Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application for Works Approval

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

Works Approval Number	W6840/2023/1
Applicant	Onslow Iron Pty Ltd
ACN	649 012 395
File number	DER2023/000551
Premises	West Pilbara Iron Ore Project M08/480, M08/484, G08/88, L08/67, L08/68, L08/69 and L08/181 CANE WA 6710 As defined by the premises maps attached to the issued works approval
Date of report	25 January 2024
Decision	Works approval granted

Abbie Crawford

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Abbie Crawford
A/MANAGER, WASTE INDUSTRIES REGULATORY SERVICES

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

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1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, works approval W6840/2023/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

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

2.2 Application summary and overview of premises

Mineral Resources Limited (MRL) of which Onslow Iron Pty Ltd (applicant) is a wholly owned subsidiary has replaced API Management Pty Ltd (APIM) as the manager and agent on behalf to the Red Hill Iron Ore Joint Venture (RHIOJV).

The RHIOJV includes Australian Premium Iron Joint Venture (APIJV) participants (which are currently Aquila Steel Pty Ltd and AMCI (IO) Pty Ltd) for which APIM acts for and on behalf of; and MRL (APIM 2022a).

Tenure M08/480, G08/88, L08/67, L08/68, L08/69 and L08/181 is held by Aquila Steel Pty Ltd and AMCI (IO) Pty Ltd. M08/484 is held by APIM and Red Hill Iron Limited.

APIM have given authority for the applicant "*to access the Tenure for the purposes of works described in the Works Approval Application which includes attending to all matters necessary for its approval*" (APIM 2022b).

On 21 August 2023, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction of the following items of infrastructure to support mining operations at the Kens Bore Deposit at the premises:

- Three wastewater treatment plants and associated treated effluent irrigation spray fields (Category 54); and
- Bulk Fuel and Chemical Storage (Category 73).

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 W6840/2023/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6840/2023/1.

2.2.1 WWTP

The applicant requires additional wastewater treatment plants (WWTPs) to be constructed at the premises to support the increased personnel required for Project construction at Kens Bore as well as construction of the Applicant's Ashburton Infrastructure Project (AIP) Haul Road.

The applicant proposes to build the following WWTP's:

- One 25 cubic meter per day (m^3/day) sequence batch reactor (SBR) WWTP and treated effluent irrigation spray field at the central processing facility (CPF) administration area; and

- One 400 m^3/day membrane bioreactor (MBR) WWTP and treated effluent irrigation spray field at the Accommodation Resort. The applicant is proposing to construct the Accommodation Resort WWTP in stages, with one 200 m^3/day WWTP train installed as Stage 1 and another 200 m^3/day WWTP train as Stage 2.

The location of the WWTP and associates spray fields are depicted in Figure 1 below:

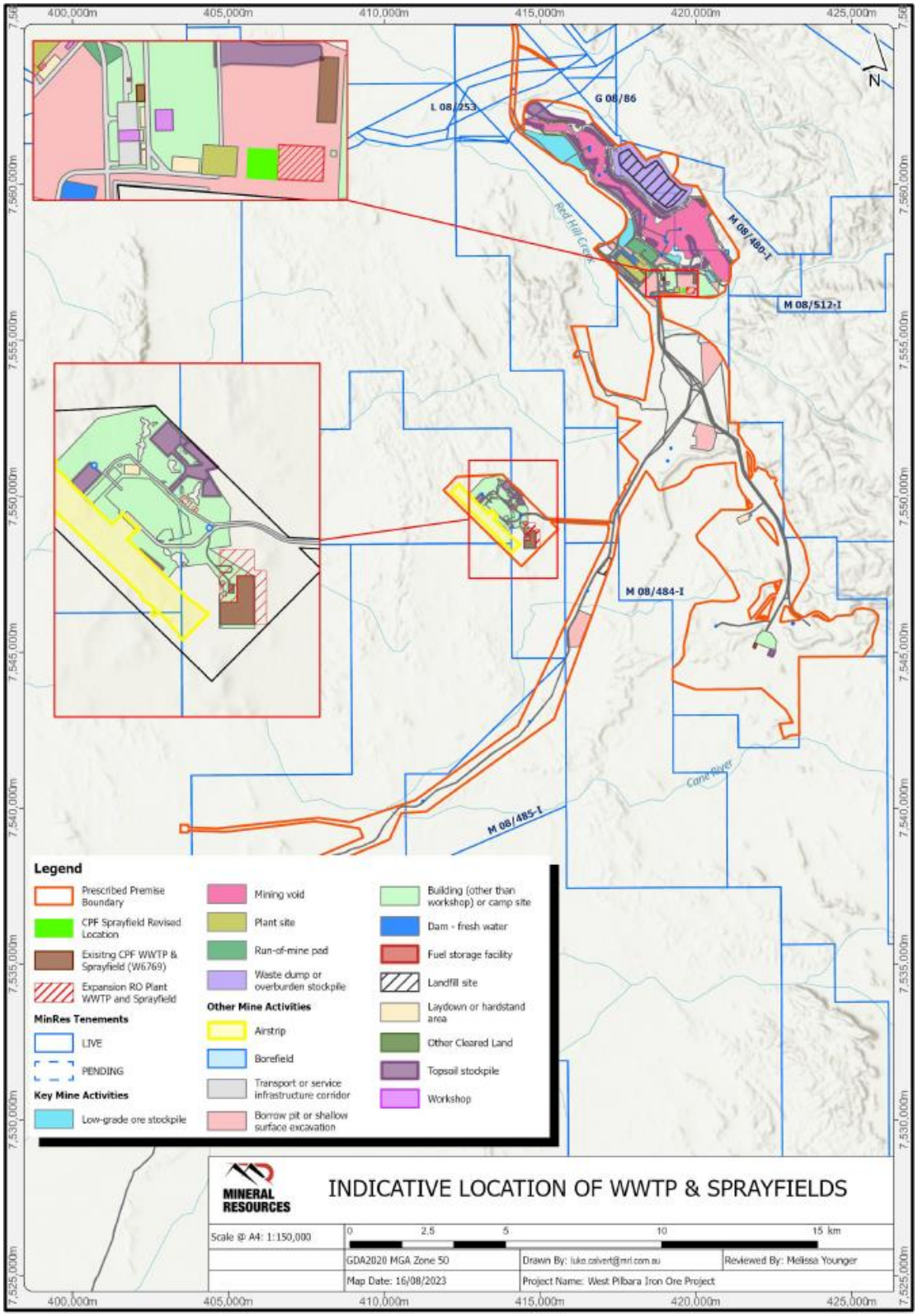

Figure 1: Indicative WWTP and spray field locations

In addition, the applicant is proposing to store a maximum of 260 m^3 of reverse osmosis (RO) reject in the treated effluent tank of the Accommodation Resort WWTP and 14 m^3 of RO reject in the treated effluent tank of the CPF WWTP. The RO reject will be combined with the treated effluent and co-disposed via irrigation to a spray fields. The expected treated effluent target concentrations are shown in Table 1 below:

Table 1: Treated effluent target concentrations

Parameter	Unit	Target Concentration Accommodation Resort WWTP	Target Concentration CPF WWTP
Biological Oxygen Demand (BOD)	mg/L	<20	<20
Total Suspended Solids (TSS)	mg/L	<30	<30
Total Nitrogen	mg/L	<20	<30
Total Phosphorus	mg/L	<3	<8
E.coli	cfu/100 mL	<1,000	<1,000
Residual free chlorine	mg/L	0.2 – 2.0	0.2 – 2.0
pH	pH units	6.5 – 8.5	6.5 – 8.5

Sludge waste will be contained within the sludge tank, and then pumped to the dewatering unit, for the WWTP at the Accommodation Resort. Any sludge cakes resulting from sludge dewatering during environmental commissioning will be contained onsite in suitable waste receptacles. The sludge cakes meet the description of biosolids in the Landfill Waste Classifications and Waste Definitions 1996 and are suitable for disposal in Class 1 landfills. Continuous monitoring of sludge tank volumes will be undertaken. Sludge waste generated at the CPF WWTP will be removed from site by Controlled Waste contractors in accordance with *Environmental Protection (Controlled Waste) Regulations 2004*.

RO Plants are proposed at the Accommodation Resort and CPF to provide potable water. Raw water will be pumped from a nearby bore/s to the RO Plants. The RO recovery, subject to raw water quality, will be flexible in the management and operation of the RO plants and may result in fluctuations in the system recovery rate. RO reject will be co-disposed to the irrigation spray fields with treated effluent for each system. The proposed RO plants will produce wastewater volumes below the Category 85B threshold of 0.5 gigalitres (GL) per year. While the RO plants aren't regulated by the department, the brine pipelines and the disposal of brine via irrigation will be.

The RO systems have been designed with 65% recovery; however, this may fluctuate, impacting the volume of the RO reject reported in the treated effluent tank. The treated effluent tank will receive approximately 75% of water from the MBR and approximately 25% from RO reject. It is anticipated that RO reject water to the treated effluent tank will not exceed 260 kL/day at the Accommodation Resort WWTP and 14 kL/day at the CPF WWTP. The RO reject Total Dissolved Solids (TDS) concentrations are summarised in Table 2 below:

Table 2: Indicative RO TDS discharge

Parameter	Accommodation Resort WWTP Discharge	CPF WWTP Discharge
RO reject flowrate	260,000 L	14,000 L
Indicative TDS of RO Reject	3,500 mg/L	4,250 mg/L
WWTP effluent flow rate	400,000 L	25,000 L
Average TDS calculation when combined with treated effluent.	~2,000 mg/L	~1,750 mg/L

It should be noted that existing works approvals are held for WWTP's at the Accommodation Resort and the CPF. These WWTPs (authorised under W5064/2011/1 and W6769/2023/1) are not within the scope of the assessment documented in this decision report. The WWTPs will discharge to the same spray field during operations, once constructed; and

2.2.2 Bulk Fuel and Chemical Storage

The applicant proposes to install two self-contained 110,000 L diesel storage tanks at the Accommodation Resort and one self-contained 110,000 L diesel storage tank at the CPF fuel storage area. These tanks have a total storage capacity of 330,000 L, which is below the threshold for Category 73. However, the total storage of these three tanks when included with the diesel storage tanks detailed in W6739/2023/1, will exceed the Category 73 threshold with a total storage for the Premises reaching 4,030 m3 in aggregate.

The location and infrastructure of fuel and other hydrocarbon storage for the premises is shown in Figure 2 below:

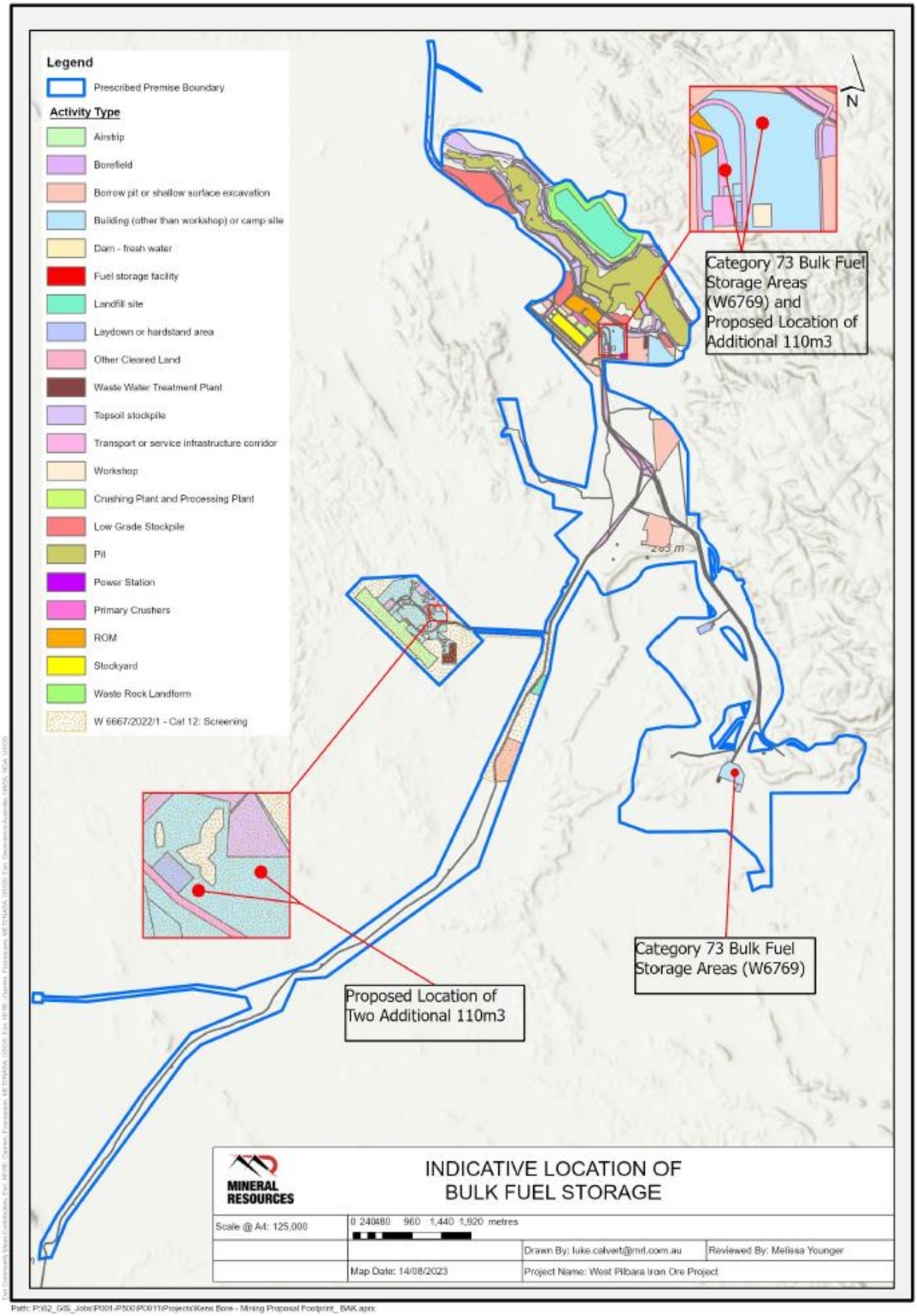

Figure 2: Indicative bulk fuel storage locations

2.3 Other approvals

The West Pilbara Iron Ore Project (the Project) was originally proposed for development by APIM who procured environmental approval including those obtained under the Part IV of the EP Act Ministerial Statement (MS) 1027, the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) EPBC 2009/4706 and the *Mining Act 1978* (Mining Act).

MRL have been "*authorised by the APIJV participants to act on their behalf in respect of statutory approvals and licences pertaining to the APIJV tenements*", "*including corresponding and lodging documents with all Government departments in respect of those statutory approvals and licences.*" (APIM 2022a).

2.3.1 EPBC Act

Under the EPBC Act, APIM was given approval (Decision Notice 2009/4706) to construct and operate the project including mining and associated infrastructure, and a rail line to transport the ore to port.

Controlling provision relates to listed threatened species and communities including:

- Condition 4 relating to a Fauna Management Plan, which must include:
    i. Measures to minimise mortality of EPBC Act listed threatened fauna species during construction;
    ii. Measures to protect EPBC Act listed threatened fauna habitat located adjacent to cleared areas;
    iii. Measures to rehabilitate areas disturbed during construction;
    iv. Collated baseline data of EPBC Act listed threatened fauna at and adjacent to the project area; and
    v. A fauna monitoring program.
- Condition 5 relating to a Ground Water Report and Monitoring Program which must address, but not be limited to:
    i. Measures to ensure that the water levels in groundwater fed pools within and adjacent to the project area are maintained consistent with pre-mining levels for the life of the mine;
    ii. Details including the timing, methodology, infrastructure design, trigger levels and monitoring strategies of a supplementation program designed to maintain water levels of groundwater fed pools located adjacent to disturbance areas for the life of the mine.

2.3.2 Aboriginal Heritage Act 1972 (AH Act)

Onslow Iron 2023 states that ethnographic and archaeological surveys have been completed. As a result of ongoing consultation, several s18 applications received Ministerial Consent with the endorsement of the Native Title Groups (NTG) and to disturb previously identified sites and places within and adjacent to the Project. Consultation with Traditional Owner Groups is ongoing to identify any future requirements.

Onslow Iron 2023 states that the NTG with interests over the Premises area is the Robe River Kuruma (RRK). The Project area intersects land which is subject to RRK Kuruma Marthudunera Part B (WCD2018/003) native title determination.

2.3.3 Mining Act

Three Mining Proposals have been approved by the Department of Mines, Industry Regulation and Safety (DMIRS), for the Project under the Mining Act:

- REG ID 35959 for the Mine Accommodation Facility on L08/68;
- REG ID 99698 for a Communications Facility on L08/181; and
- REG ID 113633 for the Kens Bore Deposit.

Mining Proposal and Mine Closure Plan (REG ID 113633) authorises mining and associated activities within the approved disturbance envelope.

2.3.4 Part IV of the EP Act

In September 2008, Stage 1 of the Project was referred to the Environmental Protection Authority (EPA) under Part IV of the EP Act to develop eight iron ore deposits and 285 km of heavy-haulage railway to the Port of Anketell, 25 km north-east of Karratha to produce 30 Million tonnes per annum (Mtpa) over a 15-year Life of Mine (LoM). Stage 1 of the Project was assessed at a Public Environmental Review (PER) level and approved under MS 881 in November 2011.

In August 2015, APIM submitted a request under Section 45C and Section 46 of the EP Act to separate MS 881 into two separate Mine and Rail Infrastructure Projects. As a result, MS 881 was separated into a Mine Development Envelope and a Rail Infrastructure Development Envelope, with the total area of disturbance reduced by 67 hectares (ha). MS 881 was superseded by MS 1026 (which covered the rail infrastructure) and MS 1027 (for the mining development) in February 2016.

Relevant conditions in MS 1027 are detailed below:

- Condition 6 Troglofauna – relating to defining the extent of the troglofauna habitat.
- Condition 7 Vegetation and Flora – relating to:
    - Surveys, restricting access and minimising disturbance of the *Triodia* sp. Robe River Assemblages of the mesas of the West Pilbara priority ecological community (PEC).
    - Monitoring impacts due to dust deposition, saline water application for dust control, fire, and feral species on *Triodia* sp. Robe River Assemblages of the mesas of the West Pilbara PEC.
    - Minimise impacts of workforce out of hours recreational activities on the Cane River Conservation Park; and proposed West Hamersley Range Conservation Park.
- Condition 8 Groundwater Drawdown – ensuring that the dewatering of groundwater for the implementation of the proposal does not cause the loss or decline in condition and health of the groundwater dependent vegetation.
- Condition 9 Surface Water and Significant Vegetation – ensuring that changes to surface water flows related to the proposal do not adversely affect any significant vegetation community, including Mulga vegetation.
- Condition 11 Trench Management relating to open trenches associated with construction and the burial of pipelines and/or cables.

The applicant has stated (Onslow Iron, 2023) that "*Activities detailed within this WAA are consistent with the Proposal Elements detailed in MS1027 for the WPIOP-Stage 1 Mine Area*." Requirements of MS 1027 are not re-assessed in this decision report and will not be duplicated as conditions on the works approval/licence.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020).

