Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application for Works Approval

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

Works Approval Number	W2844/2025/1
Applicant	Emerald Resources (WA) Pty Ltd
ACN	118 341 736
File number	APP-0026225
Premises	Dingo Range Gold Project Wastewater Treatment Plant Legal description Part of Mining Tenement M37/1309 As defined by the coordinates in Schedule 1 of the works approval
Date of report	18 March 2025
Decision	Works approval granted

Grace Heydon

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

Table of Contents

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 W2844/2025/1 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 and overview of premises

On 3 October 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 the construction of a wastewater treatment plant and associated sprayfield to support a 345 room accommodation village at the North Laverton Gold Project mine site. The premises is approximately 82.5 km north-east of Leinster.

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 works approval W2844/2025/1. 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 W2844/2025/1.

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 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 WWTP ponds and associated infrastructure (pipelines etc)	Air / windborne pathway	• None specified.
Spills/unintended releases of hydrocarbon or chemicals	Vehicle operation during WWTP installation	Direct discharge to land / overland flow	• Spill kits will be available around hydrocarbon and chemical storage areas and in other appropriate locations. • Spills will be immediately contained and cleaned up following the Company's Spills and Bioremediation Procedure. • Soil contaminated by hydrocarbons will be treated via bioremediation.
Operation			
Spills/unintended releases of sewage	Operation of the WWTP and associated infrastructure	Overtopping / leaks of WWTP tanks resulting in effluent containing high levels of nutrients may impact the health of surrounding vegetation and cause a reduction in soil quality.	• WWTP to be maintained as per the manufacturer's instructions. • Effluent discharge will be managed to prevent overflow from the ponds. • Ponds will be managed with a 2-day freeboard to ensure capacity in case of extended maintenance / failure of evaporation infrastructure.
Odour	Operation of the WWTP and associated sprayfield	Air / windborne pathway	• The WWTP is appropriately designed and will be operated to mitigate the risk of odour emissions. Regular inspection schedule will be implemented, and preventative maintenance will be undertaken and are expected to effectively mitigate the risk of odour emissions. • Prevailing wind direction is from the east, therefore more likely to move odour away from the mine camp, the nearest sensitive receptor.

Emission	Sources	Potential pathways	Proposed controls
Spills/unintended releases of solid waste or partially treated wastewater	Operation of the WWTP and associated sprayfield	Direct discharge to land / overland flow	• WWTP to be maintained as per the manufacturer's instructions. • Pipeline to Irrigation Sprayfield to be bunded along entire route to protect from damage and to ensure that any leaks are contained. • Effluent discharge will be managed to prevent overflow from the ponds. • Weekly inspections of pipeline integrity and damage. • The solids separation tank will be regularly inspected and pumped out by a licensed sewage contactor when it reaches 75% full. • Ponds will be managed with a 2-day freeboard to ensure capacity in case of extended maintenance / failure of evaporation infrastructure.
Discharge of treated wastewater to land via sprayfield	Operation of the associated sprayfield	Discharge of effluent containing high levels of nutrients may impact the health of surrounding vegetation and cause a reduction in soil quality	• Pipeline to irrigation field to be bunded along entire route to protect from damage and to ensure that any leaks are contained. • Daily inspections of any pooling of treated effluent when irrigation system is operating. • Spray drift from irrigation is accounted for with respects to the spray field design and will be operated only during favorable weather conditions (avoid extremely windy days, rainy days or in high humidity. • Management procedures mitigate the risk of discharge with elevated nutrient levels in soil / seepage to groundwater or surface water. • Evaporation/irrigation area enclosed by a 1.8 m high fence which is an effective barrier to livestock, native fauna and safety barrier to people. Access to be provided through a locked gate. • As part of the monthly environmental inspection the WWTP fencing will be inspected for integrity and damage. • Effluent discharge quality monitoring

Emission	Sources	Potential pathways	Proposed controls
			undertaken on a quarterly basis. • Pipelines in the irrigation area will only be active when operating and irrigation is in progress. • Irrigating over an area of sufficient size (as determined by Department's Water Quality Protection Note 22) to prevent excess nutrient loading. • Wastewater treatment plant will be designed to treat wastewater to the following nutrient loading rates: - Nitrogen: 48.1 kg/ha/yr; and - Phosphorous: 9.6 kg/ha/yr • Flow meter installed at discharge pipe to ensure approved volume to irrigation field is not exceeded.
Spills/unintended releases of hydrocarbon or chemicals	Operation of the WWTP and associated infrastructure	Direct discharge to land / overland flow	• Spill kits will be available around hydrocarbon and chemical storage areas and in other appropriate locations. • Spills will be immediately contained and cleaned up following the Company's Spills and Bioremediation Procedure. • Soil contaminated by hydrocarbons will be treated via bioremediation.

