Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6840/2023/1
Works approval holder	Onslow Iron Pty Ltd
ACN	649 012 395
Registered business address	20 Walters Drive OSBORNE PARK WA 6017
DWER file number	DER2023/000551
Duration	25/01/2024 to 25/01/2029
Date of issue	25/01/2024
Premises details	West Pilbara Iron Ore Project M08/480, M08/484, G08/88, L08/67, L08/68, L08/69 and L08/181 CANE WA 6710

Prescribed premises category description (Schedule 1, ***Environmental Protection Regulations 1987***)	**Assessed production / design capacity**
Category 54: Sewage facility	425 m^3/day of treated effluent, plus 274 m^3/day of RO reject
Category 73: Bulk storage of chemicals, etc.	330 m^3 (4,030 m^3 in aggregate with Works Approval W6739/2023/1)

This works approval is granted to the works approval holder, subject to the attached conditions, on 25 January 2024, by:

Abbie Crawford

Digitally signed by Abbie Crawford
Date: 2024.01.25 14:31:12 +08'00'

Abbie Crawford
A/MANAGER, WASTE INDUSTRIES
REGULATORY SERVICES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Works approval history

Date	Reference number	Summary of changes
25/01/2024	W6840/2023/1	Works approval granted for Category 54 and 73 activities.

Interpretation

In this works approval:

(a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;

(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;

(c) where tables are used in a condition, each row in a table constitutes a separate condition;

(d) any reference to an Australian or other standard, guideline, or code of practice in this works approval:

(i) if dated, refers to that particular version; and

(ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

Works approval conditions

The works approval holder must ensure that the following conditions are complied with:

Construction phase

Infrastructure and equipment

1. The works approval holder must:

(a) construct and/or install the infrastructure and/or equipment;

(b) in accordance with the corresponding design and construction / installation requirements; and

(c) at the corresponding infrastructure location,

as set out in Table 1.

Table 1: Design and construction / installation requirements

	Infrastructure	Design and construction / installation requirements	Infrastructure location
1.	Accommodation Resort WWTP and Irrigation Spray Field	WWTP: • 2 x 200 m^3/day MBR containerised modular system • Installed on either concrete or compact ground • Installed with systems to monitor tank volume levels • Flowmeters shall be installed on the irrigation pump to monitor volumes discharged to the irrigation spray field • Components of the WWTP fitted with alarms to warn of high-water levels in the tank or if a pump failure occurs • Aerobic/MBR tank fitted with an emergency overflow which discharges to the screened influent lift station • Operating freeboard maintained on the treated effluent tank to allow TDS correction if required • Combined discharge of up to 400m^3/day of treated effluent and up to 260m^3/day of RO Reject • Chemicals shall be stored in impermeable bunds or be stored in self-bunded tanks/containers. • Be able to treat sewage to the following output emissions standards:	At the location shown in Schedule 1, Figure 2 As shown in Schedule 1, Figure 4

	Infrastructure	Design and construction / installation requirements	Infrastructure location
		BOD <20 mg/L TSS <30 mg/L Total Nitrogen <20 mg/L Total Phosphorus <3 mg/L *E.coli* <1,000 cfu/100 mL Residual free chlorine 0.2 – 2.0 mg/L pH 6.5 – 8.5 pH units <u>Irrigation Spray Field</u> to consist of: • Above ground sprinklers • Fencing with safety signage • Minimum size of 21.9 ha + 5 m spray drift buffer	
2.	CPF WWTP and Irrigation Spray Field	<u>WWTP</u>: • 25 m^3/day sequence batch reactor system • Installed on either concrete or compact ground • Installed with systems to monitor tank volume levels • Flowmeters shall be installed on the irrigation pump to monitor volumes discharged to the irrigation spray field • Combined discharge of up to 25 m3/day of treated effluent and up to 14 m3/day of RO Reject • Chemicals shall be stored in impermeable bunds or be stored in self-bunded tanks/containers. • Be able to treat sewage to the following output emissions standards: BOD <20 mg/L TSS <30 mg/L Total Nitrogen <30 mg/L Total Phosphorus <8 mg/L	At the location shown in Schedule 1, Figure 2 As shown in Schedule 1, Figure 5 and Figure 6

	Infrastructure	Design and construction / installation requirements	Infrastructure location
		E.coli <1,000 cfu/100 mL Residual free chlorine 0.2 – 2.0 mg/L pH 6.5 – 8.5 pH units <u>Irrigation Spray Field</u> to consist of: • Above ground sprinklers • Fencing with safety signage • Minimum size of 3.65 ha plus a 5 m spray drift buffer	
3.	Accommodation Resort Bulk Fuel Facilities	<u>Accommodation Resort Bulk Fuel Facility</u>: • 2 x 110,000 L self contained diesel storage tanks • Horizontal, double walled tanks with interstitial leakage monitoring probes system fitted and fitted with overfill alarms and mechanical overfill protection • Constructed in accordance with Australian Standard (AS) 1692-2006 • Above ground steel pipework for fuel transfer and delivery • Bollards or earthen bunds for pipework protection where required • Storage area impermeable and graded to a collection sump within secondary containment bund	At the location shown in Schedule 1, Figure 7 As shown in Schedule 1, Figure 8
4.	CPF Bulk Fuel Facilities	<u>CPF Bulk Fuel Facility</u>: • 1 x 110,000 L diesel storage tank • Horizontal, double walled tanks. • Constructed in accordance with Australian Standard (AS) 1692-2006 • Above ground steel pipework for fuel transfer and delivery • Bollards or earthen bunds for pipework protection where required • Performance in accordance with manufacturer specifications • Must be leak free and Integrity tested in accordance with manufacture specifications	At the location shown in Schedule 1, Figure 7 As shown in Schedule 1, Figure 8

Compliance reporting

2. The works approval holder must within 30 calendar days of an item of infrastructure or equipment required by condition 1 being constructed and/or installed:

(a) undertake an audit of their compliance with the requirements of condition 1; and

(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.

3. The Environmental Compliance Report required by condition 2, must include as a minimum the following:

(a) certification by a suitably qualified engineer that the items of infrastructure or components thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;

(b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and

(c) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

Environmental commissioning phase

Environmental commissioning requirements

4. The works approval holder may only commence environmental commissioning of an item of infrastructure listed in condition 5 once the Environmental Compliance Report has been submitted for that item of infrastructure in accordance with condition 2 of this works approval.

