



Application for Works Approval

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

Works Approval Number	W3042/2025/1
Applicant	Nexus Wallbrook Pty Ltd
ACN	152 164 326
File number	APP-0029955
Premises	Crusader-Templar Gold Project Part of mining tenements: M31/251 and M31/231 As defined by the coordinates in Schedule 2 of the works approval
Date of report	12 December 2025
Decision	Works approval granted

Table of Contents

1. Decision summary	1
2. Scope of assessment	1
2.1 Regulatory framework	1
2.2 Application summary and overview of the premises	1
2.3 Description of the proposed activities	1
2.3.1 Mine dewatering.....	1
2.3.2 Crushing and screening	5
2.3.3 Category II putrescible landfill	6
3. Risk assessment.....	7
3.1 Source-pathways and receptors	7
3.1.1 Emissions and controls	7
3.1.2 Receptors.....	10
3.2 Risk ratings.....	12
4. Consultation	23
5. Conclusion	23
References	23
Appendix 1: Summary of applicant's comments on risk assessment and draft conditions	24
Table 1: Estimated dewatering rates	2
Table 2: Site water balance.....	2
Table 3: Water quality as per groundwater sampling undertaken in 2024 (Rockwater, 2024)...	3
Table 4: Classification and description of waste types for disposal.....	6
Table 5: Proposed applicant controls	7
Table 6: Sensitive human and environmental receptors and distance from prescribed activity	11
Table 7: Risk assessment of potential emissions and discharges from the premises during construction and operation	13
Table 8: Consultation	23

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 time limited operation of the premises. As a result of this assessment, works approval W3042/2025/1 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 available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary and overview of the premises

On 14 July 2025, Nexus Wallbrook Pty Ltd (the applicant) applied for a works approval under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake the following construction and time limited operations at the Crusader-Templar Gold Project (the premises):

- Install and operate a pipeline to dewater three open pits;
- Construct and operate a turkey's nest (water storage pond);
- Construct and operate a category II unlined putrescible landfill; and
- Mobilise a crushing and screening plant to undertake several crushing and screening campaigns throughout the duration of time limited operations.

The premises is a greenfield site situated approximately 125 kilometres (km) northeast of Kalgoorlie and 124 km east of the town of Menzies, in the Goldfields region of Western Australia. Proposed activities at the premises will be undertaken within mining tenements: M31/231 and M21/251.

The premises relates to the categories and associated production / design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations). Definition of each category is provided on works approval W3042/2025/1 accompanying this decision report. The department has assessed all activities and associated infrastructure / equipment in accordance with *Guideline: Risk Assessments* (DWER 2020).

2.3 Description of the proposed activities

2.3.1 Mine dewatering

Dewatering activities at the premises are proposed to be undertaken through a combination of groundwater abstraction bores and in-pit sumps. This process is expected to be cyclical and managed to maintain dry operational conditions across the site. The premises will comprise of two open-cut pit voids - Templar, located to the north of the premises and Crusader. Within these voids, six starter pits will be developed and mined over an estimated 28-month period during Phase One of the project. Of these, three pits— Templar North, Crusader North and Crusader South —are anticipated to extend below the water table and therefore, will require dewatering to facilitate dry extraction of ore.

In-pit sumps will be constructed once excavation reaches the water table. Each sump is expected to be 2–4 metres (m) deep and located at the lowest point of the pit to facilitate

gravitational flow. To prevent stagnant water, the pit base will be graded towards the pump inlet.

High density polyethylene (HDPE) pipelines housed within secondary containments will transfer the water from the groundwater bores and in-pit sumps to a lined water storage pond. Pipelines will be fitted with control valves to direct flow to the relevant discharge points and isolation valves to stop flow in the event of rupture.

The proposed water storage pond will have an approximate surface area of 0.08 hectares (ha) and an approximate volume of between 2,172 to 2,800 cubic meters (m³) with a depth between 5-7 m. Construction will be above ground level using non-acid forming waste material and will comply with the *ANCOLD Guidelines on Design of Dams (2019)*. Embankment fill will be compacted to 98% or more Maximum Dry Density (MDD) (achieved through the modified proctor testing - AS 1289.5.2.1) and designed with a maximum slope of 2:1. Compaction of the base will achieve an MDD of 95% determined by standard proctor testing (AS 1289.5.1.1). The pond will be lined with a minimum 1 mm thick HDPE lining to prevent seepage and a manual pump control, and a telemetry system will monitor the pond capacity. An operational freeboard will be set at 0.5 m plus additional capacity for a 1:100-year annual exceedance probability (AEP) 72-hour stormwater event.

Groundwater stored within the pond will be used for any operational needs including dust suppression across operational areas, stockpiles, tracks, and haul roads. A pump or hose will be installed to fill water carts for use on site.

Any excess water beyond the pond capacity will be stored within the available excavated mining voids (Crusader North, Crusader South, Templar North and Templar South pits). As operations progress at the premises each north and south pit will be merged, providing an estimated total storage capacity of 5.02 million cubic meters at the Templar pits and 4.17 million cubic meters at the Crusader pits. All pits are located close to each other.

Dewatering estimates for year 1 and 2, calculated by Rockwater (2024) are provided in Table 1. These estimates include abstraction from the three groundwater bores at the premises, which – similar to in-pit sumps – will facilitate dry mining of ore. Annual dewatering volumes (category 6 throughput) will incorporate a 10% contingency above the calculated dewatering rate on the table. Abstraction from the open pits is expected to constitute approximately 25% of the annualised dewatering volume equating to 5.5 litre per second (L/s), or approximately 173,500 tonnes per annum.

