



Application for Works Approval

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

Works Approval Number	W6726/2022/1
Applicant	Kumina Iron Pty Ltd
ACN	169 725 973
File Number	DER2022/000391
Premises	Onslow Camp Dunes Shire of Ashburton Legal description - M08/488, G08/80, L08/127 and Pastoral Lease 3114/905
Date of Report	08/12/2022
Decision	Works approval granted

A/MANAGER, RESOURCE INDUSTRIES

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 W6726/2022/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Decision Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary and overview of Premises

On 05/08/2022, Kumina Iron Pty Ltd (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 for construction and time limited operations for:

- A mobile crushing and screening plant designed to process 2 million tonnes per annum (mtpa) of dune sand to supply construction activities in the surrounding areas;
- A sequencing batch reactor (SBR) wastewater treatment plant (WWTP) to service the on-site accommodation village of up to 550 workers;
- Used tyre storage area to store up to 2,800 used tyres;
- Installation of containment units for diesel and oil storage; and
- Installation of a 60 m³/hour concrete batching plant.

The application is to undertake construction works relating to the above activities at the Premises. The Premises is approximately 14 km south of the Town of Onslow.

The Premises relates to the categories and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in Works Approval W6726/2022/1. 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 2017) are outlined in Works Approval W6726/2022/1.

The location and layout of the proposed infrastructure associated with this report is shown in Figure 1 below.

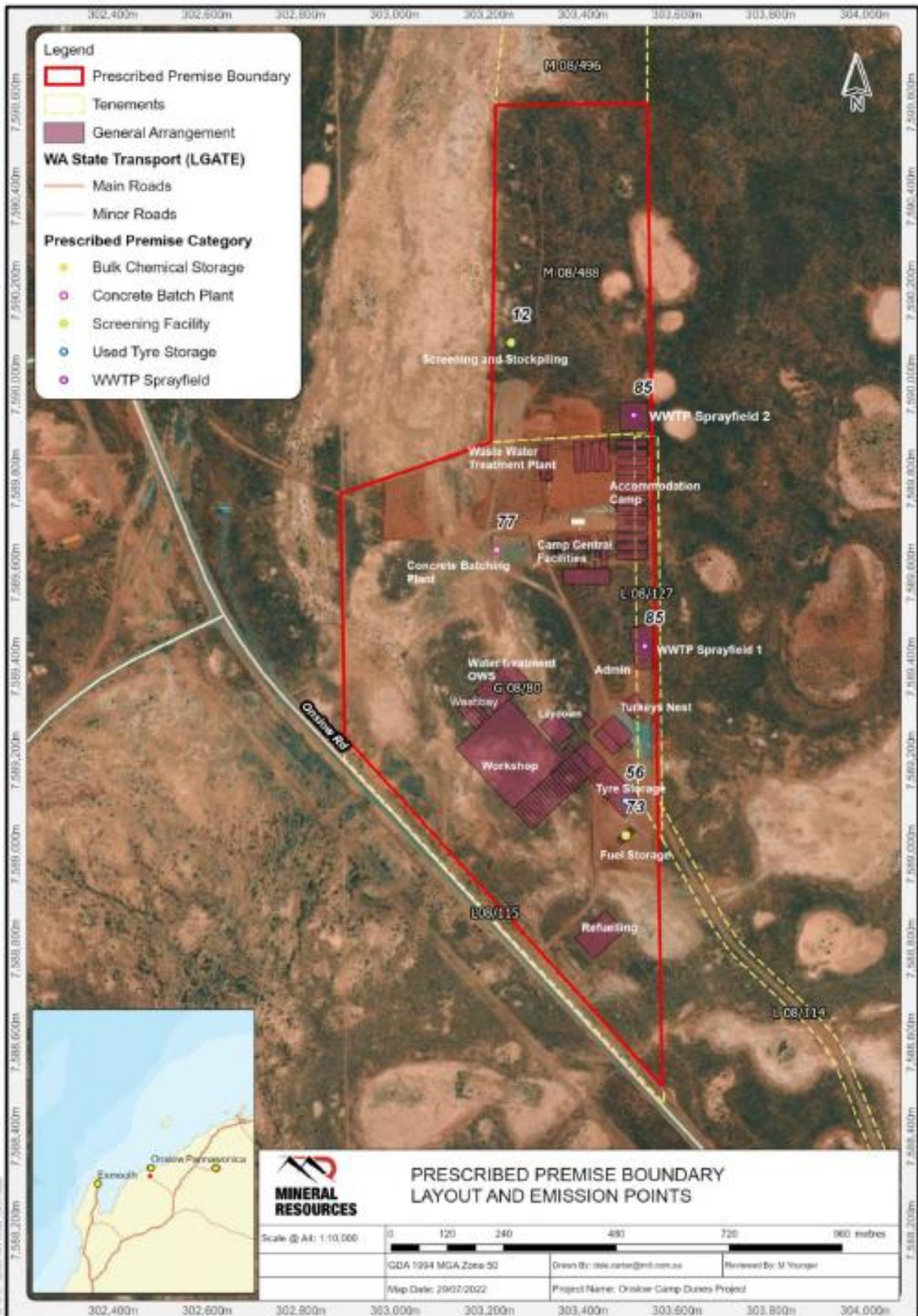


Figure 1: Premises boundary and infrastructure location

2.2.1 Mobile crushing and screening plant (category 12)

The Applicant proposes the construction of a mobile crushing and screening plant with an operational capacity of 2 mtpa. The proposed crushing and screening plant will predominately be operated during daylight hours for construction activities, however contingency for operation on a 24 hr/day basis is included in the risk assessment in the event operation after dark is required. The mobile plant is required for approximately 18 months.