5. Any environmental commissioning activities undertaken for an item of infrastructure specified in Table 2 may only be carried out:

(a) in accordance with the corresponding commissioning requirements; and

(b) for the corresponding authorised commissioning duration.

Table 2: Environmental commissioning requirements

Infrastructure	Commissioning requirements	Authorised commissioning duration
WWTPs	• Volumetric flow meters are maintained on each WWTP outlet to the irrigation spray fields • All WWTP units maintained and operated in accordance with the requirements as specified in condition 1	For a period not exceeding 90 calendar days for each WWTP
Irrigation Spray Fields	• Maintained and operated in accordance with the requirements as specified in condition 1 • Irrigation is managed to prevent ponding and pooling of effluent on the ground surface of the irrigation spray field	

6. During environmental commissioning, the works approval holder must ensure that the emissions specified in Table 3, are discharged only from the corresponding discharge points and only at the corresponding discharge point locations.

Table 3: Authorised discharge points during commissioning

Emission	Discharge point	Discharge point location
Blended effluent (treated effluent + RO reject)	Irrigation Spray Field	As shown in Schedule 1, Figure 3
Treated effluent	Irrigation Spray Fields	As shown in Schedule 1, Figure 6

7. During environmental commissioning, the works approval holder must ensure that the emissions from the discharge point listed in Table 4 do not exceed the corresponding limit when monitored in accordance with condition 8.

Table 4: Emission and discharge limits during environmental commissioning

Discharge point	Parameter	Limit
Accommodation Resort irrigation spray field	TDS	3,500 mg/L
CPF irrigation spray field	TDS	2,500 mg/L

Monitoring during environmental commissioning

8. The works approval holder must monitor emissions during environmental commissioning in accordance with Table 5.

Table 5: Emissions and discharge monitoring during environmental commissioning

Discharge point	Monitoring location	Parameter	Frequency	Averaging Period	Unit	Method
Irrigation Spray Fields As depicted in Schedule 1, Figure 2, Figure 3 and Figure 6	Flow meter at Accommodation Resort WWTP and CPF WWTP	Volume discharged to irrigation spray field	Continuous	Cumulative daily	kL/day	Flow meter device
	Flow meter at each RO plant	Volume of RO reject to treated effluent tank				
	Final treatment tank sampling tap at Accommodation Resort WWTP and CPF WWTP	BOD	Weekly	Spot sample	mg/L	AS/NZS 5667.1 AS/NZS 5667.10
		TSS			mg/L	
		Total Nitrogen			mg/L	
		Total Phosphorus			mg/L	
		E.coli			cfu/100 mL	
		pH[2]	Continuous	N/A	pH units	
		Residual free chlorine[2]	Continuous	N/A	mg/L	
		TDS	Weekly	Spot sample	mg/L	

Note 1: All units are referenced to STP dry and 5% O_2.
Note 2: In-field non-NATA accredited analysis permitted.

9. The works approval holder must ensure that all monitoring equipment used to comply with condition 8 is calibrated in accordance with the manufacturer's specifications.

10. The works approval holder must ensure that all non-continuous sampling and analysis undertaken pursuant to condition 8 is undertaken by a holder of a current accreditation from the NATA for the methods of sampling and analysis relevant to the corresponding relevant parameter.

11. The works approval holder must record the results of all monitoring activity required by condition 8.

Compliance reporting

12. The works approval holder must submit to the CEO an Environmental Commissioning Report within 30 calendar days of the completion date of environmental commissioning for each item of infrastructure specified in Table 2.

13. The works approval holder must ensure the Environmental Commissioning Report required by condition 12 of this works approval includes the following:

    (a) a summary of the environmental commissioning activities undertaken, including timeframes;

    (b) monitoring results for the WWTPs recorded in accordance with condition 8 with a comparison against the output emission standards for each WWTP specified in condition 1; and the TDS emission limit in condition 7;

    (c) copies of laboratory reports for the monitoring results recorded in accordance with condition 8;

    (d) a review of the works approval holder's performance and compliance against the conditions of this works approval; and

    (e) where they have not been met, measures proposed to meet the manufacturer's design specifications and the conditions of this works approval, together with timeframes for implementing the proposed measures.

Time limited operations phase

Commencement and duration

14. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 16:

    (a) where the item of infrastructure is not authorised to undertake environmental commissioning, the Environmental Compliance Report as required by condition 2 has been submitted by the works approval holder for that item of infrastructure; and

    (b) where the item of infrastructure is authorised to undertake environmental commissioning under condition 5, the Environmental Commissioning Report for that item of infrastructure as required by condition 12 has been submitted by the works approval holder.

15. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 16:

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 14 for that item of infrastructure; or

(b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the *Environmental Protection Act 1986*, if one is granted before the end of the period specified in condition 15(a).

Time limited operations requirements

16. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 6 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 6.

Table 6: Infrastructure and equipment requirements during time limited operations

	Site infrastructure and equipment	Operational requirement	Infrastructure location
5	WWTPs	• Volumetric flow meters are maintained on each WWTP outlet to the irrigation spray fields • All WWTP units maintained and operated in accordance with the requirements as specified in condition 1	At the location shown in Schedule 1, Figure 2
6	Irrigation spray fields	• Maintained and operated in accordance with the requirements as specified in condition 1 • Irrigation is managed to prevent ponding and pooling of effluent on the ground surface of the irrigation spray field	At the location shown in Schedule 1, Figure 2
9	Bulk Fuel Storage Facilities	• Chemicals and hydrocarbons stored in a manner consistent with AS 1940 • Operated in accordance with the *Dangerous Goods Safety Act 2004* • Hydrocarbons stored in impermeable bunds or self bunded tanks/containers constructed in accordance with AS 1692 • Storage tanks shall not be overfilled • Concrete aprons flowing into sumps to collect potential spillage and into oily water separator systems	At the location shown in Schedule 1, Figure 7

17. During time limited operations, the works approval holder must ensure that the emissions specified in Table 7, are discharged only from the corresponding discharge points and only at the corresponding discharge point locations.

