



Works Approval

Works approval number W6970/2024/1

Works approval holder Hamersley HMS Pty Ltd
ACN 115 004 129
Registered business address Level 18, Central Park
152-158 St Georges Terrace
PERTH WA 6000

DWER file number INS-0002807 and DER2024/000514

Duration 04/03/2025 to 03/03/2028

Date of issue 04/03/2025

Premises details Hope Downs 1 Multi-User Camp
Legal description -
Part of mining tenement M282SA
As defined by the coordinates in Schedule 2

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed design capacity
Category 54: Sewage facility	200 cubic metres per day

This works approval is granted to the works approval holder, subject to the attached conditions, on 4 March 2025, by:

Melissa Chamberlain
MANAGER WASTE INDUSTRIES

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

Works approval history

Date	Reference number	Summary of changes
4/03/2025	W6970/2024/1	Works approval granted.

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. This works approval does not provide authorisation to implement or undertake any works in relation to a proposal referred under Part IV of the EP Act.

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 install the infrastructure;
 - (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. WWTP	(a) Must be designed to treat up to 200 m ³ of sewage per day to the following criteria: <ol style="list-style-type: none"> (i) TN: < 20 mg/L; (ii) TP: < 7.5 mg/L; (iii) faecal coliforms: <1,000 cfu/100 mL; (iv) BOD: < 20 mg/L; (v) TSS: < 30 mg/L; (vi) pH: 6.5 - 8.5; (vii) DO: > 2 mg/L; and (viii) residual chlorine: 0.2 - 2.0 mg/L; (b) Must be constructed and installed according to the specifications in Figure 3 and comprise the following: <ol style="list-style-type: none"> (i) five 50 kL balance tanks; (ii) a pre-treatment denitrification process; (iii) five SBR process trains, each with a 50 m³ treatment capacity; (iv) a chlorine dosing system; (v) a nitrogen and phosphorous removal system; (vi) five 50 kL irrigation storage tanks; and (vii) one 50 kL waste activated sludge tank; (c) A process control and telemetry system must be installed that: <ol style="list-style-type: none"> (i) allows remote operation and monitoring of the treatment process; (ii) includes level sensors in all treatment and storage tanks; and (iii) notifies the operator of high water levels, pump failures and other failures; 	As shown in Figure 2 and Figure 3

Infrastructure		Design and construction / installation requirements	Infrastructure location
1.	WWTP	<p>(d) Must be situated atop a concrete hardstand or compacted earthen pad provided with appropriate bunding and sumps to contain spills and overflows;</p> <p>(e) Volumetric flow meters must be installed to monitor sewage inflow volumes to the WWTP and blended effluent volumes discharged to the irrigation sprayfield; and</p> <p>(f) Stormwater must be prevented from entering the sewage treatment system and storage infrastructure.</p>	As shown in Figure 2 and Figure 3
2.	Irrigation sprayfield	<p>(a) Must be at least 10.6 ha in size and have perimeter bunding to ensure no surface run off leaves the irrigation area;</p> <p>(b) A telemetry system must be installed or incorporated with the WWTP telemetry system that allows remote operation and monitoring of the irrigation area;</p> <p>(c) Logic and manual controls must be installed that distribute the sprayfield into separate irrigation zones so that irrigation can be ceased or targeted to specific areas;</p> <p>(d) Sprinklers must have 360° rotating heads and be installed in an evenly spaced, non-overlapping manner to ensure even distribution of blended effluent across the spray field; and</p> <p>(e) Must have a perimeter fence with visible safety signage installed to deter access.</p>	Spray Field as shown in Figure 2 and Figure 4
3.	Sludge drying bed	<p>(a) Must be comprised of an impermeable concrete slab, recovery sump and bund walls; and</p> <p>(b) Transfer pipelines and pumps must be installed so that all liquids collecting in the sludge drying bed can be returned to the WWTP.</p>	Waste Sludge Drying Bed as shown in Figure 3
4.	All infrastructure	<p>(a) Storage and treatment tanks, vessels, transfer pipelines and conveyance infrastructure must be impermeable and free of leaks and defects; and</p> <p>(b) Above ground pipelines located adjacent to vehicle access tracks must be sufficiently protected from vehicle strikes.</p>	N/A