The site water balance prepared by the applicant and forming part of the response to the department request for further information is shown in Table 2. Inflow and outflow volumes are shown in m³.

Table 1: Estimated dewatering rates

Year	Estimated peak dewatering rate (L/sec)	Estimated peak dewatering volume (kL/month)	Annualised estimated peak dewatering rate (L/sec)	Annualised dewatering volume (kL/annum)
1	27.5	73,656	9.8	309,052
2	20	53,568	22	694,000

Table 2: Site water balance

Component	Inflow volume (m ³)	Outflow volume(m ³)	Notes
Catchment rainfall	408,100	-	Annual average at the Kalgoorlie weather station = 265 mm. Catchment area = 154 ha

Component	Inflow volume (m ³)	Outflow volume(m ³)	Notes
Runoff from catchment	81,620	-	Estimated, runoff coefficient = 0.2
Combined annual dewatering volume	694,000	-	Modelled
Dewater to and from Crusader and Templar pits	-	537,200	Modelled
Evaporation (turkey's nest and open pits)	-	421,200	Evaporation = 2,600 mm Overall area = 0.08 + 16.12 ha (pond and open pits) Formula = Evap_mm × Pond_ha × 10
Premises use	-	156,800	Dust suppression Crushing and screening campaigns (assuming 1 campaign per quarter)
Change in storage	1,183,720	1,270,200	ΔS= - 86,480 m³ (deficit)

Groundwater sampling and characteristics

Groundwater at the premises primarily occurs at the interface between weathered and the underlying fresh rock. Groundwater flow rates are strongly influenced by the interconnectivity of water-bearing fractures which facilitate groundwater movement. Nonetheless fractured rock aquifers have generally limited storage capacity and fractures decrease with increased depth, reducing permeability at greater depths. Groundwater sampling conducted at the premises in 2024 indicated a regional groundwater flow from the northeast and west across the open pits towards Lake Rebecca in the west. Depth to the water table ranged between 26 m below ground level (mbgl) in the Northern Templar deposit and 32 mbgl in the Southern Crusader deposit.

Groundwater was found to be slightly alkaline and brackish with total dissolved solid (TDS) measured at 3,920 mg/L. Salinity levels expressed as electrical conductivity (μS/cm) exceeded the threshold outlined in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)* for livestock use. Groundwater sampling results are shown in Table 3. Groundwater quality is anticipated to be uniform across all open pits, representing both discharge quality and the receiving environment.

Table 3: Water quality as per groundwater sampling undertaken in 2024 (Rockwater, 2024)

Analytes	Units	LOR	Concentration as sampled	ANZECC values ²
<i>General water quality indicators</i>				
Field pH	-	0.01	6.66	
Field Electrical	μS/cm	1	5860	

Analytes	Units	LOR	Concentration as sampled	ANZECC values ²
Conductivity @ 25°C				
pH	-	0.01	7.98	(6 - 9)
Electrical Conductivity @ 25°C	µS/cm	1	7050	3200
General water quality indicators				
Total Dissolved Solids @180°C	mg/L	10	3920	
Total Hardness as CaCO3		5	706	
Hydroxide Alkalinity as CaCO3		1	<1	
Carbonate Alkalinity as CaCO3			<1	
Total Alk. ¹			678	
Inorganics				
Reactive Silica	mg/L	0.05	16.1	
Sulphate as SO ₄ ¹			315	
Chloride			1570	4,000
Bicarbonate Alk.			678	
Dissolved major cations				
Calcium	mg/L		75	
Magnesium			126	
Sodium			1300	(180)
Potassium			16	-
Dissolved Metals				
Aluminium	mg/L	0.01	0.02	5.1
Arsenic		0.001	<0.001	
Cadmium		1.00E-04	<0.0001	(0.01 – 0.08)
Chromium		0.001	<0.001	(1)
Lead			<0.001	0.1
Manganese			0.002	(10)
Selenium		0.01	<0.01	0.005
Zinc		0.005	<0.005	20

Analytes	Units	LOR	Concentration as sampled	ANZECC values ²
Iron Dissolved		0.05	<0.05	(10)
Contaminants				
Mercury	mg/L	1	<0.0001	0.002
Nutrients				
Ammonia as N	mg/L	0.01	0.01	-
Nitrite as N	mg/L		<0.01	30
Nitrate as N	mg/L		16.2	400
TKN as N		0.1	1.4	-
Total Nitrogen as N			17.6	-
Total Phos as P		0.01	0.05	-
Reactive P as P			<0.01	-

1. Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) - livestock drinking water use.

2.3.2 Crushing and screening

A mobile crushing and screening plant will be mobilised to the premises to process stockpiled inert rock. The resulting crushed material will be used for road base and hardstands, and as stemming in drill and blast holes. The crushing and screening activities will be undertaken in short-term intermittent campaigns, typically of 1 to 4 weeks based on operational needs. While the plant components may vary from one campaign to the next, it is anticipated that the plant will comprise of a primary jaw crusher, secondary impact crusher and a vibrating screen to reduce the material to an approximate size of 300 mm. A typical plant configuration is shown in Figure 1.

Dust emissions during the crushing and screening activities will be primarily managed with the use of water carts.

