1	C = Slight L = Possible Low Risk	Y	No conditions imposed. The <i>Environmental Protection (Noise) Regulations 1997</i> apply.	N/A.
	Spills and leaks of hydrocarbons	Pathway: direct discharge to land; seepage to ground and underlying groundwater; and/or run-off into ephemeral drainage lines Impact: adverse effects on local soils and groundwater quality Reduction in amenity and health of local fauna.	Priority Fauna & Flora PEC Aboriginal Heritage Sites	Refer to section 3.1.1	C = Slight L = Unlikely Low Risk	Y	No conditions imposed. The <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> also apply.	N/A.
Operational Phase								
Operation of mobile crushing unit Unloading,	Dust	Pathway: Air/windborne Impact: smothering of native vegetation	Priority Fauna & Flora PEC Aboriginal	Refer to section 3.1.1	C = Moderate L = Possible Medium Risk	Y	Condition 6 - operational requirements for infrastructure and equipment	The applicant is required through condition 6 to maintain dust suppression sprays on the mobile crushing unit.

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls / DWER comments
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
loading, and stockpiling of material onto RoM pad during ore processing Vehicle movements on unsealed surfaces		inhibiting photosynthesis/ growth cycle. Reduction in amenity and health of local fauna.	Heritage Sites					
	Noise	Pathway: Air/windborne Impact: Reduction in amenity and health of local fauna.	Aboriginal Heritage Sites	Refer to section 3.1.1	C = Slight L = Possible Low Risk	Y	No condition imposed. <i>The Environmental Protection (Noise) Regulations 1997</i> apply.	N/A.
	Spills and leaks of hydrocarbons	Pathway: direct discharge to land; seepage to ground and underlying groundwater; and/or run-off into ephemeral drainage lines Impact: adverse effects on local soils and groundwater quality Reduction in amenity and health of local fauna.	Priority Fauna & Flora PEC Aboriginal Heritage Sites	Refer to section 3.1.1	C = Minor L = Unlikely Medium Risk	N	Condition 7 <i>The Environmental Protection (Unauthorised Discharges) Regulations 2004</i> also applies.	The applicant is required through condition 7 to recover, remove and dispose of any fuel, oil or other hydrocarbons spills.
	Potentially contaminated stormwater	Pathway: Overland and stockpile runoff during high rainfall events. Impact: disturbance or impacting surface water quality and vegetation	Priority Fauna & Flora PEC	Refer to section 3.1.1	C = Minor L = Unlikely Medium Risk	Y	Condition 6 – operational requirements for stormwater management	The applicant is required through condition 6 to manage stormwater.

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
Local Government Authority – Shire of Perenjori advised of proposal on 20 August 2024	None received	N/A
Applicant was provided with draft documents on 04 October 2024	Applicant provided comments on 08 October 2024 including proposed controls for stormwater management; and distances from premises to surrounding public camping grounds. The applicant also requested to increase the design capacity under Category 5 from 140,000 to 180,000 tonnes of ore processed annually.	The department has updated the decision report and works approval to include the applicants proposed controls for stormwater management. The design capacity for Category 5 was also increased from 140,000 to 180,000 tonnes per annual period.

5. Conclusion

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

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020a, *Guideline: Risk Assessments*, Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2020b, *Guideline: Environmental Siting*, Perth, Western Australia.