The crushing and screening plant will be utilising on-site surrounding sand dunes. Excavation will be undertaken when required by loaders and processed immediately. The end product will be a sized and cleaned sand material, free from any organic substance.

The crushing and screening plant will arrive onsite partially assembled. Minor testing and adjustments will be made as required during time-limited operations. Typically, no more than one day will be required for the initial checks and adjustments, meaning any potential emissions will be minimal. Dust suppression sprays will also be tested to ensure functionality. Table 1 below outlines the key infrastructure of the mobile crushing and screening plant.

Table 1: Mobile crushing and screening plant key infrastructure

Loading Ramp	<ul style="list-style-type: none"> • Ramp for feed supply from front end loader (FEL)
Jaw Crusher	<ul style="list-style-type: none"> • Hopper / feeder • Jaw chamber • Conveyors (main and auxiliary – dust suppression: fitted with hose and spray bars as standard) • By-pass conveyors • Powerpack • Hydraulic and fuel tanks (900 L and 1,000 L respectively) • Magnetic separator • Chute • Engine • Control system and platforms
Cone Crusher	<ul style="list-style-type: none"> • Hopper feeder • Cone chamber (dust suppression fitted at cone inlet and outlet) • Conveyor (dust suppression: fitted with hose and spray bars as standard, full length skirting to head drum) • Power pack • Purge chute • Power pack / hydraulic, fuel tanks (850 L and 60 L respectively) • Engine • Control system and platforms
Horizontal Screener	<ul style="list-style-type: none"> • Hopper / feeder • Screen box (fixed horizontal) • Oversize plus and oversize minus conveyors

	<ul style="list-style-type: none"> • Transfer conveyor (fully skirted) • Fines conveyor • Mid-grade conveyor • Power unit, engine and hydraulics • Hydraulic tank and fuel tank (up to 780 L and up to 36 L respectively) • Hydraulic driven water pump for dust suppression
Mounted mobile Tracked Conveyor	<ul style="list-style-type: none"> • Feedboot • Incline conveyor (dust covers running full conveyor and a head chute with rubber sock) • Hydraulic tank (250 L) • Engine and control (with up to 180 L fuel tank)
Other	<ul style="list-style-type: none"> • Water cart up to 50,000 L capacity • Moxie Dump Truck or semi-trailer truck for transport construction material from crushing and screening

The Applicant seeks to commence operations of the crushing and screening plant through time-limited operations of up to 180 days. A layout of the proposed crushing and screening plant, including dust control devices, is shown below in Figure 2. Proposed controls during time limited operations are detailed in Table 6.

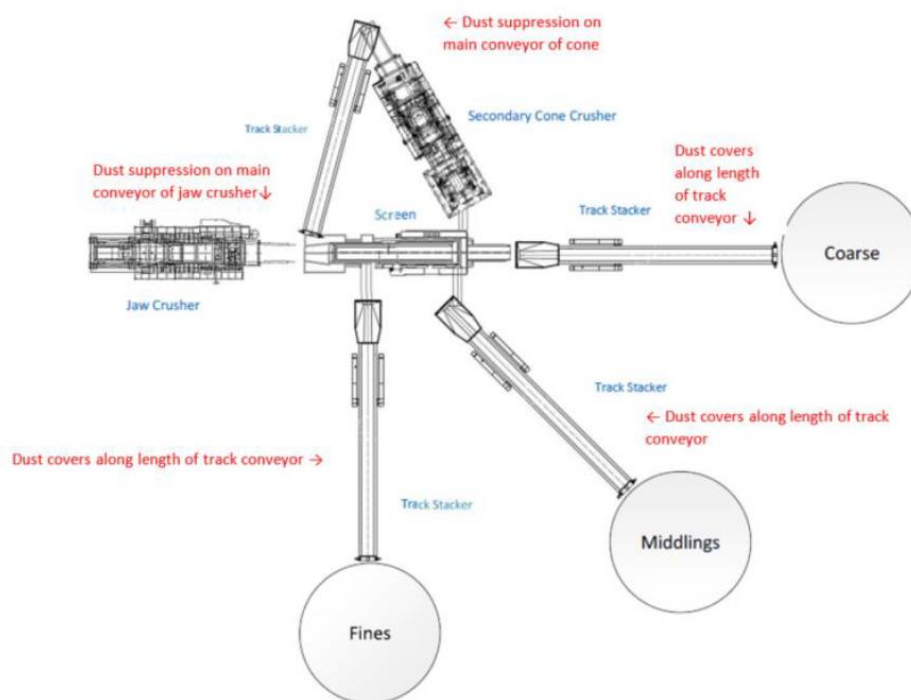


Figure 2: Mobile crushing and screening plant layout

2.2.2 WWTP (category 54)

The Applicant proposes to construct a WWTP to service the on-site accommodation camp and associated buildings. The proposed WWTP will be a SBR containerised modular system, designed to treat up to 137 m³/day of raw wastewater. Treated wastewater will be sent to a 3.5 hectare (ha) irrigation field. A reverse osmosis (RO) plant will also be installed to supply fresh water to the accommodation. Brine from the RO plant will be mixed in with the treated effluent from the WWTP and discharged onto the irrigation field. Table 2 below shows the expected discharge parameters for the treated wastewater combined with the brine from the RO plant.

The SBR treatment process uses a combination of anoxic and aerobic treatment phases to achieve high level of BOD and nitrogen removal. The system will typically operate in a five-step process, including:

- filling of the reactor basin with raw wastewater;
- a reaction phase;
- a settling phase;
- a decant phase; and
- an idle phase.