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 and Figure 1 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
N/A	N/A
Environmental receptors	**Distance from prescribed activity**

Threatened and Priority flora	1 reported within a 2.5km circumference of the WWTP
Minor surface water lines	Minor non-perennial water lines exist within the premises boundary
Underlying groundwater (RIWI Act Goldfields Groundwater Area)	The prescribed premises area is within the proclaimed Goldfields Groundwater Area
Cultural receptors	**Distance from activity / prescribed premises**
Aboriginal Cultural Heritage Lodged Place 1512 – Mt Harold – Ritual/ Ceremonial place	Approximately 835 m east of the prescribed activity

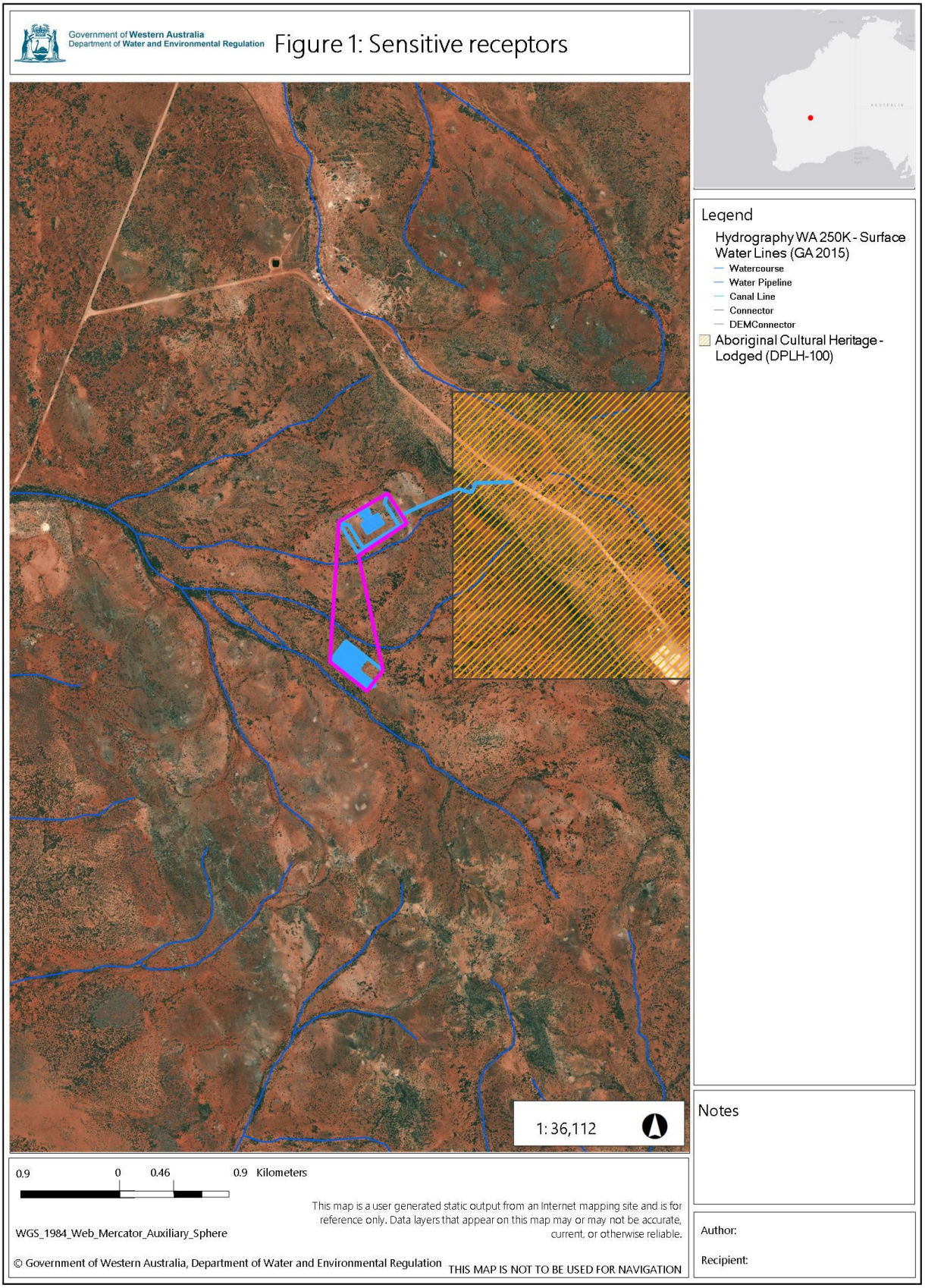

Figure 1: Distance to sensitive receptors

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.

Works approval W2844/2025/1 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 i.e. operating the wastewater treatment system and associated sprayfield. 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, commissioning and operation

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Construction								
Vehicle movements Earthworks for installation of the WWTP, infrastructure, equipment and bunding Installation of the irrigation sprayfield and associated pipework	Dust	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	Aboriginal Cultural Heritage Lodged Place	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	N/A	N/A
	Spills/ unintended releases of hydrocarbon or chemicals	**Pathway:** Seepage / infiltration **Impact:** groundwater contamination	Minor surface water lines and proclaimed groundwater area		C = Slight L = Unlikely **Low Risk**	Y	N/A	N/A
Operation (including time-limited-operations operations)								
Operation of the WWTP	Spills/ unintended releases of hydrocarbon, chemicals, solid waste or partially treated wastewater	**Pathway:** Seepage/ infiltration **Impact:** soil and groundwater contamination	Minor surface water lines Underlying groundwater Aboriginal Cultural Heritage Lodged Place	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	Condition 1, Table 1, Rows 1, 2, 3, 4, 5, 6 and 8.	N/A The Delegated Officer considers the Applicant's control ensuring the nutrient loading rate of Nitrogen: 48.1 kg/ha/yr; and Phosphorous: 9.6kg/ha/yr with a 3 ha irrigation sprayfield is sufficient to manage potential risk to the receiving environment and has conditioned these requirements.