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

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this decision report are detailed in Table 3 below. Table 3 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 3: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Works associated with the construction of the WWTPs and bulk fuel storage tanks Vehicle movement on unsealed roads	Air / windborne	• Earthworks restricted to areas required for construction activities. • Vehicles and earth moving equipment will keep to defined roads. • Dust suppression will be used as required on running surfaces of mobile machinery. • Vehicle speed limits. • Routine maintenance and housekeeping practices.
Noise		Air / windborne	• All equipment and machinery will be regularly maintained in accordance with manufacturer specifications. • Compliance with the *Environmental Protection (Noise) Regulations 1997*. • Construction activities will be in accordance with the *Australian Standard (AS) 2436-2010 Guide to noise and vibration control on construction, demolition and maintenance sites*.

Emission	Sources	Potential pathways	Proposed controls
Contaminated stormwater	Overland runoff	Discharges to land	• Surface water diversions/drainage controls will be implemented for construction activities to divert stormwater around the construction areas and into the natural environment. • Earthen sumps and/or other sediment barriers will be constructed as required, to prevent stormwater with high sediment load discharging direct to the natural environment.
Hydrocarbon and chemical spills	Operation of heavy machinery associated with construction activities	Discharges to land	• Fuel storage and handling will be in accordance with *AS 1940-2004 The storage and handling of flammable and combustible liquids* and operated in accordance with *Dangerous Goods Safety Act 2004*. • Refuelling restricted to dedicated areas. • Mobile refuelling truck / service truck will be fitted with a spill kit. • Any fuel spills will be cleaned up immediately.
Category 54 – Commissioning and Operation			
Sewage, partially treated sewage and/or nutrient rich treated effluent	Overtopping of sewage holding tanks	Discharges to land	All WWTPs: • Units enclosed. • Units maintained in accordance with manufacturer's specifications. • Installed on either concrete or compact ground. • Installed with systems to monitor the tank volume levels, an alarm system will notify the operator of high-risk volumes and reduce the risk of an overflow event occurring. • Flow meters installed. Accommodation Resort WWTP: • Aerobic/MBR tank fitted with an emergency overflow which discharges to the screened influent lift station. • Balance tank with contingency storage of up to 1 day of normal flow if discharge is suspended. • Sludge collected in the sludge storage tank and disposed of to the Class II landfill facility. CPF WWTP: • Sludge collected for disposal offsite in

Emission	Sources	Potential pathways	Proposed controls
			accordance with the *Environmental Protection (Controlled Waste) Regulations 2004.*
	Rupture of pipes	Discharges to land	• Pipelines visually monitored for leaks. • Treatment chemicals stored in impermeable bunds or stored in self-bunded tanks/containers. • Spill kits made available at the fuel/chemical locations and employees trained in their use.
Nutrient rich treated effluent	Irrigation to spray fields	Discharges to land	• Effluent treated to target concentrations shown in Table 1.Table 1: Treated effluent target concentrations • Electrical conductivity recorded at the RO reject tank allowing early indication of quality of reject that will be combined with treated effluent for irrigation. • Operating freeboard maintained on the Accommodation Resort WWTP treated effluent tank to allow TDS correction if required. • All irrigation areas have a perimeter fence, with a lockable gate and safety signage displayed on the fencing. • Use of above ground sprinklers to discharge the treated effluent onto the ground, positioned away from drainage lines to prevent pooling. • 5 m spray drift buffer. • Inspection of spray field to ensure no visible runoff outside the spray field.
Category 73 - Commissioning and Operation			
Hydrocarbons	Bulk fuel storage facilities	Discharges to land	• Chemicals and hydrocarbons stored in a manner consistent with Australian Standard (AS) 1940-2004 *The storage and handling of flammable and combustible liquids.* • Operated in accordance with the *Dangerous Goods Safety Act 2004.* • Hydrocarbons stored in impermeable bunds or self-bunded tanks/containers. • Storage tanks shall not be overfilled. • Concrete aprons flowing into sumps to collect potential spillage and into oily water separator systems. • Spill kits made available at the fuel/chemical locations and employees trained in their use.

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 4, Figure 3 and Figure 4 below provide 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 4: Sensitive human and environmental receptors and distance from prescribed activity

Environmental receptors	Distance from prescribed activity
Rights in Water and Irrigation Act 1914	The proposed premises is located within the Proclaimed Pilbara Groundwater Area and Surface Water Area.
Groundwater	Across the Kens Bore Deposit water supply area, groundwater quality within the fractured Channel Iron Deposit and alluvial aquifers is fresh with pH ranging from neutral to slightly alkaline. Depth to groundwater is approximately 15 to 45 m below ground level (mbgl).
Groundwater Dependent Ecosystems (GDEs)	*Onslow Iron 2023* states that GDEs have been identified in two areas proximal to the Kens Bore Deposit. "*Studies conducted by Astron Environmental (2010b; 2011 and 2012) determined that vegetation in these areas have a moderate to high dependence on groundwater, comprising of mainly Melaleuca and Eucalyptus species.* "
Surface water bodies	*Onslow Iron 2023* states the following: • The project is intersected by the ephemeral Red Hill Creek and Cane River, tributaries to the Red Hill Sub-Catchment (of the larger Robe River Catchment) and Cane River Catchments respectively that flow from the Hamersley Ranges. • The Accommodation Resort spray field is located within northern Cane River Catchment. The nearest portion of the Accommodation Resort spray field is 1.9 km from the Cane River. • The CPF spray field is located in the catchment area for Red Hill Creek, which in turn is a tributary within the Robe River drainage catchment. The nearest portion of the CPF spray field is approximately 645 m from an incised portion of the braided channel system formed by Red Hill Creek, and over 1 km from its current main channel • Within the proposed project area there are no known beneficial users of surface water. • Red Hill Creek is approximately 1 km to the south of the nearest fuel storage facility.
Priority Ecological Communities (PEC)	*Triodia pisoliticola* (previously *Triodia* sp. Robe River) assemblages of mesa of the West Pilbara located within proposed premises boundary. The distance between the CPF and the nearest PEC is approximately 2.6 km.