Table 7: Authorised discharge points

Emission	Discharge point	Discharge point location
Blended effluent (treated effluent + RO reject)	Irrigation Spray Fields	At the location shown in Schedule 1, Figure 2
Treated effluent	Irrigation Spray Fields	At the location shown in Schedule 1, Figure 2

18. During time limited operations, the works approval holder must ensure that the emissions from the discharge point listed in Table 8 do not exceed the corresponding limit when monitored in accordance with condition 19.

Table 8: Emission and discharge limits during time limited operations

Discharge point	Parameter	Limit
Accommodation Resort irrigation spray field	TDS	3,500 mg/L
CPF irrigation spray field	TDS	2,500 mg/L

Monitoring during time limited operations

19. The works approval holder must monitor emissions during time limited operations in accordance with Table 9.

Table 9: Emissions and discharge monitoring during time limited operations

Discharge point	Monitoring location	Parameter	Frequency	Averaging Period	Unit	Method
Irrigation Spray Fields As depicted in Schedule 1, Figure 2, Figure 3 and Figure 6	Flow meter at each WWTP	Volume discharged to irrigation spray field	Continuous	Monthly cumulative	kL/day	Flow meter device
	Flow meter at RO plant	Volume of RO reject to treated effluent tank				
	Final treatment tank sampling tap at Accommodation Resort WWTP and CPF WWTP	BOD	Monthly	Spot sample	mg/L	AS/NZS 5667.1 AS/NZS 5667.10
		TSS			mg/L	
		Total Nitrogen			mg/L	
		Total Phosphorus			mg/L	
		E.coli			cfu/100 mL	
		pH[1]	Continuous	N/A	pH units	
		Residual free chlorine[1]	Continuous	N/A	mg/L	
		TDS	Monthly	Spot sample	mg/L	

Note 1: In-field non-NATA accredited analysis permitted.

20. All sample analysis must be undertaken by laboratories with current NATA accreditation for the relevant parameters, unless otherwise specified in Table 9.

21. The works approval holder must record the results of all monitoring activity required by condition 19.

Compliance reporting

22. The works approval holder must submit to the CEO a report on the time limited operations within 30 calendar days of the completion date of time limited operations or 30 calendar days before the expiration date of the works approval, whichever is the sooner.

23. The works approval holder must ensure the report required by condition 22 includes the following:

(a) a summary of the time limited operations, including timeframes and amount of material and ore processed;

(b) a summary of the environmental performance of all infrastructure as constructed or installed (as applicable), which includes records detailing the volumes of wastewater processed;

(c) monitoring results for the WWTPs recorded in accordance with condition 19 with a comparison against the output emission standards for each WWTP specified in condition 1; and the TDS emission limit in condition 18;

(d) a review of performance and compliance against the conditions of the works approval; and

(e) where the manufacturer's design specifications and the conditions of this works approval have not been met, what measures will the works approval holder take to meet them, and what timeframes will be required to implement those measures.

Records and reporting

24. The works approval holder must record the following information in relation to complaints received by the works approval holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:

(a) the name and contact details of the complainant, (if provided);

(b) the time and date of the complaint;

(c) the complete details of the complaint and any other concerns or other issues raised; and

(d) the complete details and dates of any action taken by the works approval holder to investigate or respond to any complaint.

25. The works approval holder must maintain accurate and auditable books including the following records, information, reports, and data required by this works approval:

(a) the works conducted in accordance with condition 1;

(b) any maintenance of infrastructure that is performed in the course of complying with conditions of this works approval;

(c) monitoring programmes undertaken in accordance with conditions 8 and 19; and

(d) complaints received under condition 24.

26. The books specified under condition 25 must:

(a) be legible;

(b) if amended, be amended in such a way that the original versions and any subsequent amendments remain legible and are capable of retrieval;

(c) be retained by the works approval holder for the duration of the works approval; and

(d) be available to be produced to an inspector or the CEO as required.

Definitions

In this works approval, the terms in Table 10 have the meanings defined.

Table 10: Definitions

Term	Definition
AS 1940	means Australian Standard AS 1940-2004 *The storage and handling of flammable and combustible liquids.*
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples*.
AS/NZS 5667.10	means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters.*
BOD	Biochemical Oxygen Demand.
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
cfu/100 mL	means colony forming units per 100 millilitres.
CPF	Central Processing Facility.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V Division 3 of the EP Act.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
environmental commissioning	means the sequence of activities to be undertaken to test equipment integrity and operation, or to determine the environmental performance, of equipment and infrastructure to establish or test a steady state operation and confirm design specifications.
Environmental Commissioning Report	means a report on any commissioning activities that have taken place and a demonstration that they have concluded, with focus on emissions and discharges, waste containment, and other environmental factors.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and/or equipment has been constructed and/or installed in accordance with the works approval.
EP Act	*Environmental Protection Act 1986* (WA).

Term	Definition
EP Regulations	*Environmental Protection Regulations 1987* (WA).
MBR	means Membrane Bioreactor.
NATA	National Association of Testing Authorities.
premises	the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
RO	Reverse Osmosis.
STP	means standard temperature and pressure (0oCelsius and 101.325 kilopascals respectively), dry.
suitably qualified engineer	means a person who: (a) holds a Bachelor of Engineering degree recognised by the Institute of Engineers; and (b) has a minimum of five years of experience working in the field of engineering; or is otherwise approved in writing by the CEO to act in this capacity.
TDS	Total Dissolved Solids.
time limited operations	refers to the operation of the infrastructure and equipment identified under this works approval that is authorised for that purpose, subject to the relevant conditions.
TSS	Total Suspended Solids.
waste	has the same meaning given to that term under the EP Act.
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.
WWTPs	Wastewater Treatment Plants and refers to the Accommodation Resort WWTP and CPF WWTP.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (Figure 1).