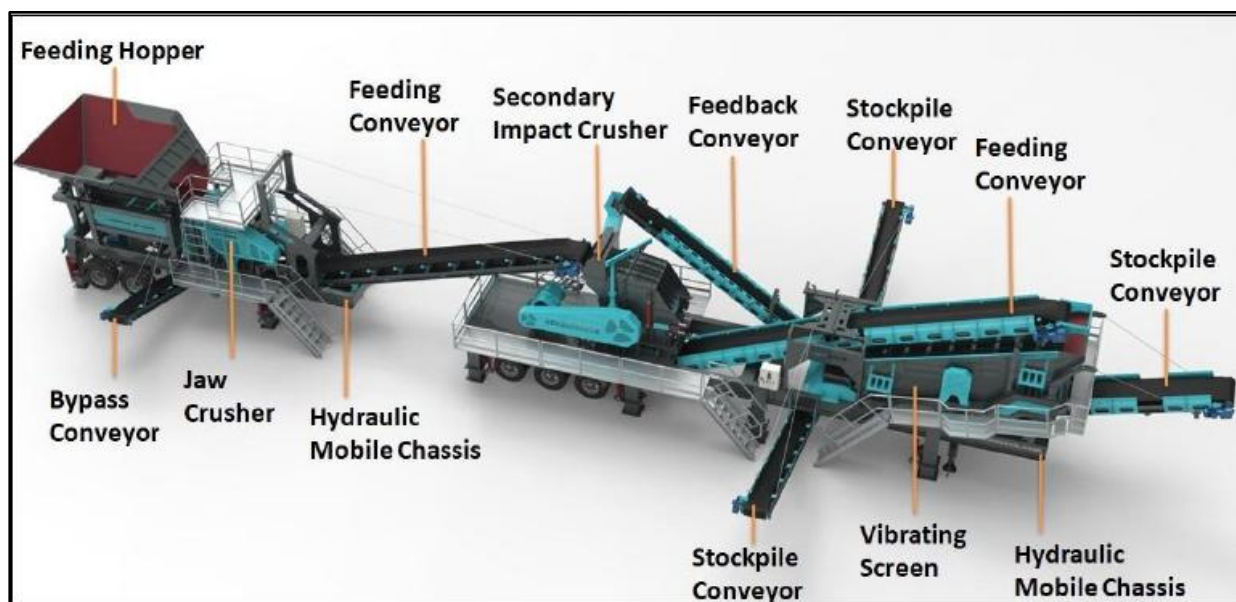


Figure 1: Typical mobile crushing and screening plant to be used at the premises

2.3.3 Category II putrescible landfill

An unlined Class II putrescible landfill is proposed within the Crusader–Templar Waste Rock Landform for the disposal of site-generated waste. The landfill will be progressively constructed alongside mining operations. Waste types will meet the criteria outlined in Table 1 of the *Landfill Waste Classification and Waste Definitions 1996 (as amended 2019)* for a Class II putrescible landfill. Examples of specific waste types and their waste classification are outlined in Table 4. Other waste streams, such as recyclables or hazardous materials, will be transported off-site to licensed facilities.

The landfill will comprise sequentially constructed trenches (up to 5 m deep, 5 m wide, and 30 m long), with excavated material reused for windrows and capping. The active tipping areas will be limited to less than 30 m in length and covered regularly to prevent windblown litter, odour, and fire risk, in accordance with the *Environmental Protection (Rural Landfill) Regulations 2002*. Windrows around each trench will divert any runoff away from the waste deposited.

Visual inspections and staff training will be implemented to ensure compliance with the site Waste Management Procedure.

Table 4: Classification and description of waste types for disposal

Waste classification	Description of waste types
<i>Inert Waste Type 1</i>	<ul style="list-style-type: none"> Construction materials: bricks, concrete, demolition rubble Soils and sand (uncontaminated) Ceramic, glass Rock and clean fill.
<i>Contaminated solid waste</i>	<p>Hydrocarbon related:</p> <ul style="list-style-type: none"> Oily rags, absorbent pads, spill kit residues (hydrocarbon contamination only) Used oil filters (drained, minor residual hydrocarbons only) Hydrocarbon-contaminated soil (low level, meeting Class II waste acceptance criteria leachability thresholds in accordance with <i>Waste Classification and Waste Definitions 1996 (as amended 2019)</i>). <p>Chemical-related:</p> <ul style="list-style-type: none"> Empty reagent packaging - triple-rinsed and free from dangerous residues. Laboratory consumables contaminated with non-hazardous reagents Explosives packaging (Ammonium Nitrate Fuel Oil /ammonium nitrate bags, emulsion liners) free of product.
<i>Inert Wastes Type 2</i>	<ul style="list-style-type: none"> Used tyres Plastics.
<i>Special Wastes Type 2</i>	<ul style="list-style-type: none"> Biomedical Waste (such as drug and alcohol testing materials and small quantities of first aid room waste. Volumes of biomedical waste are expected to be below 1 tonne per annum).

3. Risk assessment

The department assesses the risks of emissions from prescribed activities, 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 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

Table 5 details the key emissions and associated actual or likely pathway during construction and time limited operation. Table 5 also details the control measures the applicant has proposed to assist in controlling these emissions, where deemed necessary.