Compliance reporting

2. The works approval holder must within 60 calendar days of an item of infrastructure 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 person that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;
 - (b) for each certification under condition 3(a), the reasons why the person is a suitably qualified person in relation to that item of infrastructure or component(s) thereof;
 - (c) supporting information such as testing reports, photographs or other documentation as relevant, to demonstrate the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;
 - (d) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and
 - (e) 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 and emission limits

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
WWTP	(a) Limited to wet commissioning and biological commissioning activities; (b) Wet commissioning is to comprise: <ol style="list-style-type: none"> (i) energisation of the system, leak testing, flow testing, testing of level and flow instrumentation and testing of the complete automated process; and (ii) undertaking site acceptance tests to verify all components meet performance and functional requirements; 	(a) Wet commissioning may be undertaken for the duration necessary to achieve successful completion; and (b) Biological commissioning must not exceed 90 calendar days in aggregate.
Irrigation sprayfield	(c) Wet commissioning must only be undertaken with potable water;	

Infrastructure	Commissioning requirements	Authorised commissioning duration
Sludge drying bed	(d) Biological commissioning is to comprise: (i) the inflow of no more than 200 m ³ /day of sewage to the system; and (ii) bioaugmentation to inoculate the treatment system with suitable bacteria and build biomass;	(a) Wet commissioning may be undertaken for the duration necessary to achieve successful completion; and (b) Biological commissioning must not exceed 90 calendar days in aggregate.
All infrastructure	(e) Biological commissioning must only commence after wet commissioning has been successfully completed;	
	(f) Liquids collecting in the sludge drying bed must be returned to the WWTP for reprocessing; and (g) Dewatered and dried sludge geobags must be disposed to an approved landfill facility.	

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

Table 3: Authorised discharge points during commissioning

Emissions	Discharge point	Discharge point location
1. Blended effluent comprising treated sewage and RO brine	Sprinklers within the irrigation sprayfield	Spray Field as shown in Figure 2 and Figure 4

Monitoring during environmental commissioning

7. The works approval holder must monitor emissions during environmental commissioning in accordance with Table 4 and record the results of the monitoring.

Table 4: Emissions and discharge monitoring during environmental commissioning

Discharge point	Monitoring location	Parameter	Unit	Frequency	Averaging period	Method
Sprinklers within the irrigation sprayfield	Irrigation pump sample point	pH ¹	-	Fortnightly	N/A	Spot sample in accordance with AS/NZS 5667.1 and AS/NZS 5667.10
		EC ¹	µS/cm			
		TN	mg/L			
		TP				
		BOD ₅				
		TSS				
		Residual Cl				
<i>E. coli</i>	cfu/100 mL					

Discharge point	Monitoring location	Parameter	Unit	Frequency	Averaging period	Method
Sprinklers within the irrigation sprayfield	Irrigation pump flow meter	Discharge volume	kL or m ³ /day	Continuous	Monthly	Flow meter

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

Environmental commissioning report

8. 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.
9. The works approval holder must ensure the Environmental Commissioning Report required by condition 8 of this works approval includes the following:
 - (a) a summary of the environmental commissioning activities undertaken, including timeframes, the amount of sewage processed and blended effluent discharged;
 - (b) the point-source emissions monitoring results recorded in accordance with condition 7;
 - (c) a summary of the environmental performance of each item of infrastructure as constructed or installed, which at minimum includes records detailing the:
 - (i) leak and flow testing of infrastructure;
 - (ii) the commissioning of the process control and telemetry system;
 - (iii) the biological commissioning of the WWTP;
 - (iv) the commissioning of the irrigation system; and
 - (v) a comparison of the discharge monitoring results in comparison to the design requirements specified in condition 1;
 - (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

10. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1 once the Environmental Commissioning Report required by condition 8 has been submitted by the works approval holder.
11. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 12:
 - (a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 10 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 EP Act, if one is granted before the end of the period specified in condition 11(a).

Time limited operations requirements and emission limits

12. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 5 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirements set out in Table 5.