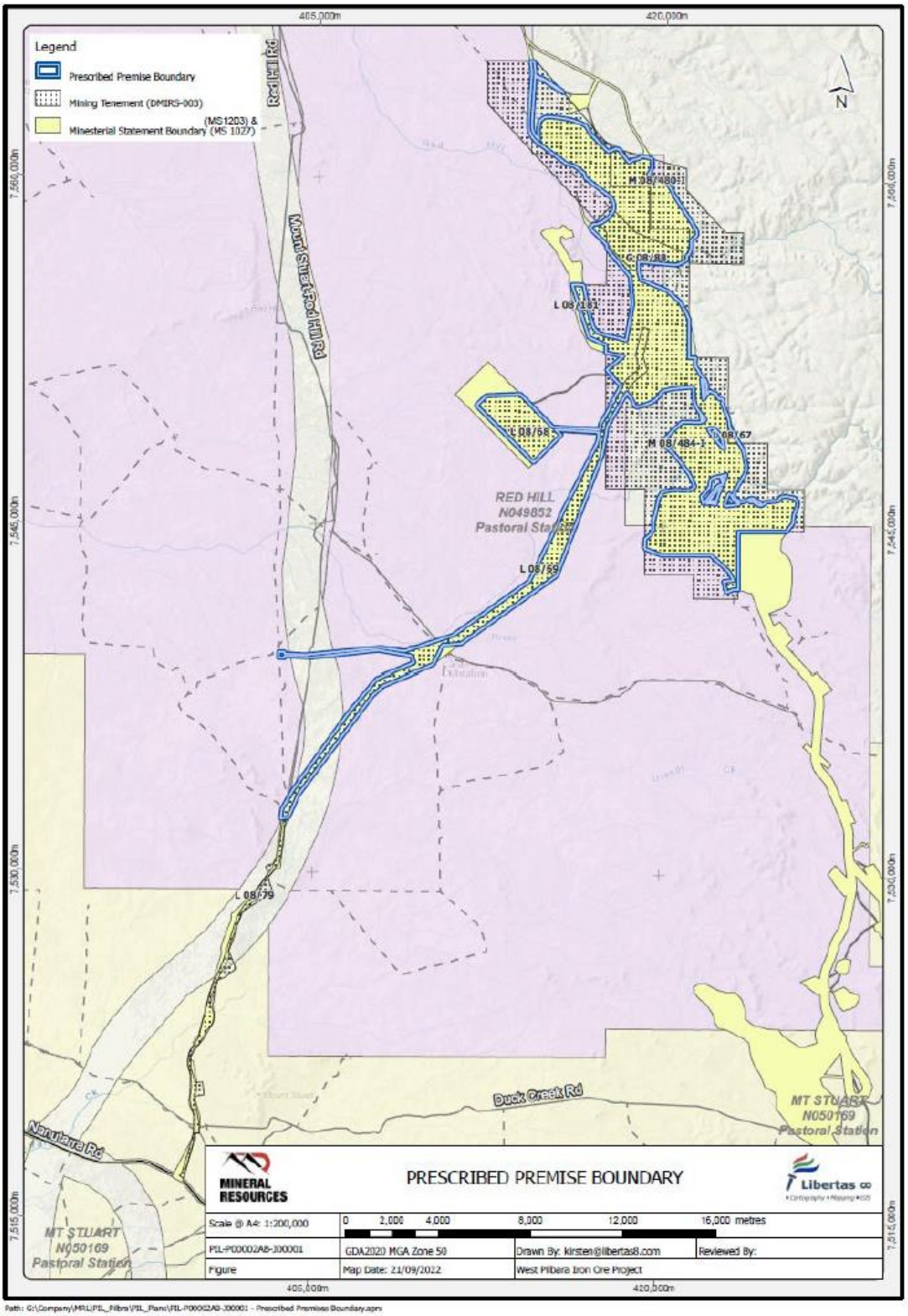

Figure 1: Map of the boundary of the prescribed premises

Infrastructure

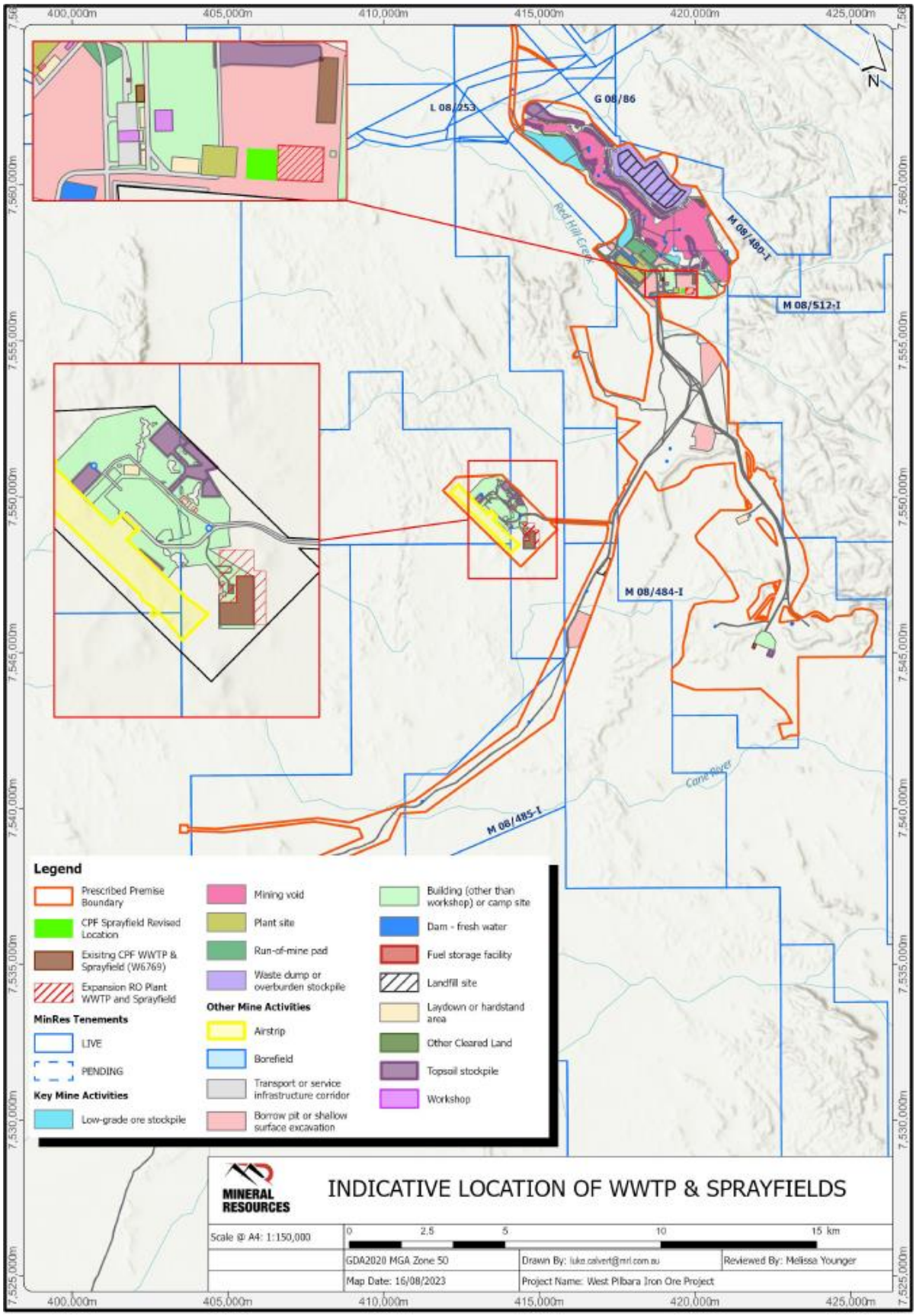