Environmental receptors	Distance from prescribed activity
Threatened / Priority Flora	No threatened flora within the proposed Prescribed Premises Boundary. Priority 3 - *Triodia pisoliticola* found within the proposed premises boundary.
Threatened / Priority Fauna	The following have been found within the proposed premises boundary: • Northern Quoll (*Dasyurus hallucatus*) – Endangered; • Pilbara Olive Python (*Liasis olivaceaus barroni*) – Vulnerable; • Pilbara Leaf-nosed Bat (*Rhinonicteris aurantia*) – Vulnerable; • Ghost Bat (*Macroderma gigas*) – Vulnerable; and • Western Pebble-mound Mouse (*Pseudomys chapmani*) – Priority 4.
Aboriginal Sites and Heritage Places	Numerous heritage sites and places have been identified and recorded within and in close proximity to the Kens Bore Deposit and supporting infrastructure areas. The heritage sites/places identified to date have been the subject of numerous high-level recording (site Identification) and on-country consultation surveys/meetings with the RRK. Two of the Rockshelter sites are currently the subject of ongoing research (archaeological excavations are completed) and analysis under the provisions of Ministerial Section (s)s16 Consents. As a result of ongoing consultation, several s18 applications received Ministerial Consent with the endorsement of the RRK to disturb previously identified sites and places within and adjacent to the Prescribed Premise Boundary. The Applicant consulted with RRK Aboriginal Corporation on 20 July 2023 to discuss the proposed expansion and determine priorities for salvage and survey within the proposed expansion footprint, with Priority 1 being to salvage all sites within the Accommodation Resort expansion and Priority 2 to survey all Accommodation Resort expansion areas. These works will be undertaken under the provisions of a previously granted s18 Ministerial Consent and with the full participation of the RRK NTG.
Red Hill Pastoral Lease	The project occurs on the Red Hill Pastoral Lease. Land in this area is used for cattle grazing.