A sewage pump station will pump the wastewater/sewage to the WWTP for the treatment process. Chemical dosing will be used during the treatment process, including chlorine dosing, sodium hypochlorite dosing and aluminium chloride dosing.

The process is controlled by an electrical panel located in a ventilated control room within the SBR unit, with the unit fitted with an audible and visual alarm system.

Construction and commissioning of the WWTP will be undertaken in 3 stages, dependent on the development of the accommodation plant and the number of workers on site. The time period between the start of construction for Stage 1 of the WWTP and the end of construction of Stage 3 of the WWTP is expected to be under 9 months. Each of the three stages will be a duplication of the following infrastructure and equipment:

- Balance Tank A (30 kL)
- Balance Tank B (30 kL)
- Aerobic Tank (30 kL)
- Clarifier (12 kL)
- Treated Effluent Tank (22.5 kL)
- Sludge Tank (13.5 kL)
- Influent Screen
- Various Pumps x 4
- Submersible Aerator
- Supernatant Transfer Tank (250 L)
- SK40 Skimmer
- Mixing Ejector
- Coagulant Bunding Dosing Tank & Pump
- Chlorinating Agent Bunded Dosing Tank & Pump
- Control Panel
- Solids Waste Bin

All infrastructure will be constructed on an impervious hardstand and be bunded to ensure any spills are contained and stormwater flow is excluded from the WWTP area. Each stage of the WWTP construction will require commissioning and therefore a commissioning report is required to be submitted to the department. The details of each stage of construction are outlined below:

Stage 1

- A WWTP to accommodate 250 L/person/day, producing a maximum **50 m³/day** of treated wastewater
- A spray field of **1.22 ha**
- A RO plant producing a maximum **24 m³/day** of RO brine wastewater to be mixed in the WWTP irrigation tank (treated effluent)
- A combined spray field discharge of up to **74 m³/day**

Stage 2

- A WWTP to accommodate 250 L/person/day, producing a maximum **100m³/day** of treated wastewater
- A spray field of **2.5 ha**
- A RO plant producing a maximum **48 m³/day** of RO brine wastewater to be mixed in the WWTP irrigation tank
- A combined spray field discharge of up to **148 m³/day**

Stage 3

- A WWTP to accommodate 250 L/person/day, producing a maximum **150 m³/day** of treated wastewater
- A spray field of **3.5 ha**
- A RO plant producing a maximum **72 m³/day** of RO brine wastewater to be mixed in the WWTP irrigation tank
- A combined spray field discharge of up to **222 m³/day**

Treatment of raw wastewater within the WWTP will involve chemical dosing with chlorine, sodium hypochlorite and poly aluminium chloride, as well as anti-scaling chemical for the RO plant. Anticipated final effluent quality is shown below in Table 2 and includes both treated waste from the WWTP and brine from the RO plant.

Table 2: WWTP expected effluent discharge parameters

Parameter	Unit	Concentration
pH	N/A	6.5 to 8.5
E.Coli	cfu/100ml	<1,000
Total Nitrogen (TN)	mg/L	20 - 30
Total Phosphorus (TP)		4 – 12
Total Suspended Solids (TSS)		<30
Biochemical Oxygen Demand (BOD)		<20
Free Chlorine		0.2 to 2.0

Treated effluent will be discharged onto two spray fields via dedicated sprinklers. The spray field will include a 5 m spray drift buffer inside a 1,200 mm high wire fence. A maximum 222 m³/day will be irrigated over the 3.5 ha area.

Sludge produced by the WWTP will be collected in the dedicated sludge tank and removed off-site by a licensed waste carrier to an appropriate licensed facility for disposal.

Commissioning of the WWTP will be undertaken for each of the three stages of construction. Each stage will be commissioned for a maximum of 90 days.

Monitoring of the WWTP and spray fields will be undertaken during commissioning and time-

limited operations. Monitoring will be undertaken as described in Table 3 below. All samples will be taken at the point of discharge at the spray fields and undertaken using Australian Standards: *AS/NZS 5667.1:1998 Water quality – Sampling*. Free chlorine and pH will be tested for onsite and all other parameters sent to a NATA laboratory for testing.

Table 3: WWTP monitoring regime

Parameter	Monitoring frequency	Unit
Treated effluent volume	Continuous	kL/day
Free chlorine		mg/L
pH		pH units
<i>E.Coli</i>	Monthly	cfu/100ml
Total Nitrogen (TN)		mg/L
Total Phosphorus (TP)		
Total Suspended Solids (TSS)		
Biochemical Oxygen Demand (BOD)		

2.2.3 Used tyre storage facility (category 57)

Up to 2,800 used tyres will be stored onsite, prior to removal off site to an approved tyre disposal facility. Used tyre storage onsite will consist mainly of prime mover tyres, with the below sizing stored:

- Steer tyre - 385/65 R22.5;
- Rear / trailer tyre - 315/80 R22.5; and
- Light vehicle tyres and support vehicles tyres of various sizing will also be stored in smaller quantities.

The used tyre storage facility will be operational 24 hr/day to support operations as required. The storage of used tyres will occur in accordance with Department of Fire and Emergency Services (DFES) Guidance Note GN02 *Bulk Storage of Rubber Tyres Including Shredding and Crumbed Tyres* (DFES 2020) to ensure adequate separate distances are provided between used tyres.