Figure 2: Location of infrastructure

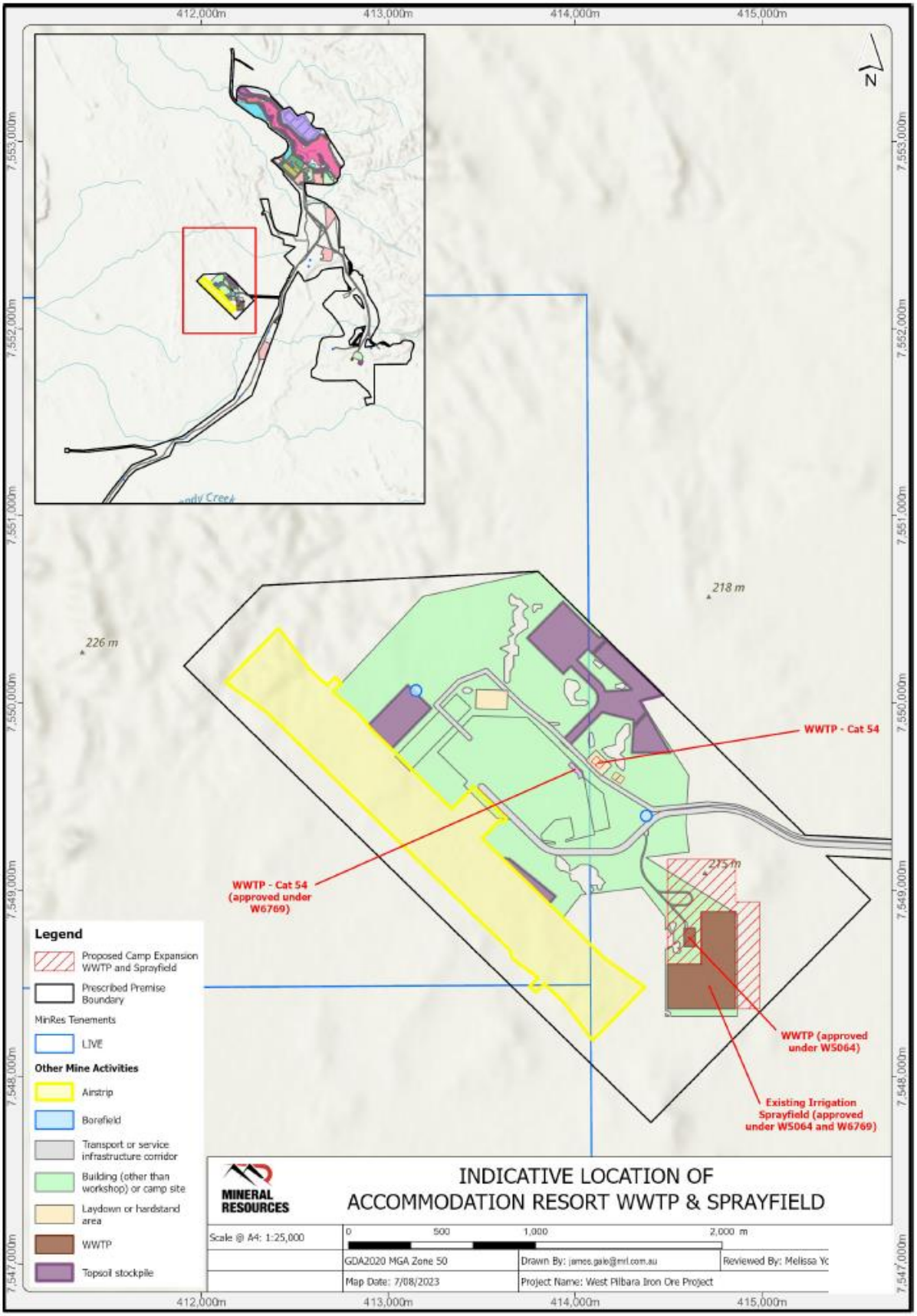

Figure 3: Location of Accommodation Resort WWTP expansion and spray field Expansion