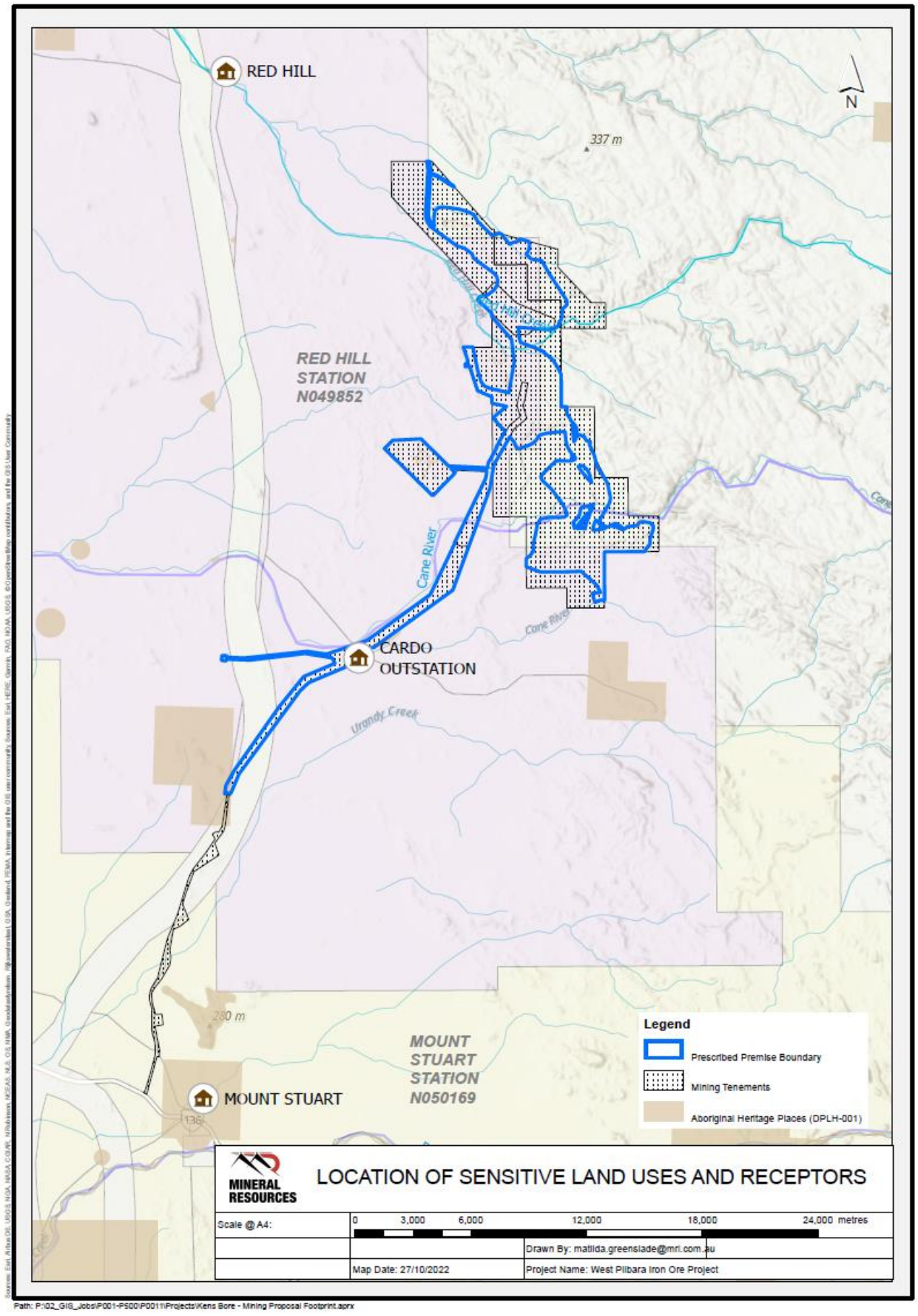

Figure 3: Distance to sensitive receptors

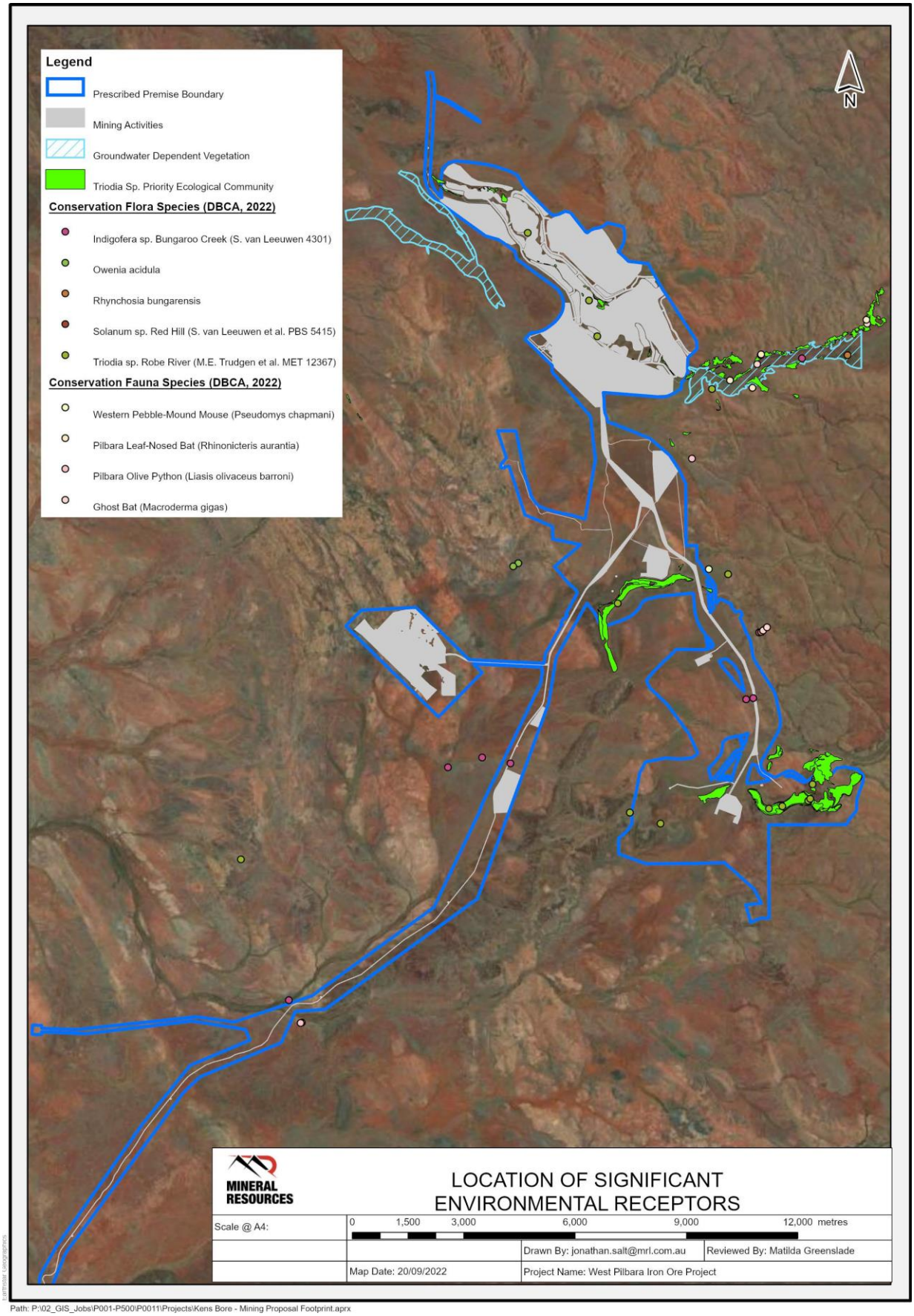

Figure 4: Location of significant environmental receptors

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

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

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 5.

Works approval W6840/2023/1 that accompanies this decision report authorises construction, commissioning and time-limited operations. The conditions in the issued works approval, as outlined in Table 5 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises i.e. WWTP's and bulk fuel and chemical storage activities. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

Table 5: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Construction								
Works associated with the construction of the WWTPs and bulk fuel storage tanks Vehicle movement on unsealed roads Operation of heavy machinery associated with construction activities	Dust	Air / windborne pathway causing impacts to amenity. Smothering vegetation impacting photosynthesis	PECs Flora Native fauna Aboriginal Sites and Heritage Places	Refer to Section 3.1	C = Slight L = Possible **Low Risk**	Y	N/A	The general provisions of the EP Act with respect to the causing of pollution and environmental harm applies. The applicant also has obligations under the EPBC Act - Decision Notice 2009/4706; and Part IV of the EP Act - MS 1027
	Noise	Noise and vibration impacts on fauna habitats	Native fauna	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	N/A	The Delegated Officer considers that noise emissions can be sufficiently managed through the *Environmental Protection (Noise) Regulations 1997*. The applicant also has obligations under EPBC Act - Decision Notice 2009/4706 and associated Fauna Management Plan
	Contaminated stormwater (hydrocarbon and sediment)	Overland flow causing contamination of soils due to the presence of hydrocarbons and chemicals in stormwater Increased sedimentation of drainage channels	Soil and vegetation along flow path of the contaminated stormwater Drainage channels	Refer to Section 3.1	C = Minor L = Possible **Medium Risk**	Y	N/A	*Environmental Protection (Unauthorised Discharges) Regulations 2004* also apply.

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Works associated with the construction of the WWTPs and bulk fuel storage tanks Vehicle movement on unsealed roads Operation of heavy machinery associated with construction activities	Hydrocarbons and chemicals	Discharges to land from leaks and spills contaminating soils and vegetation in vicinity of spill inhibiting vegetation growth and survival Contamination of surface water bodies and localised groundwater	Soil and vegetation adjacent to area of spill or breach Surface water bodies Groundwater	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	N/A	*Environmental Protection (Unauthorised Discharges) Regulations 2004* and *Dangerous Goods Safety Act 2004* also apply.
Commissioning								
Commissioning of WWTP's	Sewage, partially treated sewage and/or nutrient rich treated effluent	Overtopping of sewage holding tanks resulting in sewage discharge Soil contamination, inhibiting vegetation growth and survival	Soil and vegetation adjacent to area of spill	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 1 - Design and construction / installation requirements Condition 5 – Environmental commissioning requirements Condition 8 - Environmental commissioning monitoring requirements	*Environmental Protection (Unauthorised Discharges) Regulations 2004* apply.
		Rupture of pipes resulting in sewage discharge Soil contamination, inhibiting vegetation growth and survival	Soil and vegetation at area of rupture	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	N/A	*Environmental Protection (Unauthorised Discharges) Regulations 2004* apply.