Table 5: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction (all infrastructure)			
Dust	Construction earthworks, including removal of topsoil, grading of access tracks, excavation of stormwater diversions, bunds, and turkey's nest, excavation / levelling of ground and compaction of ROM pad, vehicle movements and any lift-off from stockpiles.	Air / windborne pathway	Water carts will be in use to suppress dust when visible. Drop heights from loaders / trucks will be minimised. Vehicle movement will be restricted to constructed and formed roads. Construction works will not be undertaken in especially windy conditions, where possible. Speed limits will be implemented. Dust incidents will be reported. Induction and training on dust emissions will be undertaken.
Sediment laden / contaminated stormwater		Overland runoff and infiltration	Drainage diversion infrastructure will be installed to diminish flood risk. Sediment traps will be installed as appropriate to reduce downstream impacts on water quality. Visual monitoring will be undertaken after a stormwater event.
Operations			
Category 6			
Brackish mine water	Dewatering pipeline failure	Overland runoff and infiltration	The pipelines will be constructed using HDPE materials and will comply with the Australian Standards listed below. <ul style="list-style-type: none">Australian/New Zealand Standard

Emission	Sources	Potential pathways	Proposed controls
			<p>(AS/NZS) 2033:2008: Installation of polyethylene pipe systems;</p> <ul style="list-style-type: none"> AS/NZS 4129:2008 Fittings for polyethylene pipes for pressure applications; AS/NZS 4130:20069 Polyethylene pipes for pressure applications; and AS/NZS 4131:2010 Polyethylene compounds for pressure pipes and fittings. <p>Pipelines will be located within earthen bunded v-drains with scour pits.</p> <p>Any secondary containment will be designed to contain spills for a period equal to the time between inspections.</p> <p>Flowmeters will be installed and discharge volumes will be monitored and recorded</p> <p>Monitoring of pipelines for ruptures or spills will be undertaken twice daily.</p> <p>Should a leak be identified, the relevant section of the pipeline will be shut off.</p>
	Mine and groundwater discharge	Overtopping	<p><i>In-pit:</i></p> <p>A minimum freeboard of 6 meters will be maintained in the pit voids where the mine water is discharged.</p> <p>Visual inspections of the capacity of the pit will be undertaken daily when dewatering is being undertaken.</p> <p>Pit lake standing water levels and field parameters will be monitored and recorded monthly / quarterly/ annually.</p> <p><i>Water storage pond:</i></p> <p>The water storage pond will be equipped with a manual pump control and a telemetry system, activating a sound alarm when the freeboard is breached.</p> <p>An HDPE lining of minimum 1 mm will be installed and will comply with Australian Standards.</p> <p>A freeboard of 0.5m (plus 0.21 m) will be maintained.</p> <p>Additional capacity (0.21 m) will allow sufficient capacity for a 1:100 year annual exceedance probability (AEP) 72-hour stormwater event.</p> <p>Flow monitoring will be undertaken monthly.</p> <p>The water storage pond will comprise of an emergency spillway.</p>

Emission	Sources	Potential pathways	Proposed controls
		Seepage from open pit floor and walls	<p>A rotational use of the discharge areas will be undertaken.</p> <p>Mine and groundwater will be stored in a water storage pond as the first point of discharge.</p> <p>Water levels and water quality within the pit voids will be monitored quarterly / monthly / annually based on the parameter. Parameters will include pH, TDS, Electrical conductivity, dissolved metals and metalloids, and dissolved major cations.</p> <p>A minimum 6-meter freeboard will be maintained.</p>
Brackish water	Dust suppression	Direct discharge	The applicant has not proposed any controls to limit emissions from dust suppression.
Category 70			
Dust	Screening, crushing, unloading and loading of material, vehicle movement	Air / windborne pathway	<p>Stockpiles will be watered down before any crushing and screening activities will be undertaken.</p> <p>Vehicle movement will be restricted to constructed and formed roads.</p> <p>Water carts will be available at the premises and used for dust suppression when dust is visible.</p>
Sediment laden stormwater		Overland runoff and infiltration	<p>Diversion infrastructure will be installed as necessary to reduce flood risk.</p> <p>Sediment traps will be installed as appropriate to reduce downstream impacts on water quality.</p> <p>Visual monitoring will be undertaken after a stormwater event.</p>
Category 89			
Dust	Disposal of waste material into the landfill (including waste covering and vehicle movement)	Air / windborne pathway	<p>Waste will be levelled and compacted weekly, and a cover will be applied to the active trench in accordance with <i>Environmental Protection (Rural Landfill) Regulations 2002</i>.</p> <p>Visual inspections of the landfill will be undertaken weekly.</p> <p>Water carts will be available at the premises and used for dust suppression when dust is visible.</p> <p>The active tipping area will be no larger than 30 m in length, 5 meters deep and 5 metres wide.</p> <p>1-2 m high windrows will be constructed to encapsulate the waste.</p> <p>Waste management procedure will be</p>

Emission	Sources	Potential pathways	Proposed controls
			developed before operations commence.
Windblown waste		Air / windborne pathway	<p>All waste will be situated in trenches and covered in accordance with <i>Environmental Protection (Rural Landfill) Regulations 2002</i>.</p> <p>Visual inspections will be undertaken weekly and any windblown waste removed.</p> <p>Only one trench for putrescible waste will be used at any one time.</p>
Sediment laden / contaminated stormwater and leachates		Overland runoff and infiltration	<p>Windrows constructed with waste rock materials, approximately 1-2 m in height will encapsulate the landfill.</p> <p>Waste will be levelled and compacted.</p> <p>Waste will be covered regularly in accordance with <i>Environmental Protection (Rural Landfill) Regulations 2002</i>.</p> <p>Visual inspections will occur weekly.</p>
Fire/Smoke		Air / windborne pathway	<p>Chemical containers will be triple rinsed.</p> <p>Disposal of tyres will be undertaken in accordance with Section 6 of the EP Regulations including:</p> <ul style="list-style-type: none"> • Disposed of, in designated areas • Stacked in small batches • Separated by at least 100 mm of soil • Topped with 500 mm of inert waste rock • Burial locations will be recorded <p>Trenches will be covered in accordance with the <i>Environmental Protection (Rural Landfill) Regulations 2002</i>.</p> <p>Waste management procedure will be developed before operations commence.</p>
Hydrocarbons	Refueling and storage	Overland runoff and infiltration	<p>Spill kits will be available at all times when refuelling and around maintenance areas.</p> <p>Fuel bays, hydrocarbons stores and workshops will be located in bunded areas.</p> <p>Oil water separators on drains will be used where required.</p>