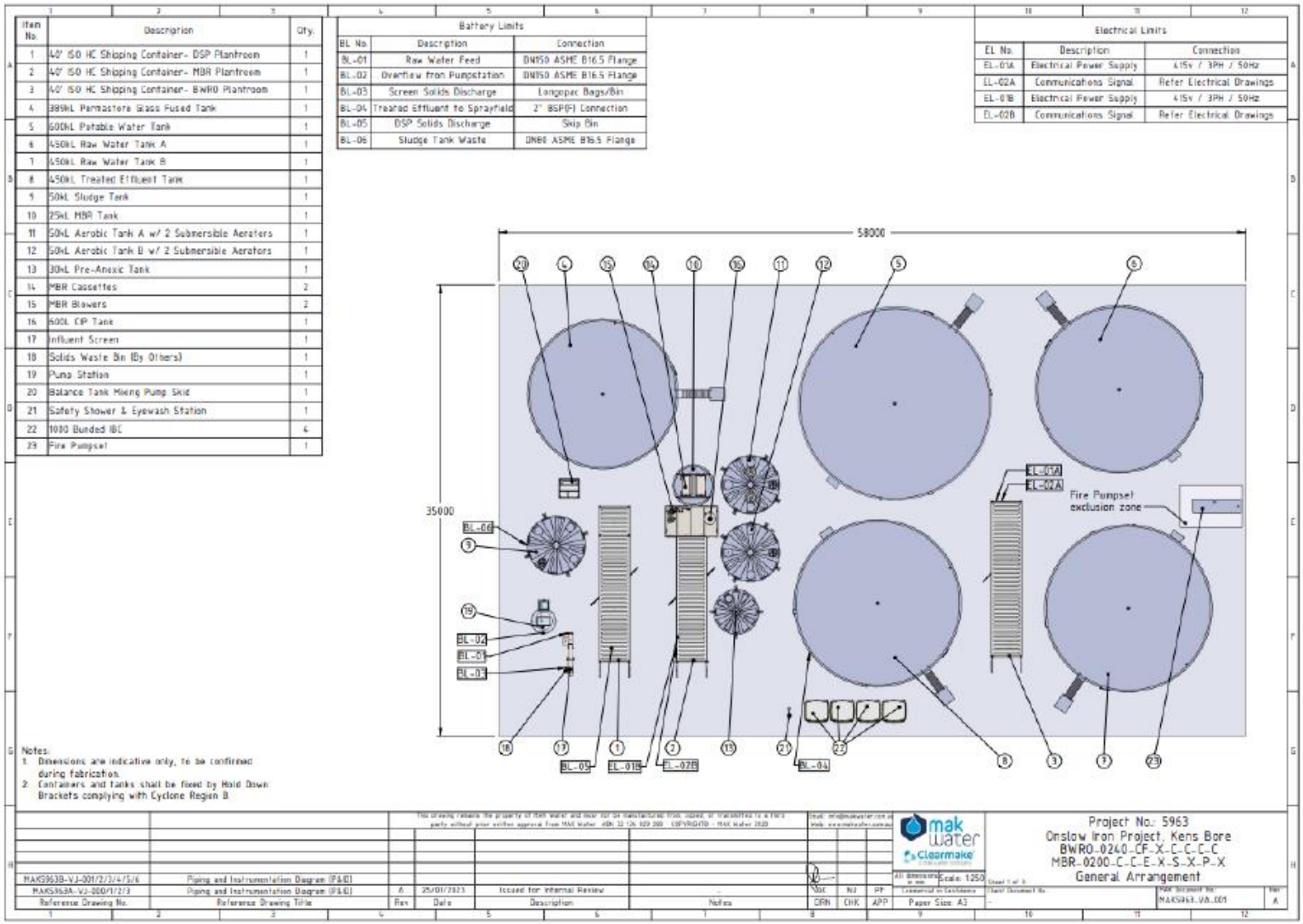

Figure 4: Accommodation Resort WWTP arrangement inclusive of RO infrastructure

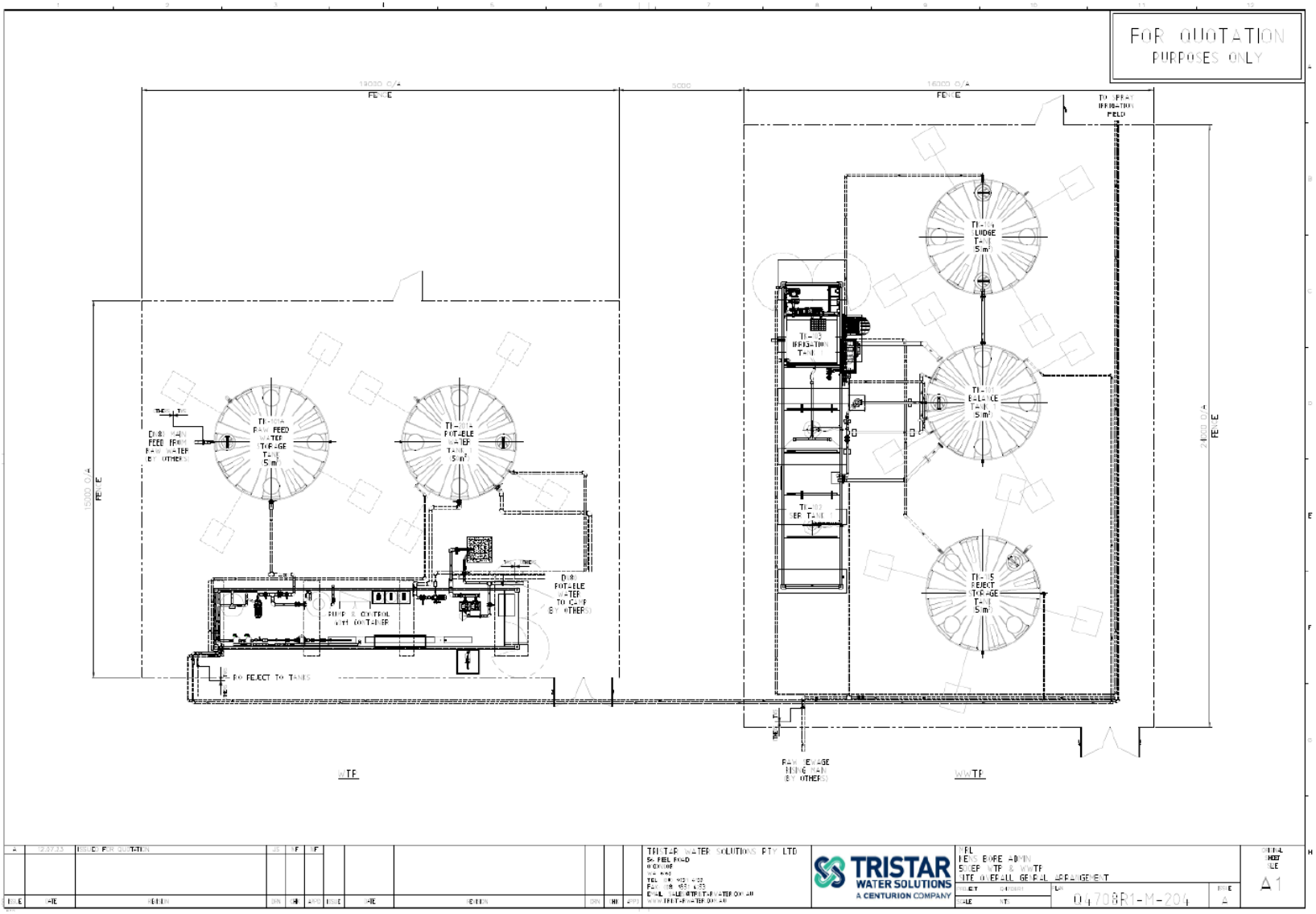

Figure 5: CPF Administration WWTP indicative arrangement inclusive of RO infrastructure