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Commissioning of WWTP's	Nutrient rich treated effluent	Direct planned discharges to spray fields Soil contamination and impacts to groundwater quality	Soil and native vegetation Groundwater quality	Refer to Section 3.1	C = Minor L = Possible **Medium Risk**	N	Condition 1 - Design and construction / installation requirements Condition 4 and 5 – Environmental commissioning requirements Conditions 6 – Authorised discharge points **Conditions 7 – Environmental commissioning emission limits** Conditions 8-11 – Environmental commissioning monitoring requirements Conditions 12 and 13 – Compliance reporting	Onslow Iron 2022 states to allow for fluctuations in the raw water TDS level, approval is sought for a maximum TDS concentration of up to 3,500 mg/L for the Accommodation Resort WWTP and 2,500 mg/L for the CFP WWTP. The average TDS when combined with the treated effluent is expected to be approximately 2,000 - 2,500 mg/L for normal operation from the Accommodation Resort WWTP and below 2,000 mg/L for the CPF . The department has placed a limit of 3,500 mg/L TDS on blended water to the Accommodation Resort irrigation spray field and 2,500 mg/L to the CPF irrigation spray field during commissioning

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Time limited operations								
Operation of WWTP's	Sewage, partially treated sewage and/or nutrient rich treated effluent	Overtopping of sewage holding tanks resulting in sewage discharge Soil contamination, inhibiting vegetation growth and survival	Soil and vegetation adjacent to area of spill	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 1 - Design / construction requirements. Condition 14-15 – Commencement and duration Condition 16 – Time limited operation requirements. Conditions 17 – Authorised discharge points **Conditions 18 – Time limited operation emission limits** Conditions 19-21 – Monitoring during time limited operations Conditions 24-26 – Compliance reporting	Onslow Iron 2022 states to allow for fluctuations in the raw water TDS level, approval is sought for a maximum TDS concentration of up to 3,500 mg/L for the Accommodation Resort WWTP and 2,500 mg/L for the CFP WWTP. The average TDS when combined with the treated effluent is expected to be approximately 2,000 - 2,500 mg/L for normal operation from the Accommodation Resort WWTP and below 2,000 mg/L for the CPF . The department has placed a limit of 3,500 mg/L TDS on blended water to the Accommodation Resort irrigation spray field and 2,500 mg/L to the CPF irrigation spray field during time limited operations
		Rupture of pipes resulting in sewage discharge Soil contamination, inhibiting vegetation growth and survival	Soil and vegetation at area of rupture	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	N/A	*Environmental Protection (Unauthorised Discharges) Regulations 2004* apply.

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Operation of WWTP's	Nutrient rich treated effluent	Direct planned discharges to spray fields Soil contamination and impacts to groundwater quality	Soil and native vegetation Groundwater quality	Refer to Section 3.1	C = Minor L = Possible **Medium Risk**	N	Condition 1 - Design / construction requirements. Condition 5 – Commissioning requirements. Conditions 6 and 17 – Authorised discharge points. **Conditions 7 and 18 – Emission limit for TDS** Conditions 8 and 19 – WWTPs monitoring. Condition 16 – Time limited operation requirements.	Onslow Iron 2022 states to allow for fluctuations in the raw water TDS level, approval is sought for a maximum TDS concentration of up to 3,500 mg/L for the Accommodation Resort WWTP and 2,500 mg/L for the CFP WWTP. The average TDS when combined with the treated effluent is expected to be approximately 2,000 - 2,500 mg/L for normal operation from the Accommodation Resort WWTP and below 2,000 mg/L for the CPF WWTP. The department has placed a limit of 3,500 mg/L TDS on blended water to the Accommodation Resort irrigation spray field and 2,500 mg/L to the CPF irrigation spray field during commissioning and time limited operations

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Bulk fuel storage facilities	Hydrocarbon spill or discharge	Direct discharge and path of flow causing contamination of soils and vegetation	Soil and vegetation at site of spill Surface water bodies with Red Hill Creek approximately 1 km to the south PEC Groundwater	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 1 - Design / construction requirements. Condition 16 – Time limited operation requirements.	The *Dangerous Goods Safety Act 2004* and associated Regulations will apply during all operations, and are administered by the Department of Mines, Industry Regulation and Safety. The *Environmental Protection (Unauthorised Discharges) Regulations 2004* also apply.

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

Table 6: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 4 October 2023	N/A	N/A
Local Government Authority advised of proposal on 4 October 2023	The shire of Ashburton responded to the invitation to comment on 31 October 2023. The Shire had no comments to make in relation to the application.	N/A
DMIRS advised of proposal on 4 October 2023	DMIRS responded to the invitation to comment on 16 October 2023 and confirmed that the application and proposed infrastructure meets the approved mining proposal.	N/A
Department of Planning, Lands and Heritage (DPLH) advised of proposal on 4 October 2023	DPLH responded to the invitation to comment on 25 October 2023 confirming the section 18 areas and that the proposed WWTP is within Kuruma Marthudunera Part B Native Title Determination Area, as represented by the Robe River Kuruma Aboriginal Corporation (RRKAC). DPLH encouraged ongoing consultation with RRKAC to allow for best practice management of the Aboriginal cultural heritage extant in the vicinity of the project, and to ensure Heritage Surveys undertaken to date remain fit for purpose to manage ACH.	The Delegated Officer notes the information provided by DPLH and determines that the heritage aspects of the proposal can be adequately managed. The Applicant consulted with RRK Aboriginal Corporation on 20 July 2023 to discuss the proposed expansion with works to be undertaken under the provisions of a previously granted s18 Ministerial Consent and with the full participation of the RRK NTG.
Department of Health (DoH) advised of proposal on 4 October 2023	DoH responded to the invitation to comment on 7 November 2023 stating the following. • DoH will assess the wastewater treatment system/s as proposed when this is submitted to DoH detailing current and proposed loadings and specifications. • The proposal is required to comply with the requirements of the Health *(Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations* 1974 and meet any required setbacks.	The Delegated Officer notes that regulation under Part V of the EP Act does not exempt an occupier from the need to obtain relevant approvals and meet the requirements of other legislation and regulatory functions.

	• The site lies adjacent to low-lying gully land and may be subject to flash flooding. The impacts and public health risks from flooding, now and into the future, will need to be assessed and managed.	
Robe River Kuruma Aboriginal Corporation advised of proposal on 4 October 2023	No comments received	N/A
Applicant was provided with draft documents on 4 October 2023	The applicant provided comment on the draft works approval on 1 November 2023 and on 22 January 2024.	See 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. API Management Pty Limited 2022a, *Red Hill Iron Ore Joint Venture – Change of Manager and Authority to Act*, dated 16 February 2022.
2. API Management Pty Limited 2022b, *West Pilbara Iron Ore Project – Works Approval Application*, dated 2 September 2022.
3. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. DWER 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
5. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
6. Onslow Iron Pty Ltd (Onslow Iron) 2023, *West Pilbara Iron Ore Project – Kens Bore Categories: 54 & Category 73 Supporting Document Works Approval Application Part V Environmental Protection Act 1986 (Report Reference: ENV-TS-RP-0538 Rev 0,* 18 August 2023.