All used tyres will be stored in accordance with DFES guidelines as a ‘small tyre facility’, this will include:

- Tyre stacks will not exceed 3.7 m in height, 60 m² in area and/or 12.5 tonnes in weight;
- A maximum of four (4) individual stacks will be grouped (namely, a pile), with a clear separation distance of not less than 2.5 m at the base must be maintained between each stack;
- A clear separation distance of not less than 18 m will be maintained between each pile; and
- Tyre stacks will be at least 18 m from any boundary or building on the allotment that have non-combustible walls/windows/doors e.g., masonry, of equal or greater height to the tyre stacks (3.7 m).

Other than establishment of a concrete base and perimeter fence for the compound, no installation or commissioning activities are required. Firefighting equipment will be made available at the used tyre facility in accordance with DFES requirements for tyre storage facilities.

Operation of the Tyre Storage Facility will be allowed under a time limited operations period of up to 180 days. Proposed controls during time limited operations are detailed in Table 6.

2.2.4 Diesel and oil storage facilities (category 73)

Up to 2,200 kL of hydrocarbons will be stored onsite at any one time. It is expected that storage capacities will fluctuate over stages of the Project as summarised below:

- Construction – up to 570 kL of diesel and oil will be stored at the Temporary Construction Compound.
- Operations – it is estimated that up to six 200 kL diesel storage tanks will be required to support Mining operations and facilitate operation of the Truck Maintenance Facility. In the initial stage at a minimum of four diesel tanks (800 kL) will be required, however project will eventually require up to 2,200 kL worth of storage for hydrocarbons as shown in Table 4 below.

Table 4: Hydrocarbon storage tanks

Infrastructure	Size/Storage Capacity	Number of tanks	Total Volumes (kL)
Double Skinned Diesel Tanks	200 kL	6	1,200
Double Skinned Diesel Tanks (temporary)	110 kL	1	110
Lube Oil Tank	71 kL	6	426
Waste Oil Tanks	71 kL	6	426

All diesel tanks will be double-skinned and constructed in accordance with Australian Standard: AS 1692-2006 – *Steel tanks for flammable and combustible liquids*. Hydrocarbon tanks to be bunded according to Australian Standard AS 1940 *The Storage and Handling of Flammable and Combustible Liquids*. Transfer points will be on impervious concrete aprons to prevent runoff to surrounding areas.

A number of tanks will be installed to hold waste oil, lubricants and other miscellaneous hydrocarbons. All waste hydrocarbons will be removed off-site by a licensed contractor.

The Applicant will undertake installation and commissioning of the Chemical Storage Facility within a maximum period of 180 days under time limited operations. Proposed controls during time limited operations are detailed in Table 6.

2.2.5 Concrete batching plant (Category 77)

A concrete batching plant, with the capacity of 60 m³/hr is proposed during construction activities and it is estimated this facility will be operational for up to two years. The concrete batching plant will predominately be operated during daylight hours to support construction activities for the project, however 24 hr/day operation may be required for the concrete batching plant and therefore will be assessed in this report. Product from the concrete batching plant will be used for construction on site and at other sites owned by the Applicant.

The proposed concrete batching plant will be a *Transcrete* mobile silo system, capable of

various operations as a standalone plant or in sequence with other plants.

Prior to arrival to site, the designated location of the plant will be compacted and level. Surface water drainage will be in place to ensure the plant footprint will not interact with surface water.

Assembly/installation and operation of the concrete batching plant will be undertaken in accordance with the *Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998* (Concrete Batching Regulations).

Once material has been mined and screened at the crushing and screening plant, it will be stockpiled in surge piles adjacent to the concrete batch plant. The material will be transferred into the feed hoppers via enclosed augers. The feed hopper will transfer the material to storage silos within the enclosed circuit. The silo fill process is equipped with bindicator paddles and butterfly valves that will sound alarms if overflow occurs and shut off delivery. A process filter system and overflow protection will be active throughout the whole processing circuit to minimise dust emissions.

The infrastructure and equipment required for the operation of the concrete batching plant is shown below in Table 5.

Table 5: Concrete batching plant infrastructure and equipment

Infrastructure	Typical Standard Features
Batch Plant	<ul style="list-style-type: none"> • Augers • Feed hopper • Concrete storage silos • Silo filters and overflow protection • Concrete transfer valves
Loader Operator Area	<ul style="list-style-type: none"> • Surge pile M sand • Surge pile C sand • Surge pile 10 mm • Surge pile 20 mm
Ancillary Infrastructure	<ul style="list-style-type: none"> • Slump stand • Water tanks • Generators • Washdown area

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 2017).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and Time Limited Operations which have been considered in this Decision Report are detailed in Table 6 below. Table 6 also details the proposed control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 6: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Construction activities, vehicle movements, lift-off from stockpiles and/or stored product, earthworks etc.	Air/windborne pathway	No additional dust control measures required during construction as separation distance to nearest sensitive receptor is over 5 km
Noise	Construction activities, vehicle movements, reversing alarms and diesel generators	Air/windborne pathway	No additional noise control measures required during construction as separation distance to nearest sensitive receptor is over 5 km Noise emissions associated with construction will be localised to the work area and are expected to be minimal
Sedimentation	Sedimentation during high rainfall events	Direct discharge to land causing contamination of nearby water courses	Surface water infrastructure to be constructed to contain a 10 year Annual Exceedance Probability (AEP) Inlet and outlets to culverts will be rock-pitched to minimise scour and erosion Stormwater diversion drain and settling pond constructed to divert flow during high rainfall events Site will be bunded to divert uncontaminated stormwater away from area with potential contaminants
Commissioning and Time-Limited Operation			
Category 12			
Dust	Crushing of material, vehicle movements, lift-off from stockpiles and/or stored product, earthworks etc.	Air/windborne pathway	Conveyors from screen to stockpiles to have dust covers installed Dust suppression sprinklers to be installed on main conveyor of jaw crusher and secondary cone crusher Vehicle speed limits enforced Water carts to reduce dust lift-off from trafficable surfaces