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 6 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 6: Sensitive human and environmental receptors and distance from prescribed activity

Environmental receptors	Distance from prescribed activity
<p>Flora</p> <p>Native vegetation of the Eastern Murchison Interim Biogeographic Regionalisation for the Australia subregion, mainly comprises of four vegetation groups based on the topographical features:</p> <ul style="list-style-type: none"> • <i>Casuarina pauper</i> over <i>Mairena sedifolia</i> and <i>Eremophila poantonii</i> shrubland on ironstone rocky rises • <i>Mulga</i> over <i>Mairenaa sedifolia</i> shrubland • <i>Mulga</i> over sclerophyll shrubland • Open chenopod shrubland with occasional <i>Mulga</i> <p>Vegetation condition was assessed to be <i>good</i> to <i>very good</i> (Keighery, 1994) during the 2022 flora and vegetation survey (Native Vegetation Solutions).</p>	Surrounding the prescribed activities
<p>Fauna</p> <p>Princess parrot (<i>Polytelis alexandrae</i>) (priority 4 under the EPBC Act 1999)</p>	Within the surrounding area
<p>Groundwater</p> <p>Proclaimed groundwater area under the RIWI Act (non-potable purposes) – Goldfield</p> <p>Salinity: 3,920 mg/L TDS; groundwater use is mainly related to mining and sheep's grazing in the surrounding area.</p>	Underlying
<p>Surface water</p> <p>Hydrography WA – 250K layer shows some ephemeral surface water lines</p>	<p>Adjacent to the prescribed activities.</p> <p>One drainage line to the north of the Crusader Pit and one discharging into the waste rock landform to the west of Crusader pit.</p>

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020). As identified in section 3.1, the risk rating considers potential source-pathway and receptor linkage. Where linkages are incomplete, they are not considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (section 3.1.1) these have been considered when determining the final risk rating. Where the Delegated Officer considers these proposed controls critical to maintaining an acceptable level of risk, the same proposed controls have been 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, a justification is provided in Table 7.

The conditions in the issued works approval, as outlined in Table 7 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence will be required following the time-limited operational phase, 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 7: 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	Decision and justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Earthworks, construction of stormwater diversions, bunds, turkeys nest, landfill, placement of pipeline, vehicle movements, lift-off from stockpiles	Dust	Pathway: Air/windborne pathway Impact: Decreased vegetation health	Vegetation	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 2	Some dust emissions are expected during construction activities, however, the proposed controls, including the use of water carts when dust is visible, are deemed acceptable in mitigating the emissions. The risk event has been deemed medium , from a minor consequence and an unlikely likelihood. Applicant's controls have been conditioned within the works approval in accordance with DWER <i>Guideline: Risk Assessments</i> (DWER 2020).
	Contaminated / sediment laden stormwater	Pathway: overland runoff Impact: Increased turbidity of surface water, reduced soil health	Ephemeral water lines	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 1	The proposed controls to mitigate contaminated / sediment laden stormwater emissions have been deemed acceptable. The Delegated Officer has deemed the likelihood of contaminated stormwater affecting surface water during construction activities to be unlikely with a minor consequence, making the risk event rating medium . Applicant's controls have been conditioned within the works approval in accordance with DWER <i>Guideline: Risk Assessments</i> (DWER 2020).
Time limited operations								
Category 6								

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Decision and justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Operation of the dewatering pipeline	Brackish water	Pathway: direct discharge from pipeline rupture and subsequent overland runoff Impact: reduced soil and vegetation health, from salt intrusion / inundation	Native vegetation and soil	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 1 Condition 7 Condition 8 Condition 12	<p>The Delegated Officer has determined that the proposed controls including bunding and telemetry will be sufficient to control impacts from pipeline spills.</p> <p>The Delegated Officer has deemed the likelihood of the risk event to be unlikely with a minor consequence, making the risk event rating medium.</p> <p>Applicant's controls have been conditioned within the works approval in accordance with DWER Guideline: Risk Assessments (DWER 2020).</p>
Use of mine and groundwater for dust suppression on project tracks, haul roads and operational areas.	Brackish water	Pathway: direct discharge and overland runoff Impact: reduced soil and vegetation health, from salt intrusion	Native vegetation and soil	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	N	Condition 10	<p>The applicant did not propose any measures to mitigate potential adverse impacts associated with the use of brackish water for dust suppression. The applicant anticipates that approximately 100,000 kL of groundwater / mine water will be used for dust suppression at the premises annually. If not carefully managed, the application of brackish water can negatively affect native vegetation and soil health. This includes damage to foliage from salt deposition and increased soil salinity, which can impair plant growth and alter soil structure.</p> <p>Furthermore, while discharge of mine and groundwater into a dam will reduce the concentration of the total suspended solids in the water column, high evaporation rates typical of the Goldfields region may increase salinity concentrations of the discharged water.</p>