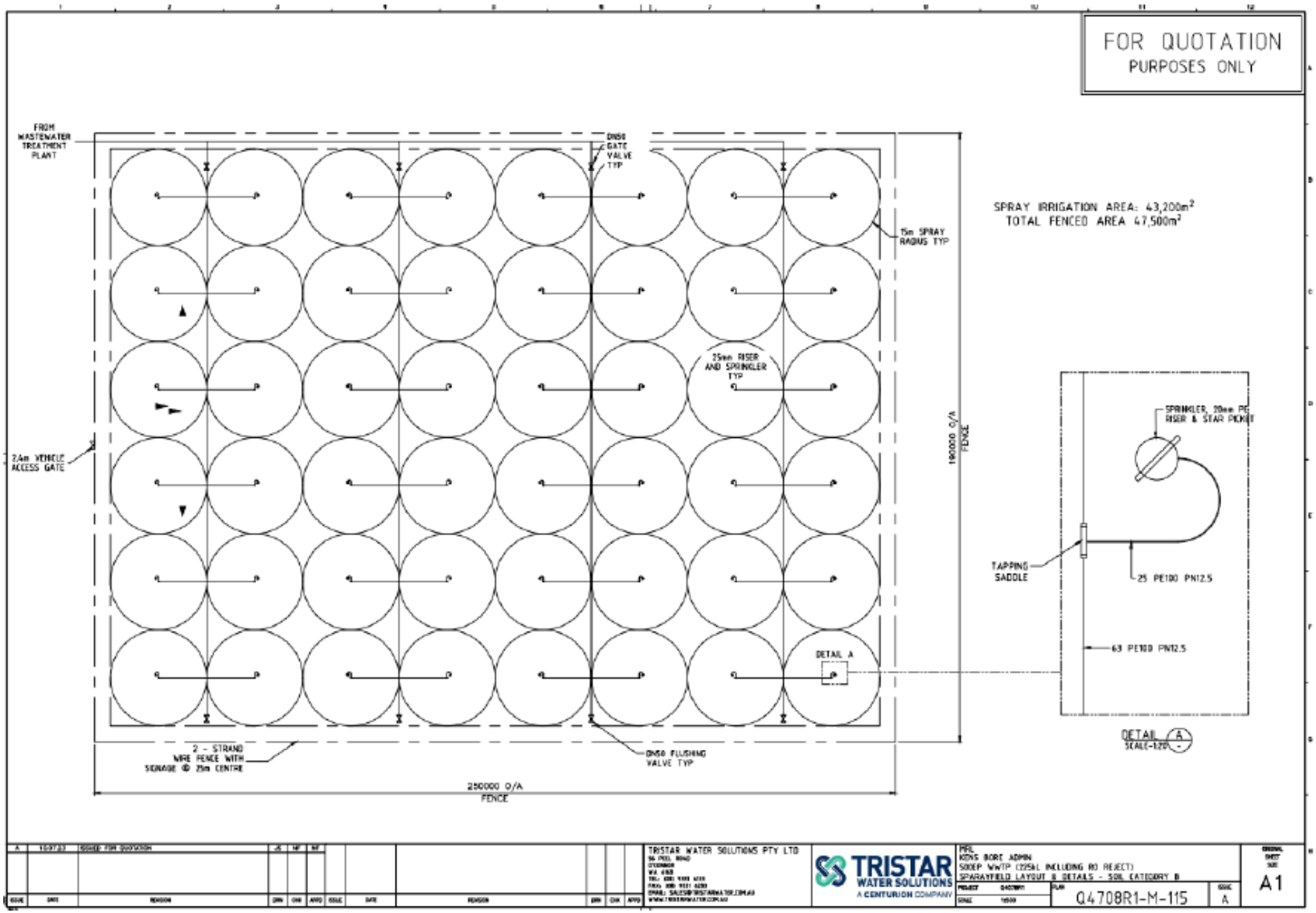

Figure 6: Indicative general arrangement of CPF irrigation spray field

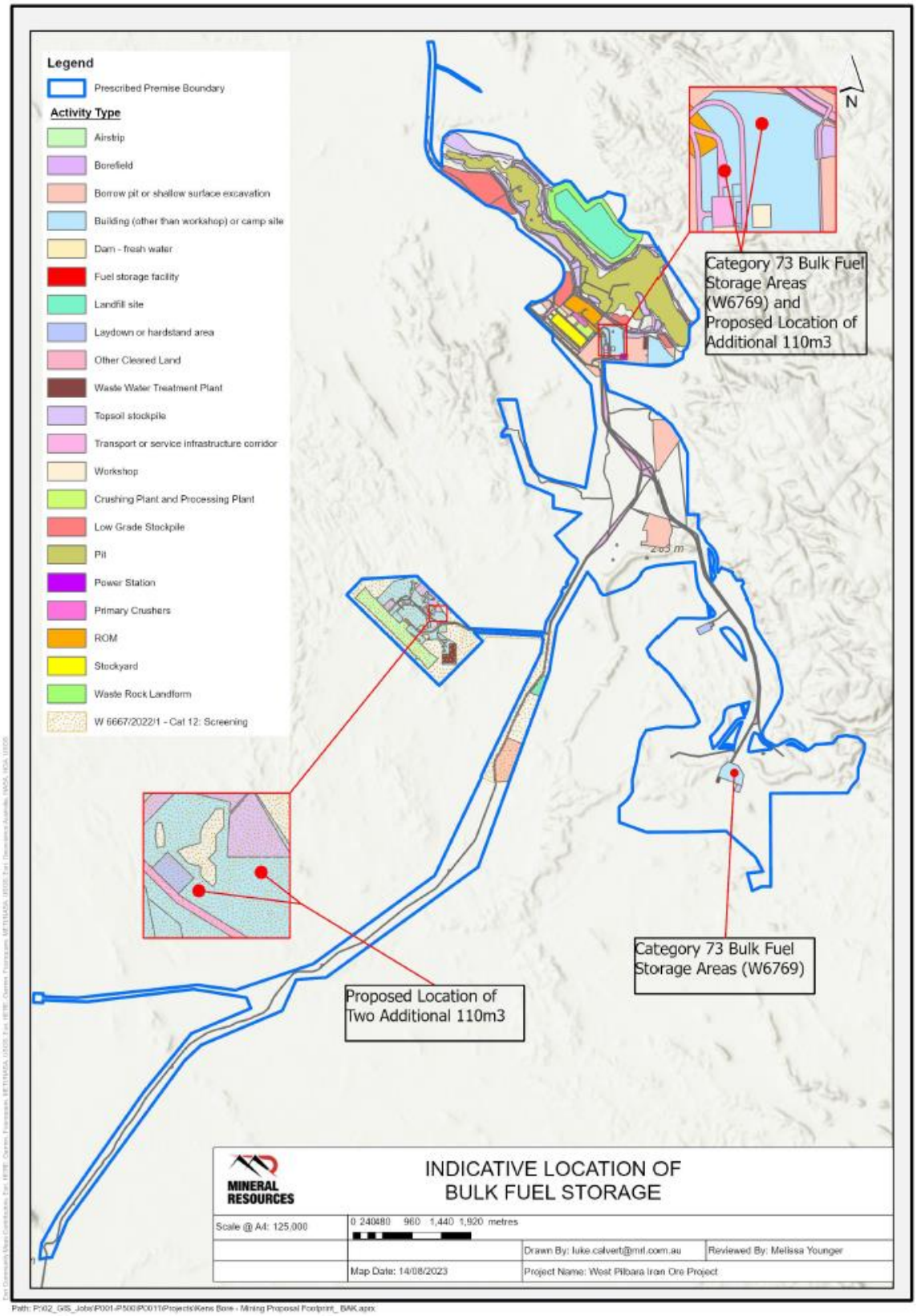