Emission	Sources	Potential pathways	Proposed controls
Noise	Machinery and vehicles	Air/windborne pathway	<i>Environmental Protection (Noise) Regulations 1997</i>
Sedimentation, hydrocarbon runoff	Sedimentation during high rainfall events Containment loss and spills of diesel and oils from hydrocarbon storage area and vehicle refueling	Direct discharge to land causing contamination of nearby water courses	Stormwater diversion drain and settling pond constructed to divert flow during high rainfall events Site bunded to divert uncontaminated stormwater away from area with potential contaminants Refuelling of vehicles undertaken by service trucks in dedicated bunded areas Self-bunded tanks and containers "MinRes Incident Reporting Procedure" implemented to manage spills Spill kits available and employees trained to manage spills
Category 54			
Sewage, partially treated sewage, wastewater	Containment loss from WWTP and associated pipelines	Direct discharge to land causing contamination of nearby water courses Infiltration through soil to groundwater causing contamination of groundwater	WWTP installed onto concrete or compacted earth pads Alarms installed to monitor high tank levels and pump failures Visual inspection program A balance tank installed to include up to 1 day for flow to allow for maintenance Surface water flows managed to divert uncontaminated stormwater away from the WWTP footprint
Treatment chemicals	Storage of WWTP treatment chemicals – containment loss		Chemicals to be stored in a dedicated bunded area in accordance with <i>AS 1940 The Storage and Handling of Flammable and Combustible Liquids</i> Chemical spill kits to be kept at the premises at all times
Category 57			
Air emissions such as VOCs, polycyclic aromatic hydrocarbons (PAH), dioxins, ash, nitrogen oxide and carbon oxides	Burning tyres	Air/windborne pathway	The facility constructed and operated in accordance with DFES Guidance Note (GN02) ' <i>Bulk Storage of Rubber Tyres Including Shredded and Crumbed Tyres</i> ' Fire-fighting equipment on site at all times Containment sumps to divert potential fire water run-off Hot works permit required for activities with the potential to cause fires
Pyrolytic oils	Burning tyres,	Direct	

Emission	Sources	Potential pathways	Proposed controls
containing hydrocarbons, metals and particulate matter	firefighting runoff	discharge to land causing contamination of nearby water courses	
Category 73			
Uncontrolled hydrocarbon discharges	Containment loss and spills of diesel and oils from hydrocarbon storage area and vehicle refueling	Direct discharge to land causing contamination of nearby water courses	<p>Hydrocarbons to be stored in a dedicated or self-bunded areas in accordance with AS 1940 <i>The Storage and Handling of Flammable and Combustible Liquids</i></p> <p>Spillages of hydrocarbons occurring as a result of incident or equipment failures addressed and reported through the MinRes incident reporting procedure</p> <p>Spill kits made available at the fuel /chemical storage locations and employees trained in their use</p> <p>Concrete aprons divert surface flows into sumps to collect potential spillage</p>
Category 77			
Dust	Lift-off from uncovered stockpiles, conveyors, silos and vehicle movement	Air/windborne pathway	<p>A water cart to spray down stockpiles and trafficable areas when required</p> <p>Spray units fitted to conveyors and crushing units</p> <p>Enclosed circuit for material transfer</p> <p>Venting filters equipped to silos</p> <p>Silo fill process has level monitoring, overflow alarms and delivery shut-off valve</p>
Sedimentation runoff	Sedimentation during high rainfall events	Direct discharge to land causing contamination of nearby water courses	<p>All water used in the concrete batching process or washing of trucks collected and recycled back into the plant</p> <p>Wash-down sump and the wedge pit periodically cleaned to prevent excessive build up and maintain capacity</p>

3.1.2 Receptors

In accordance with the *Guideline: Risk assessment* (DWER 2017), the Delegated Officer has excluded employees, visitors and contractors of the applicant's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation.

Table 7 and Figure 3 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 2016)).

Table 7: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Aboriginal and other heritage site: THALANYJI Native Title Determination area (WC 1999/045)	80 m from premises
Town of Onslow	14 km north of the premises
Peedamulla Station (N050350)	Premises is within the Peedamulla Station pastoral lease
Chevron Wheatstone Accommodation Camp	5 km west of the premises
Ashburton North Strategic Industrial Area (ANSIA) Industry Protection Zone	Premises is within ANSIA Industrial Protection Zone
Environmental receptors	Distance from prescribed activity
Pilbara Surface Water Area (SWA30)	Premises is within SWA30 boundary
Localised groundwater	3.58 to 7.47 m from surface