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Decision and justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
								The Delegated Officer has deemed the risk event to be medium , from a possible likelihood and a minor consequence. An outcome-based condition (condition 10) was added to the works approval to ensure that no damage is caused to adjacent native vegetation during dust suppression. While the risk event rating remains medium , the added condition reduces the likelihood of the risk event to unlikely .
Discharge of mine and groundwater to Templar North, Templar South, Crusader North, and Crusader South pits	Brackish water	Pathway: Seepage leading to groundwater mounding Impact: reduced vegetation health from waterlogging and salt rising through the soil profile	Native vegetation	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1 Condition 7 Condition 8 Condition 9 Condition 12 Condition 15	<p>Groundwater mounding may develop at the premises following the deposition of mine and groundwater in the proposed open pits. The deposition can increase recharge rates beyond the natural capacity of the subsurface to transmit water, causing a localised rise in the water table.</p> <p>The proposed controls—such as rotational use of discharge areas, proposed 6-meter freeboard and the use of a water storage pond as the initial discharge point—are considered acceptable for managing the risk during time-limited operations. These measures are appropriate due to the short-term nature of the discharge (180 days).</p> <p>The Delegated Officer deemed the risk event rating as medium from a moderate consequence and an unlikely likelihood.</p> <p>The Delegated Officer also notes that groundwater monitoring bores may be required if the dewatering activities transition to a licence. Monitoring bores</p>

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Decision and justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
								enable assessment of the extent of any groundwater mounding. Although the applicant proposed monitoring bores, they were located too far from the discharge pits (and outside the premises boundary) to effectively assess any mounding. As such they were not included in the works approval. Applicant's controls have been conditioned within the works approval in accordance with DWER <i>Guideline: Risk Assessments</i> (DWER 2020).
		Pathway: Seepage leading to changes to groundwater quality Impact: deterioration of groundwater quality	Groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 15	In 2024, the applicant conducted groundwater monitoring to assess groundwater quality and depth at the premises. Based on this monitoring, it is anticipated that groundwater conditions at the source and in the receiving environment will be similar. To confirm this, the applicant has proposed ongoing testing of water in open pits after discharge to determine whether seepage could alter groundwater quality. The Delegated Officer considers this measure acceptable and has assessed the risk as medium , based on a minor consequence and an unlikely likelihood. Applicant's controls have been conditioned within the works approval in accordance with DWER <i>Guideline: Risk Assessments</i> (DWER 2020).
		Pathway: direct discharge /	Native vegetation and surface	Refer to Section	C = Moderate L = Unlikely	Y	Condition 1 Condition 8	The applicant proposed controls including an ongoing freeboard of 6 meters and daily monitoring of the capacity of the pits

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Decision and justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
		overland runoff from overtopping of the discharge pits Impact: reduced vegetation health, reduced health of surface water streams	water	3.1	Medium Risk		Condition 9 Condition 12 Condition 15	are deemed acceptable to manage the risk of brackish water from overtopping impacting the surrounding native vegetation. The risk event rating has been deemed medium from an unlikely likelihood and a moderate consequence Applicant's controls have been conditioned within the works approval in accordance with DWER <i>Guideline: Risk Assessments</i> (DWER 2020).
Category 70								
Crushing, screening, loading and unloading or material and vehicle movement	Dust	Pathway: Air/windborne pathway Impact: Decreased vegetation health	Vegetation	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 1 Condition 7 Condition 12	Some dust generation is anticipated during the time-limited operations of the crushing and screening plant. However, noting that crushing and screening campaigns will be limited to a short duration, the Delegated Officer finds that the proposed measures, including the deployment of water carts when dust is visible, will reduce emissions and maintain an acceptable level of risk. The risk event has been deemed low , from a slight consequence and an unlikely likelihood. Applicant's controls have been conditioned within the works approval in accordance with DWER <i>Guideline: Risk Assessments</i> (DWER 2020).
	Contaminated / Sediment laden	Pathway: overland runoff Impact:	Ephemeral water lines	Refer to Section 3.1	C = Minor L = Unlikely	Y	Condition 1	The premises is located within an arid climate where rainfall typically occurs in the form of downpours during the summer

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Decision and justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	stormwater	Increased turbidity of surface water, reduced soil health			Medium Risk			<p>months. The topography of Wallbrook is moderately hilly with operational activities situated on a local high point. These site characteristics influence surface water movement and any potential for stormwater contamination.</p> <p>To mitigate the risk of the sediment laden / contaminated stormwater degrading surface water quality, the applicant has committed to install infrastructure prior to the commencement of operations to maintain contaminated and non-contaminated stormwater separate.</p> <p>The Delegated Officer finds that the proposed measures – outlined in detail in section 3.1- are acceptable to manage the risk.</p> <p>Based on the proposed controls and the environmental context the Delegated Officer has deemed the likelihood of the risk event to be unlikely, and the consequence to be minor, resulting in a medium risk event rating.</p> <p>Applicant's controls have been conditioned within the works approval in accordance with DWER <i>Guideline: Risk Assessments</i> (DWER 2020).</p>
Category 89								
Disposal of waste material into the type II landfill Waste covering	Dust	Pathway: Air/windborne pathway Impact: Decreased	Vegetation	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 7 Condition 12	Some dust emissions are anticipated during the operations of the landfill; however, it is expected that dust emissions will be contained within the boundaries of the waste rock landform.