Table 5: Infrastructure and equipment requirements during time limited operations

Infrastructure		Operational requirements	Infrastructure location
1.	WWTP	(a) Must be comprised of the following: <ol style="list-style-type: none"> (i) five 50 kL balance tanks; (ii) a pre-treatment denitrification process; (iii) five SBR process trains, each with a 50 m³ treatment capacity; (iv) a chlorine dosing system; (v) a nitrogen and phosphorous removal system; (vi) five 50 kL irrigation storage tanks; and (vii) one 50 kL waste activated sludge tank; (b) Must be operated according to the manufacturer’s design and operational specifications; (c) The process control and telemetry system includes functioning sensors in all treatment and storage tanks that allows remote operation and monitoring of the treatment process and notifies the operator of high water levels, pump failures and other failures; (d) The integrity of pads, hardstands, bunding and sumps is maintained to contain spills and overflows; (e) Volumetric flow meters are maintained to monitor sewage inflow volumes and blended effluent volumes discharged to the irrigation sprayfield; and (f) Stormwater is prevented from entering the sewage treatment system and storage infrastructure.	As shown in Figure 2 and Figure 3

Infrastructure		Operational requirements	Infrastructure location
2.	Irrigation sprayfield	(a) Irrigation coverage over an area of at least 10.6 ha must be maintained using 360° rotating sprinkler heads that are evenly spaced in a non-overlapping manner; (b) Perimeter bunding must be maintained to ensure no surface run off leaves the irrigation area; (c) The irrigation system must be maintained to allow remote operation, zone control and monitoring of the irrigation area; (d) A perimeter fence with visible safety signage must be maintained to deter access.	Spray Field as shown in Figure 2 and Figure 4
3.	Sludge drying bed	(a) The integrity of the concrete slab, recovery sump and bund walls must be maintained to ensure containment of liquids; and (b) All liquids collecting in the sludge drying bed must be returned to the WWTP for reprocessing.	Waste Sludge Drying Bed as shown in Figure 3
4.	All infrastructure	(a) Storage and treatment tanks, vessels, transfer pipelines and conveyance infrastructure must be impermeable and free of leaks and defects; and (b) Above ground pipelines located adjacent to vehicle access tracks must be sufficiently protected from vehicle strikes.	N/A

13. During time limited operations, the works approval holder must ensure that the WWTP only receives waste of a type that:

- (a) does not exceed the rate at which that waste is received; and
 - (b) meets the relevant acceptance specification,
- as set out in Table 6.

Table 6: Waste acceptance criteria during time limited operations

Waste type		Rate at which waste is received	Acceptance specification
1.	Sewage	No more than 200 m ³ /day	(a) Sourced only from accommodation facilities for the Hope Downs mining projects.
2.	RO brine	No more than 70 kL/day	(a) Sourced only from potable water treatment for the Hope Downs mining projects.

14. During time limited operations, the works approval holder must ensure that the waste types specified in Table 7 are only subjected to the corresponding processes, subject to the corresponding process limits and specifications.

Table 7: Waste processing during time limited operations

Waste type		Processes	Process limits and specifications
1.	Sewage	Biological, chemical and physical treatment followed by disinfection	(a) Sewage must be treated to the following final effluent criteria: (i) TN: < 20 mg/L; (ii) TP: < 7.5 mg/L; (iii) faecal coliforms: <1,000 cfu/100 mL; (iv) BOD: < 20 mg/L; (v) TSS: < 30 mg/L; (vi) pH: 6.5 - 8.5; (vii) DO: > 2 mg/L; and (viii) residual chlorine: 0.2 - 2.0 mg/L.
2.	RO brine	Blending and dilution with treated sewage	(a) Blending must occur in the irrigation storage tanks and RO brine must not be input to the SBR treatment process.
3.	Blended effluent comprising treated sewage and RO brine	Disposal via irrigation	(a) Irrigation must be managed to prevent ponding and pooling of blended effluent; (b) No irrigation generated runoff, spray drift or discharge is to occur beyond the boundary of sprayfield; and (c) Irrigation must be ceased in areas showing high levels of soil saturation and ponding.
4.	Sewage sludge	Reuse in treatment processes, dewatering by evaporation and disposal off site	(a) Sludge dewatering must occur in geobags located in the sludge drying bed; (b) All liquids collecting in the sludge drying bed must be returned to the WWTP for reprocessing; and (c) Dewatered and dried sludge geobags must be disposed to an approved landfill facility.