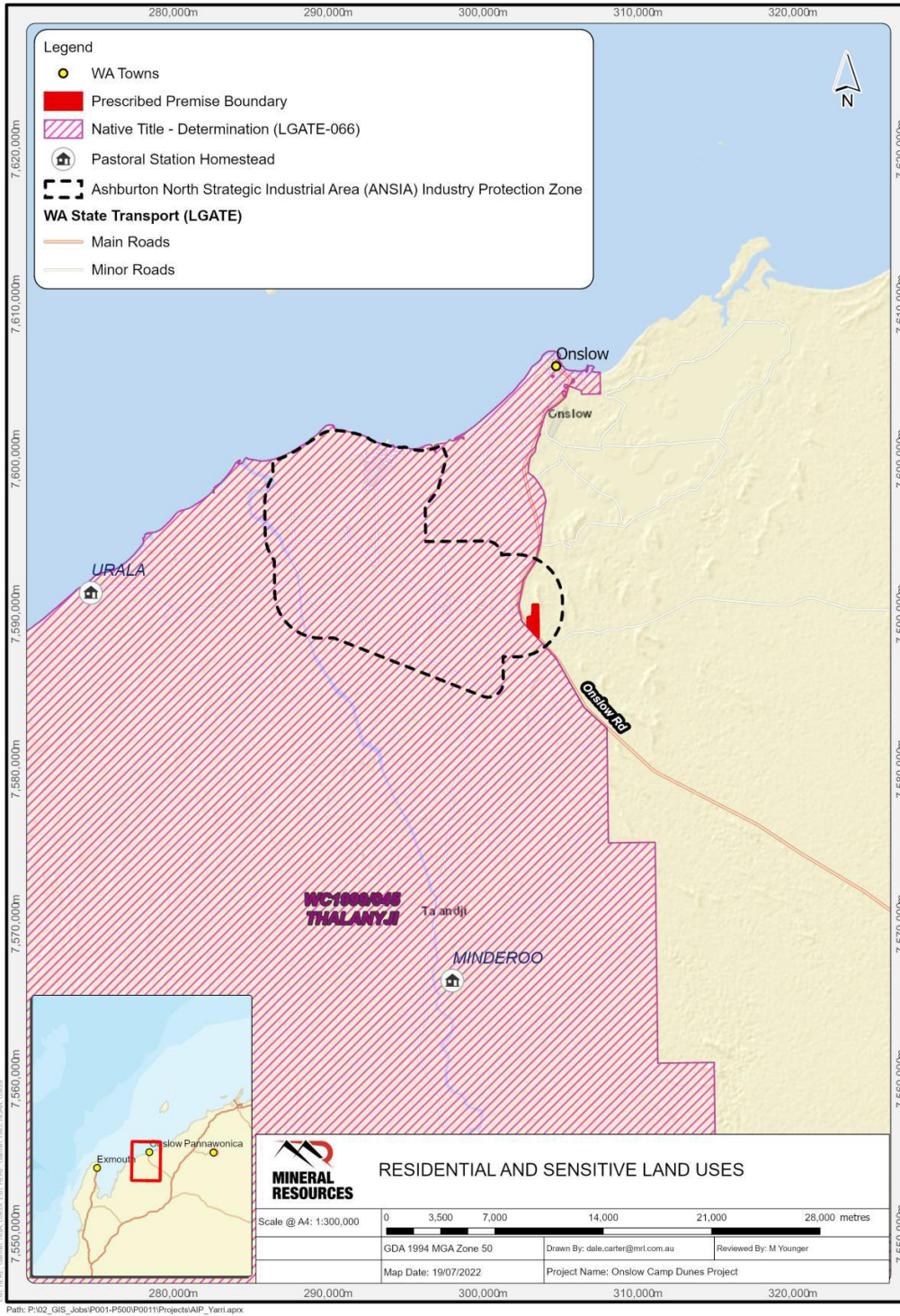


Figure 3: Distance to sensitive receptors

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk assessments* (DWER 2017) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 8.

Works Approval W6726/2022/1 that accompanies this Decision Report authorises construction, commissioning of the WWTP and time-limited operations. The conditions in the issued Works Approval, as outlined in Table 8 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. 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 8: Risk assessment of potential emissions and discharges from the Premises during construction, commissioning and operation

Risk Event					Risk rating ¹	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood			
Construction								
Placement of infrastructure and equipment including vehicle movements (reversing beepers). Earthworks and associated preparation	Dust	Air/windborne pathway causing impacts to health and amenity	Chevron Wheatstone Accommodation Camp – 5 km west of premises	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 1 – construction requirements	N/A
	Noise			Refer to Section 3.1	C = Minor L = Rare Low Risk	Y		
Stormwater runoff	Sedimentation	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Pilbara Surface Water Area (SWA30) – Premises is located within SWA30 boundaries	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 1 – construction requirements	N/A
Commissioning and Operation (including time-limited-operations operations)								
Screening, crushing, unloading, loading and storage of material Vehicle movements Running of machinery (conveyors, pumps etc.)	Dust	Air/windborne pathway causing impacts to health and amenity	Chevron Wheatstone Accommodation Camp – 5 km west of premises	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 14 – Operational requirements	N/A
	Noise			Refer to Section 3.1	C = Minor L = Rare Low Risk	Y		
Wastewater treatment tanks and pipelines	Raw and treated	Overland runoff potentially causing ecosystem	Direct discharge to land causing contamination of	Refer to Section 3.1	C = Minor L = Possible	Y	Conditions 5, 6 and 7 – Environmental commissioning	Environmental commissioning requirements are included in the works approval to ensure that

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Risk Event					Risk rating ¹	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood			
	sewage	disturbance or impacting surface water quality	nearby water courses Infiltration through soil to groundwater causing contamination of groundwater		Medium Risk		requirements Condition 14 – Operational requirements Conditions 15, 16 and 17 – Monitoring requirements	discharges made during commissioning are monitored and discharged at the identified location only. Monitoring is required during time limited operations to ensure the wastewater is treated to the wastewater quality criteria.
Burning tyres	Air emissions including VOCs, polycyclic aromatic hydrocarbons (PAH), dioxins, ash, nitrogen oxide and carbon oxides	Air/windborne pathway causing impacts to health and amenity	Chevron Wheatstone Accommodation Camp – 5 km west of premises	Refer to Section 3.1	C = Moderate L = Rare Medium Risk	Y	Condition 14 – Operational requirements	N/A
	Liquid emissions including pyrolytic oils containing hydrocarbons, metals and particulate matter	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Direct discharge to land causing contamination of nearby water courses Infiltration through soil to groundwater causing contamination of groundwater	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y		
Hydrocarbon fuel storage leaks, delivery and refuelling activities	Hydrocarbon discharge	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Direct discharge to land causing contamination of nearby water courses Infiltration through soil to groundwater causing contamination of groundwater	Refer to Section 3.1	C = Minor L = Possible Medium Risk	Y	Condition 14 – Operational requirements	N/A
Sedimentation during	Sedimentation	Overland runoff potentially causing	Direct discharge to land causing contamination of	Refer to	C = Slight	Y	Condition 14 – Operational	N/A