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Decision and justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Vehicle movement		vegetation health						<p>The Delegated Officer finds that the proposed controls, including the compaction and levelling of waste, and the use of water carts during operations, are acceptable in mitigating the risk of dust affecting the surrounding native vegetation.</p> <p>The risk event has been deemed low, from a slight consequence and an unlikely likelihood.</p> <p>Applicant's controls have been conditioned within the works approval in accordance with DWER <i>Guideline: Risk Assessments</i> (DWER 2020).</p>
	Leachates through the base of the landfill	<p>Pathway: Overland runoff and seepage through the base of the landfill</p> <p>Impact: soil and groundwater contamination</p>	Soil and groundwater	Refer to Section 3.1	<p>C = Moderate</p> <p>L = Unlikely</p> <p>Medium Risk</p>	Y	<p>Condition 1</p> <p>Condition 7</p> <p>Condition 11</p> <p>Condition 12</p>	<p>Leachates from unlined putrescible landfills can contaminate surrounding soil and groundwater, as rainfall infiltration mobilises contaminants during waste decomposition. Although the premises is located within an arid climate, rainfall typically occurs in the form of downpours during the summer months, which can contribute to infiltration. Depth to groundwater at the premises is approximately 20 to 30 mbgl, therefore if appropriately managed, infiltration and leachate generation are unlikely to reach the water table.</p> <p>To mitigate the risk of leachates impacting soil and groundwater, the applicant has proposed several controls including excavation and filling of one trench at the time, with ongoing compaction and covering of waste to minimise rainfall infiltration. For tyres (inert waste type II) a</p>

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Decision and justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
								<p>separate trench will be used, and tyres will be disposed of in small batches separated by 100 mm of soil and covered by a final soil cover of at least 500 mm.</p> <p>The Delegated Officer deems the proposed controls acceptable in managing the risk associated with putrescible waste, inert waste type II and contaminated solid waste.</p> <p>However, no specific controls for the disposal of biomedical waste were proposed. Biomedical waste is classified under the <i>Landfill Waste Classification and Waste Definitions 1996 (as amended 2019)</i> as special waste type II and requires <i>to be regarded as hazardous, but with the use of specific management techniques, may be disposed of safely within specified classes of landfill</i> (DWER, 2019). To manage the risk associated with leachates from the disposal of biomedical waste the Delegated Officer has added additional regulatory controls under condition 7. The controls reflect the <i>Code of Practice for Clinical and Related Waste Management - Public Health Act 2016 (2021)</i>.</p> <p>Considering both proposed and additional controls the Delegated Officer deemed the risk event rating to be medium based on a moderate consequence and an unlikely likelihood.</p> <p>Applicant's controls have been conditioned within the works approval in accordance with DWER <i>Guideline: Risk</i></p>

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Decision and justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
								Assessments (DWER 2020).
	Contaminated / Sediment laden stormwater	Pathway: overland runoff Impact: Increased turbidity of surface water, reduced soil health	Surface water (and soil)	Refer to Section 3.1	C = Minor L = Unlikely Low Risk	Y	Condition 1 Condition 7 Condition 12	<p>To mitigate the risk of the sediment laden / contaminated stormwater the applicant has proposed to construct windrows that will divert any rainfall away from the landfill trenches.</p> <p>The Delegated Officer finds that this measure is acceptable in mitigating the risk. The risk event has been deemed as medium from a minor consequence and an unlikely likelihood.</p> <p>Applicant's controls have been conditioned within the works approval in accordance with DWER <i>Guideline: Risk Assessments</i> (DWER 2020).</p>
	Windblown waste	Pathway: Air/windborne pathway Impact: Potential contamination of surface water and ecosystem disturbance	Surface water, native fauna species	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 1 Condition 7 Condition 12	<p>The proposed controls, including the manual removal of windblow waste, regular inspection and covering of waste have been deemed acceptable in managing the risk event.</p> <p>The risk event has been deemed low, from a slight consequence and an unlikely likelihood.</p> <p>Applicant's controls have been conditioned within the works approval in accordance with DWER <i>Guideline: Risk Assessments</i> (DWER 2020).</p>

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Decision and justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	Fire /Smoke	Pathway: Air/windborne pathway Impact: Ecological disturbance	Native vegetation and protected fauna species	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 7 Condition 11 Condition 12	<p>Waste disposed of into the landfill may present a fire risk if not managed appropriately. Furthermore, as waste types to be disposed of in the landfill include materials with a hydrocarbon content and low biodegradability, the potential the risk of combustion may increase.</p> <p>The applicant proposed controls, including triple rinsing the chemical related wastes, in accordance with <i>Landfill Waste Classification and Waste Definitions 1996 (as amended 2019)</i> and disposing of tyres in accordance with Part 6 of the EP Regulations are deemed acceptable in mitigating the potential risk.</p> <p>Applicant's controls have been conditioned within the works approval in accordance with DWER <i>Guideline: Risk Assessments</i> (DWER 2020).</p>
General								
Refuelling operations, storage of hydrocarbons	Hydrocarbons	Pathway: overland runoff and infiltration Impact: contamination and degradation of surface water and soil	Surface water and soil	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	N/A	<p>No regulatory controls are required as the <i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i> apply.</p> <p>Hydrocarbon storage is regulated under the <i>Dangerous Goods Safety Act 2004</i>.</p>

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 8 provides a summary of the consultation undertaken by the department.

Table 8: Consultation

Consultation method	Comments received	Department response
The application was advertised on the department's website on 25 August 2025.	No comments were received.	N/A
The Shire of Menzies was advised of proposal on 21 August 2025.	No comments were received.	N/A
A draft decision report and works approval were sent to the applicant on 14 November 2025.	The applicant provided comments on 20 November 2025. Details of these comments and the department's response are shown in Appendix 1.	Refer to Appendix 1 of this decision report.
A revised draft decision report and works approval were sent to the applicant on 26 November 2025.	On 28 November 2025, the applicant confirmed they had no further comments and waived the review period.	The department acknowledged this confirmation.