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

Condition	Summary of applicant's comment	Department's response
N/A	Assessed production/design capacity of Category 73 is stated to be 4,030 m^3. The works approval application seeks the approval of 330 m^3, 4030 m^3 in aggregate when including the fuel storage authorised under works approval W6739/2023/1.	Noted. The assessed production/design capacity has been amended to provide further clarity, being 330 m^3 (4,030 m^3 in aggregate).
Condition 1	The WWTP is not designed to treat RO reject, consider re-wording.	The Delegated Officer has amended the wording to include both the combined discharge of treated effluent and RO Reject
	Irrigation spray field sizes should be amended to better reflect the minimum area size.	The Delegated Officer has amended the wording of the condition to be minimum sizes areas, plus spray drift buffers.
	Double walled (self bunded) tanks negates the need for impermeable storage area	The Delegated Officer has reviewed the proposed management controls submitted with the application and has removed the requirement from the works approval.
Condition 5	Commissioning activities of the bulk fuel facility are not considered environmental commissioning activities.	The Delegated Officer considers the need for the performance and integrity requirements to be maintained within the works approval. As they are not considered commissioning activities, the requirements have been included in the infrastructure requirements contained within condition 1.
Condition 13	There appears to be a clerical error referring to infrastructure not included within the works approval.	The Delegated Office has amended the condition to address the clerical error.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY	
Application type	
Works approval	☒
Date application received	21 August 2023
Applicant and Premises details	
Applicant name/s (full legal name/s)	Onslow Iron Pty Ltd (ACN 649 012 395)
Premises name	West Pilbara Iron Ore Project
Premises location	M08/480-1, M08/484-1, G08/88, L08/67, L08/68, L08/69 and L08/181 CANE WA 6710
Local Government Authority	Shire of Ashburton
Application documents	
HPCM file reference number:	DER2023/000551

Key application documents (additional to application form):	• Works Approval Application Supporting Document – West Pilbara Iron Ore Project, Kens Bore_Rev 0
	• Attachment 1A Proof of Occupier Status
	• Attachment 1B ASIC Full Company Extract
	• Attachment 2 Premises Map (included within text of Supporting Document)
	• Attachment 3A Environmental Commissioning Plan (Category 54)
	• Attachment 5 Approval Decisions
	• Attachment 7 Sensitive Land uses Map (included within text of Supporting Document)
	• Attachment 8 Additional Information
	  ○ -Spray Fields Investigation Report (2015)
	  ○ -Newland Environmental (2021) Vegetation
	  ○ -PSM (2022a) -Surface Water Assessment

Scope of application/assessment	
Summary of proposed activities or changes to existing operations.	The works approval seeks approval to construct and commission the following: • One 25 cubic meter per day (m_3/day) sequence batch reactor (SBR) WWTP and treated effluent irrigation spray field that will be located at the central processing facility (CPF) administration area; • One 400 m_3/day membrane bioreactor (MBR) WWTP and treated effluent irrigation spray field at the Accommodation Resort. This will be constructed in stages, with one 200m^3/day WWTP train installed as Stage 1 and another 200m^3/day WWTP train as Stage 2; and • An additional 330,000 litres (L) (330 m^3) of diesel storage is also required at the Accommodation Resort and the CPF. The additional 330 m^3 combined with the bulk fuel storage facilities detailed

	in W6769 will increase the actual production capacity of Prescribed Category 73 detailed in W6769 (3,700 m^3) to 4,030 m^3. The applicant also seeks approval to operate the WWTP infrastructure and bulk fuel storage facility under time limited operations

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 54: Sewage facility	425 m^3/day (combined total of WWTPs detailed within this application) (plus 277 m^3/day RO reject)
Category 73: Bulk storage of chemicals, etc.	4,030 m^3 in aggregate

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 ☐ No ☒	N/A
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☒ No ☐	Ministerial statement No: MS 1027 EPA Report No: 1563
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☒ No ☐	Proposal deemed a Controlled Action approved under Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* – Referral No 2009/4706. The Controlled Action was approved, with conditions, under a bilateral assessment by the WA EPA in November 2011 (Attachment 5). As required by this approval, three Management Plans for Matters of National Environmental Significance species (Pilbara Olive Python, Northern Quoll and Pilbara Leaf-nosed Bat) and an offset strategy have been developed.
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☒ No ☐	Mining leases and other evidence provide.

Has the applicant obtained all relevant planning approvals?	Yes ☐ No ☐ N/A ☐	N/A – Mining tenure
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☒ No ☐	Clearing will be done in the implementation of the Proposal, in accordance with MS 1027. Additionally, clearing will be implemented as part of a Controlled Action approved under Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* – Referral No 2009/4706
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	Refer to above.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☒ No ☐	Application reference No: GWL174888(2) 5C Licence GWL 174888(2) and Groundwater Operating Strategy. An amendment to GWL174888 (2).
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☐ No ☒	Name: Pilbara Type: Proclaimed Groundwater Area and Surface Water Area Has Regulatory Services (Water) been consulted? Yes ☐ No ☒ N/A ☐ Regional office: North West
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes ☐ No ☐ N/A ☒
Is the Premises subject to any other Acts or subsidiary regulations (e.g. *Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx*)	Yes ☒ No ☐	***Environmental Protection (Unauthorised Discharges) Regulations 2004.*** ***Environmental Protection (Controlled Waste) Regulations 2004.*** ***Mining Act 1978*** Mining Proposal and Mine

		Closure Plan (REG ID 113633) submitted to DMIRS 31/08/2022. ***Dangerous Goods Safety Act 2004.*** Necessary approvals for the storage, transport and use of Dangerous Goods in accordance with the *Dangerous Goods Safety Act 2004.* Dangerous goods licences have been acquired to support existing construction activities. Further dangerous goods licences are being sought to support all associated activities. ***Aboriginal Heritage Act 1972:*** Ethnographic and archaeological surveys completed. As a result of ongoing consultation, several s18 applications received Ministerial Consent with the endorsement of the NTGs and to disturb previously identified sites and places within and adjacent to the Project. Several areas within L 08/68 have been salvaged with s18 endorsement, and further sites will be salvaged within the expansion footprint for the Accommodation Resort. Consultation with Traditional Owner Groups is ongoing to identify any future requirements. ***Health Act 1911*** An application to Construct or Install an Apparatus for the Treatment of Sewage will be prepared and submitted to the Department of Health (**DoH**). ***Land Administration Act 1997*** Project occurs on Redhill Pastoral Lease. Land is used for Cattle grazing and is administered under this legislation. The Kens Bore Deposit area is not within or adjacent to any conservation

		reserves and Cane River Conservation Park is the nearest reserve, 20km west of tenement L 08/68.
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☐	N/A
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	N/A
Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☐ No ☒	N/A