15. During time limited operations, the works approval holder must ensure that the emission specified in Table 8, are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 8: Authorised discharge points

	Emission	Discharge point	Discharge point location
1.	Blended effluent comprising treated sewage and RO brine	Sprinklers within the irrigation sprayfield	Spray Field as shown in Figure 2 and Figure 4

16. During time limited operations, the works approval holder must ensure that the emissions from the discharge point listed in Table 9 do not exceed the corresponding limits when monitored in accordance with condition 17.

Table 9: Emission and discharge limits during time limited operations

Discharge point	Parameter	Limit
Sprinklers within the irrigation sprayfield	Discharge volume	270 kL/day
	TN	20 mg/L
	TP	7.5 mg/L
	<i>E. coli</i>	1,000 cfu/100 mL
	BOD	20 mg/L
	TSS	30 mg/L
	EC	2,800 mg/L
	pH	< 6.5 and > 8.5
	Residual chlorine	< 0.2 mg/L and > 2 mg/L

Monitoring during time limited operations

17. The works approval holder must monitor emissions during time limited operations in accordance with Table 10 and record the results of the monitoring.

Table 10: Emissions and discharge monitoring during time limited operations

Discharge point	Monitoring location	Parameter	Unit	Frequency	Averaging period	Method
Sprinklers within the irrigation sprayfield	Irrigation pump sample point	pH ¹	-	Quarterly	N/A	Spot sample in accordance with AS/NZS 5667.1 and AS/NZS 5667.10
		EC ¹	µS/cm			
		TN	mg/L			
		TP				
		BOD ₅				
		TSS				
		Residual chlorine				
	<i>E. coli</i>	cfu/100 mL				
Irrigation pump flow meter	Discharge volume	kL or m ³ /day	Continuous	Monthly	Flow meter	

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

Time limited operations report

18. 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.
19. The works approval holder must ensure the report required by condition 18 includes the following:
 - (a) a summary of the time limited operations, including timeframes, amount of sewage processed, RO brine received and blended effluent discharged;
 - (b) a summary of the discharge monitoring results obtained during time limited operations under condition 17.
 - (c) a summary of the environmental performance of all infrastructure as constructed or installed;
 - (d) a review of performance and compliance against the conditions of the works approval and the Environmental Commissioning Report; 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.

Requirements (all phases)

20. The works approval holder must:
 - (a) immediately recover, or remove and dispose of, spills of environmentally hazardous materials including fuel, oil, or other hydrocarbons located outside an engineered containment system; and
 - (b) ensure that all material used for the recovery, removal, and/or disposal of environmentally hazardous materials is stored in an impermeable container prior to disposal at an appropriately authorised facility.
21. The works approval holder must ensure that all sample analysis undertaken pursuant to conditions 7 and 17 is undertaken by a holder of a current accreditation from NATA for the methods of analysis relevant to the corresponding parameter.

Records and reporting (general)

22. 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.

- 23.** 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) the commissioning of infrastructure conducted in accordance with condition 5;
 - (c) any maintenance of infrastructure that is performed in the course of complying with condition 12;
 - (d) monitoring programmes undertaken in accordance with conditions 7 and 17; and
 - (e) complaints received under condition 22.
- 24.** The books specified under condition 23 must:
- (a) be legible;
 - (b) if amended, be amended in such a way that the original version(s) 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 11 have the meanings defined.

Table 11: Definitions

Term	Definition
AS/NZS 5667.1	means Australian and New Zealand Standard AS/NZS 5667.1 <i>Water quality — Sampling, Part 1: Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples.</i>
AS/NZS 5667.10	means Australian and New Zealand Standard AS/NZS 5667.10 <i>Water quality — Sampling, Part 10: Guidance on sampling of waste waters.</i>
BOD	biological 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 <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
cfu/100 mL	colony forming units per 100 millilitres
Cl	chlorine
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> 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.
DO	dissolved oxygen
<i>E. coli</i>	<i>Escherichia coli</i>
EC	electrical conductivity
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.