Discharge to the irrigation sprayfield	Treated wastewater	**Pathway:** Seepage/ infiltration **Impact:** soil and groundwater contamination	Minor surface water lines Underlying groundwater Aboriginal Cultural Heritage Lodged Place		C = Moderate L = Unlikely **Medium Risk**	Y	Condition 6	

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.

Works approval: W2844/2025/1

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 (30/01/2025)	None received	N/A
Local Government Authority advised of proposal (04/02/2025)	None received	N/A
Kultju Aboriginal Corporation was advised of proposal (04/02/2025)	Acknowledged receival of proposal on 04/02/2025. No further comments have been provided.	N/A
Watarra Aboriginal Corporation was advised of proposal (04/02/2025)	None received.	N/A
Department of Energy, Mines, Industry Regulation and Safety advised of proposal (04/02/2025)	Response received on 19/02/2025 indicating the proposed WWTP and associated irrigation field on M37/1309 to support an accommodation camp, was approved by DEMIRS under Mining Proposal (MP) Reg ID 127378 on 31/07/2024. It was deemed DWER works approval and imposed conditions to operate a prescribed premises were sufficient to manage risks to the environment.	Risk to environmental values has been assessed as part of Section 3.2.
Department of Health advised of proposal (04/02/2025)	Letter received on 10/03/2025 indicating DoH has no objection to the proposal subject to ensuring the WWTP complies with DoH legislative requirements, the *Health Treatment of Sewage and Disposal of Effluent and Liquid Wastes) Regulations* 1974 and policy objective including the *Government Sewerage Policy 2019*.	Applicant is advised to ensure they meet the requirements set out by DoH as per their DoH approval (Application number 130.24.)
Works Approval Holder was provided with draft amendment on 12/03/2025	Comment period waived on 14/03/2025.	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) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.