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. Australian and New Zealand Environment and Conservation Council & Agriculture and Resource Management Council of Australia and New Zealand, 2000, *Australian and New Zealand guidelines for fresh and marine water quality*. Canberra: ANZECC & ARMCANZ.
2. Australian National Committee on Large Dams (ANCOLD) ,1998, *Guidelines on Design of Dams for Earthquake*. ANCOLD Inc.
3. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
5. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
6. Native Vegetation Solutions 2022, *Detailed Flora and Vegetation Survey of the Wallbrook Project Area*. Kalgoorlie, Western Australia.

Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

Condition / reference	Summary of applicant's comment	Department's response
Schedule 1: Maps – Figure 2	Figure 2 of the draft works approval reflects the correct pit locations.	<p>The department requested a revised Figure 2 in a request for further information to ensure all infrastructure locations were clearly stated and labelled. The updated figure differed from the original in the pit names, showing Templar Pit located north of Crusader Pit. As a result, the following revisions were made for consistency:</p> <ul style="list-style-type: none"> • Section 3.2.1 of this decision report: description of operations updated • Condition 1, Table 1: Infrastructure Items reworded and reordered: <ul style="list-style-type: none"> ○ Item 1: <i>Dewatering pipeline connecting Water Storage Pond, Abstraction Point B, Crusader North Pit and Crusader South Pit</i> (previously <i>Dewatering pipeline connecting Crusader North, Crusader South and water storage pond</i>) ○ Item 2: <i>Dewatering pipeline connecting Templar North, Templar South and water storage pond</i> (previously <i>Dewatering pipeline connecting Templar South, Templar North and water storage pond</i>) ○ Order of Item 1 and 2 rearranged.
Assessed production / design capacity (Category 6)	The production/design capacity should be amended to 763,000 kL. This figure reflects the removal of mine water from in-pit sumps and groundwater abstraction from bores. Both open-pit dewatering and groundwater abstraction will be undertaken to maintain dry conditions during mining. Both mine and abstracted groundwater will be discharged to the mine water storage pond, the designated open pits and used in dust suppression.	<p>Category 6 throughput amended. The Delegated Officer notes that tonnes was used as unit of measure on the works approval in accordance with the EP Regulations.</p> <p>The following risk event ratings were reviewed:</p> <ul style="list-style-type: none"> • Reduced vegetation and soil health from direct discharge / runoff resulting a pipe rupture or leak

Condition / reference	Summary of applicant's comment	Department's response
		<p>The review did not result in a change to the risk rating. Regulatory controls previously applied to pipelines transporting mine water extended to all pipelines</p> <ul style="list-style-type: none"> Reduced vegetation health and groundwater quality from seepage <p>The review did not result in a change to the risk rating. Current controls are deemed sufficient for the 180- day time limited operations.</p> <ul style="list-style-type: none"> Reduced vegetation and surface water stream health from an overtopping event. <p>The review did not result in a change to the risk rating. Current controls sufficient for the 180- day time limited operations.</p> <p>Section 2.3.1 of this decision report was amended for accuracy.</p> <p>The word <i>mine water storage pond</i> was reworded to <i>water storage pond</i> on this decision report and on the works approval for accuracy.</p>
Schedule 1: Maps – Figure 2 – Further changes	A further revision of Figure 2 was provided by the applicant. The figure outlines the location of the pipeline from the abstraction bores to the Templar and Crusader Open Pits and the water storage pond.	<p>The updated figure resulted in the following revisions:</p> <ul style="list-style-type: none"> Figure 2: abstraction points labelled A (north), B (centre), and C (south) for clarity Condition 1: all additional pipeline stretches added as follows: <ul style="list-style-type: none"> Pipeline to abstraction point A and C added as individual numbered items on the table to allow for staged construction if necessary Abstraction point B included Item 3 as contained within the already proposed pipeline Condition 7, Table 2, Item 2: modified to include the receipt of <i>groundwater from the abstraction points</i> Condition 8, Table 3: emission column updated to include groundwater from Abstraction Points A, B and C and reordered

Condition / reference	Summary of applicant's comment	Department's response
		<ul style="list-style-type: none"> Condition 9 and 10: reworded for consistency with condition 8.
Condition 1, Table 1, Item 1 and 2	<p>(b) should be changed from:</p> <p>Pipeline to be:</p> <ol style="list-style-type: none"> equipped with telemetry systems and pressure sensors along pipelines to allow the detection of leaks and failures; and/or equipped with automatic cut-outs in the event of a pipe failure; and installed with secondary containment (v-drains and scour pits) sufficient to contain any spill for a period equal to the time between routine inspections. <p>To</p> <p>Pipeline to be:</p> <ol style="list-style-type: none"> equipped with telemetry systems and pressure sensors along pipelines to allow the detection of leaks and failures; and equipped with automatic cut-outs in the event of a pipe failure; and / or installed with secondary containment (v-drains and scour pits) sufficient to contain any spill for a period equal to the time between routine inspections. <p>Automatic cutouts and telemetry must be fitted together. Given the short pipeline distance, telemetry and cut out valves may only be practical for significant volumes of water.</p>	The condition has been amended and the comment noted.
Decision Report, Table 4	Expected volumes of Biomedical Waste is limited to less than 1 tonne per year. Materials will include drug and alcohol used testing and first aid material.	Information noted; examples added to this decision report. Risk events for landfill time-limited operations reviewed—no changes required.