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Risk Event					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
high rainfall events	runoff	ecosystem disturbance or impacting surface water quality	nearby water courses	Section 3.1	L = Possible Low Risk		requirements	

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2017).

Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 9 provides a summary of the consultation undertaken by the department.

Table 9: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website 10/10/2022	No comments received	N/A
Local Government Authority advised of proposal 5/10/2022	No comments received	N/A
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal 5/10/2022	DMIRS responded on the 21/10/2022 stating that they are "assessing a mining proposal (Registration ID: 112591) associated with the activities proposed under the licence. The mining proposal under assessment includes activities from previously approved mining proposals as well as new disturbance."	Noted
Applicant was provided with draft documents on 10/11/22	28/11/2022	Refer to Appendix 1

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) 2016, *Guideline: Environmental siting*, Joondalup, Western Australia.
3. DWER 2017, *Guideline: Risk assessments*, Joondalup, Western Australia.
4. Department of Fire and Emergency Services (DFES) *Guidance Note GN02 Bulk Storage of Rubber Tyres Including Shredding and Crumbed Tyres*, (DFES 2020).

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

Works Approval Condition	Summary of applicant's comment	Department's response
Registered Business Address	Spelling error	Change made
Table: Prescribed premises categories	Category 54: Sewage facility - Assessed design capacity 222m ³ /day does not represent the amount identified in the supporting documentation.	222m ³ /day represents the maximum capacity of the proposed infrastructure for three identical stages of WWTP and RO Plant (150m ³ /day and 72m ³ /day).
	Include category 77 to prescribed activities as concrete batching will supply infrastructure outside the prescribed premises boundary.	Category 77 included as a prescribed activity.
Table 1: Design and construction / installation requirements	Include category 77 to prescribed activities as concrete batching will supply infrastructure outside the prescribed premises boundary.	Category 77 included as a prescribed activity.
	<p>The Applicant wishes to clarify, the discharge of 74m³/day to irrigation spray field is combination of RO reject and treated effluent for Stage 1.</p> <p>The Applicant seeks to amend relevant text in Table 1 to:</p> <ul style="list-style-type: none"> Raw sewage treated will be 50m³/day (stage 1), 100m³/day (stage 2) and 137m³/day (stage 3). Total combined treated effluent with RO reject is: 74m³/day (stage 1), 148 m³/day (stage 2), and 203m³/day (stage 3). Chemicals storage to be bunded according to Australian Standard 1940 The Storage and Handling of Flammable and Combustible Liquids. 	<p>Change made to the capacity of WWTP - 50m³/day per each stage (3 stages) for the treatment of sewage; and a cumulative total (for the 3 stages) of 72m³/day of water through the RO plant.</p> <p>Re-worded chemical storage requirements.</p>
	<p>The Applicant wishes to clarify that the Used Tyre Storage Area will be constructed with:</p> <ul style="list-style-type: none"> Compact earthen base. Each 'tyre stack' will not exceed 60 m² in area. No more than 2,800 used tyres will be stored at any one time. 	<p>Changed requirements of the Used Tyre Storage Area to be in accordance with the Department of Fire and Emergency Services (DFES) Guidance Note GN02 <i>Bulk Storage of Rubber Tyres Including Shredding and Crumbed Tyres</i> (DFES 2020).</p> <p>Included the requirement to construct on compacted earthen base and limited the size of each area.</p>

Works Approval Condition	Summary of applicant's comment	Department's response
Table 1: Design and construction / installation requirements	<p>The Applicant seeks to amend details in Table 1 to:</p> <ul style="list-style-type: none"> Hydrocarbon tanks to be bunded according to Australian Standard AS1940 <i>The Storage and Handling of Flammable and Combustible Liquids</i>. 	Changes made
	<p>The Applicant wishes to clarify that the Stormwater design drawing submitted with the application is an indicative design. Further detail design work is currently being undertaken to better inform where scour protection is required. Inlet and outlets to culverts will be rock pitched, other areas will depend upon grade, water velocity and location to prevent scour. Areas where scour is likely will be rock pitched, where this was not an issue drains are unlikely to be rock pitched to promote infiltration. The Applicant seeks to amend wording in Table 1 to:</p> <ul style="list-style-type: none"> Inlet and outlets to culverts will be rock pitched to minimise scour and erosion. 	Changes made
Table 2: Environmental Commissioning requirements	The Applicant seeks approval for a commissioning period of up to 3 months (or 90 calendar days).	Changes made
Table 5: Infrastructure and equipment requirements during time limited operations	Include mobile concrete batching plant	Changes made
Table 6: Emissions and discharge monitoring during time limited operations	<p>Change the monitoring frequency from "weekly" to "monthly" for monitoring of <i>E. Coli</i>, Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), Total Nitrogen (TN) and Total Phosphorus (TP).</p> <p>The Applicant seeks approval to reduce the monitoring frequency to monthly for these parameters for TLO, in accordance with operational monitoring detailed in Department of Health Guideline for Non-Potable Uses of Recycled Water in Western Australia (for low exposure risk). The commissioning monitoring will confirm the WWTP can meet performance/discharge criteria for operations.</p>	Changes made