Term	Definition
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	<i>Environmental Protection Act 1986 (WA).</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA).</i>
NATA	National Association of Testing Authorities, Australia
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
SBR	sequential batch reactor
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.
TN	total nitrogen
TP	total phosphorus
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.
WWTP	Wastewater treatment plant

END OF CONDITIONS

Schedule 1: Maps

Premises map

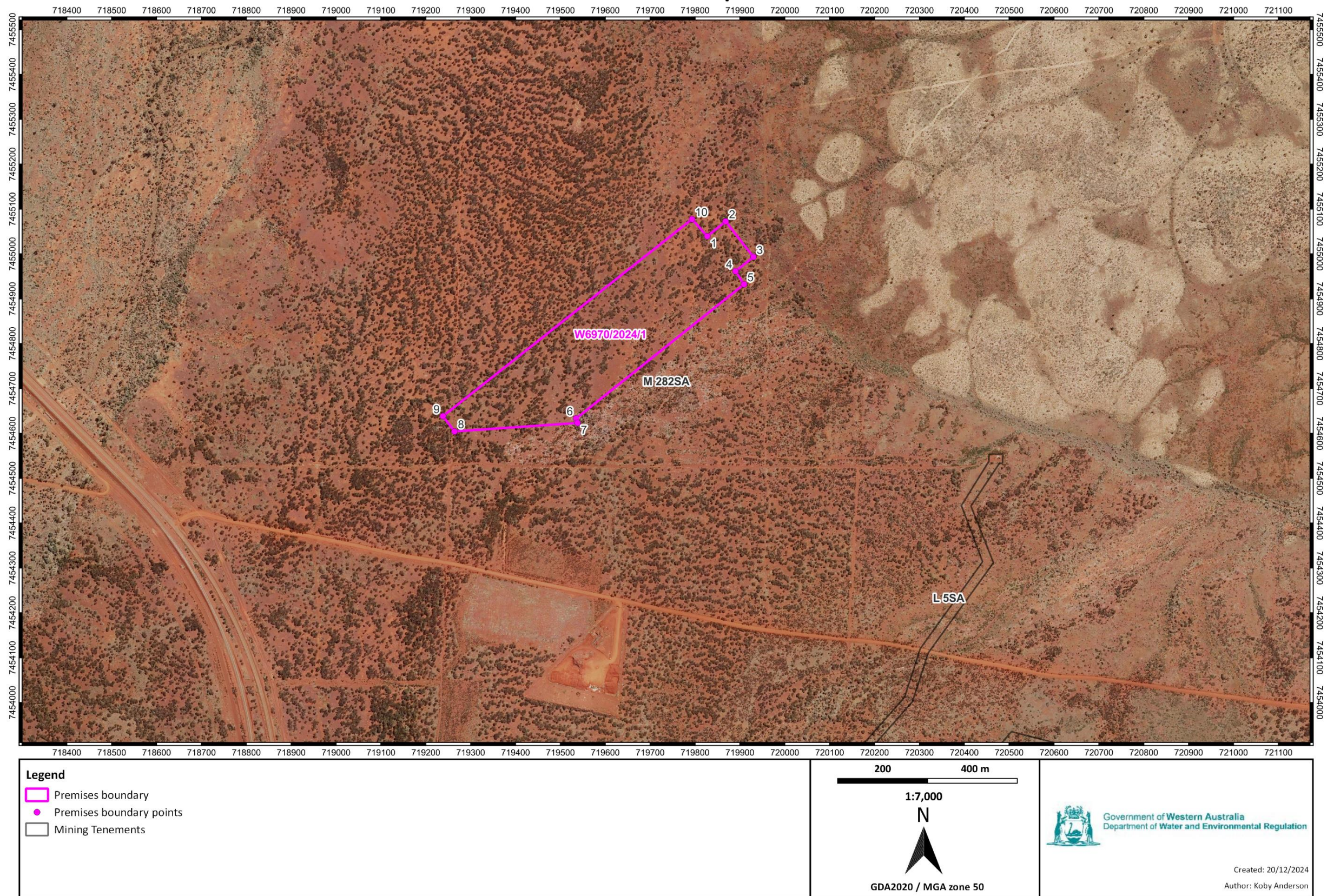


Figure 1: Map of the boundary of the prescribed premises

W6970/2024/1 (4 March 2025)