Figure 7: Location of additional bulk fuel storage

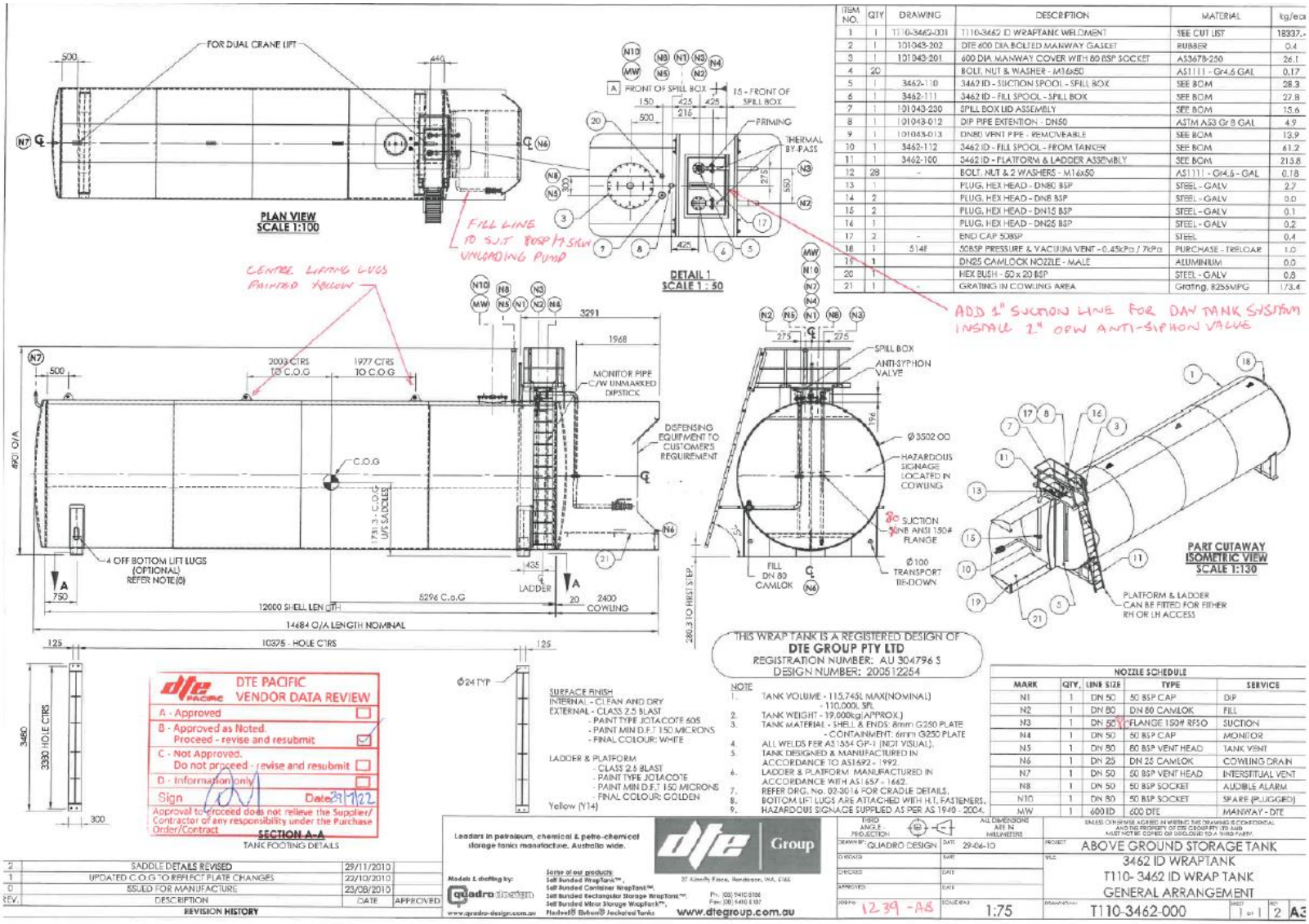

Figure 8: Indicative design for each 110,000 L diesel storage tank