Decision Report Section	Summary of applicant's comment	Department's response
Section 2.2 Application summary and overview of Premises	Clerical error – amend the capacity of the accommodation village from “500” to “550”.	Changes made
Section 2.2.2 WWTP (category 54)	WWTP capacity – 137 m ³ /day treated effluent + 66m ³ /day RO reject brine = 203 m ³ /day	No changes made – the capacity of the WWTP is the maximum capacity that the infrastructure can process, not the expected volume. 3 x 50 m ³ /day = 150 m ³ /day from WWTP 3 x 24 m ³ /day = 72 m ³ /day from RO plant = cumulative total of 222 m ³ /day
	The Applicant requests a commissioning period of up to 3 months (90 calendar days) for each stage.	Changes made
	Change the monitoring frequency from “weekly” to “monthly” for monitoring of <i>E. Coli</i> , Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), Total Nitrogen (TN) and Total Phosphorus (TP). The Applicant seeks approval to reduce the monitoring frequency to monthly for these parameters for TLO, in accordance with operational monitoring detailed in Department of Health Guideline for Non-Potable Uses of Recycled Water in Western Australia (for low exposure risk). The commissioning monitoring will confirm the WWTP can meet performance/discharge criteria for operations.	Changes made
Section 2.2.4 Diesel and oil storage facilities (category 73)	The Applicant seeks to amend details in the text from: All hydrocarbon storage tanks and transfer points will be on impervious concrete pads and bunded to prevent runoff. To: Hydrocarbon tanks to be bunded according to Australian Standard AS1940 <i>The Storage and Handling of Flammable and Combustible Liquids</i> . Transfer points will be on impervious concrete aprons to prevent runoff to surrounding areas.	Changes made
Section 2.2.4 Diesel and oil storage facilities (category 73)	The Applicant seeks to amend details in the text from: The Applicant will undertake installation and commissioning of the Chemical Storage Facility within a maximum period of 180 days under time limited operations.	No changes required – having a maximum 180 days under time limited operations is sufficient.

Decision Report Section	Summary of applicant's comment	Department's response
	<p>To:</p> <p>The Applicant will undertake installation and commissioning of the Chemical Storage Facility within a maximum period of 180 days under time limited operations, or until licence has been granted.</p>	
<p>Section 2.2.5</p> <p>Concrete batching plant</p>	<p>The Applicant advises that product from the concrete batching plant will also be transported offsite (outside of the Prescribed Premises Boundary) to support other Mineral Resources' construction work fronts. Therefore, triggering Category 77 under Schedule 1 of the Environmental Protection Regulations 1987.</p>	<p>Category 77 has been included.</p>
<p>Section 3.1.1 Emissions and controls –</p> <p>Table 6: Proposed applicant controls</p>	<p>The Applicant seeks to amend wording in Table 6 from</p> <p>Stormwater drains and culvert outlets to be rock-pitched to minimise erosion</p> <p>To:</p> <p>Inlet and outlets to culverts will be rock-pitched to minimise scour and erosion.</p>	<p>Changes made</p>
<p>General – throughout document</p>	<p>The Applicant seeks to amend details in the text from:</p> <p>Operation will be allowed under a time limited operations period of up to 180 days</p> <p>To:</p> <p>Time limited operations for a period of 180 days, or until a licence has been issued.</p>	<p>No changes required – having a maximum 180 days under time limited operations is sufficient.</p>

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY	
Application type	
Works approval	<input checked="" type="checkbox"/>
Date application received	5/08/2022
Applicant and Premises details	
Applicant name/s (full legal name/s)	Kumina Iron Pty Ltd
Premises name	Onslow Camp Dunes
Premises location	M08/488, G08/80 and L08/127
Local Government Authority	Shire of Ashburton
Application documents	
HPCM file reference number:	DER2018/001042-7
Key application documents (additional to application form):	Pt V WA Sup Doc Onslow Camp_Dunes Final Attachment 1a Attachment 1b Attachment 2 Attachment 5a Attachment 5b Attachment 5c Attachment 5d Attachment 5e Attachment 5f Attachment 5g Attachment 8a Attachment 8b Attachment 8c Attachment 8d Attachment 8f Attachment 8g Attachment 8h
Scope of application/assessment	
Summary of proposed activities or changes to existing operations.	Works approval Construction of the following: <ul style="list-style-type: none"> • Cat 12 mobile crushing and screening plant; • Cat 54 WWTP; • Cat 57 used tyre storage; • Cat 73 bulk chemical storage; • Cat 77 concrete batching plant.

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

Table 1: Prescribed premises categories

Prescribed premises category and description	Proposed production or design capacity
Category 12: Screening etc. of material	2,000,000 tonnes per annual period
Category 54: Sewage facility	150 m ³ per day of effluent, plus 72 m ³ /day of brine from the reverse osmosis plant
Category 57: used tyre storage	2,800 tyres per annual period
Category 73: bulk storage of chemicals	2,210 m ³ in aggregate
Category 77: Concrete batching plant	265,000 m ³ per annual period

Legislative context and other approvals

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Mining lease / tenement <input checked="" type="checkbox"/> Expiry: 2033 2033 2034
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval with DMIRS
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CPS No: 9495/1
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Licence/permit No: GWL 207192(1)

Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Mining Act
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	