IR-T05 Works approval template (v6.0) (September 2022)

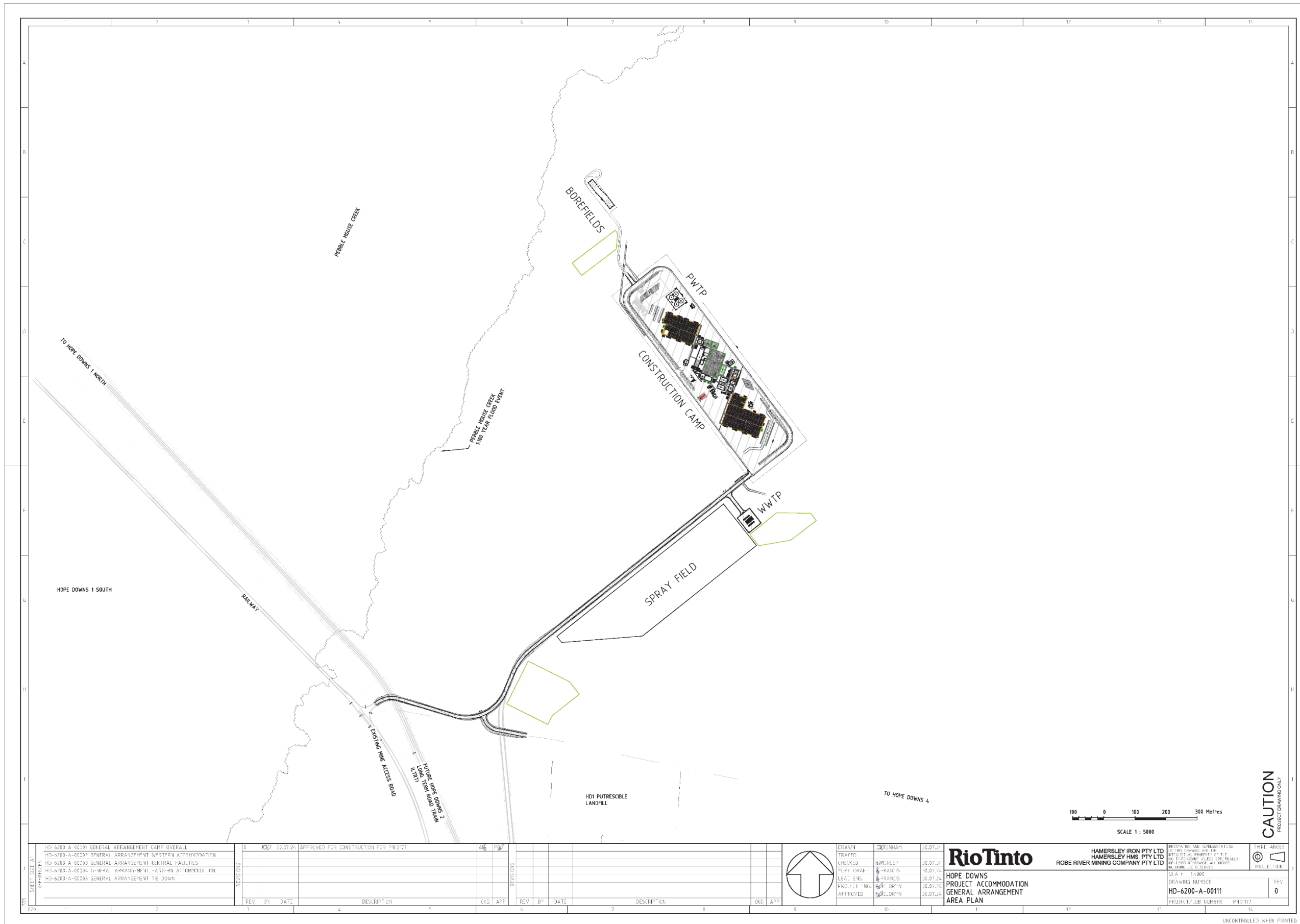
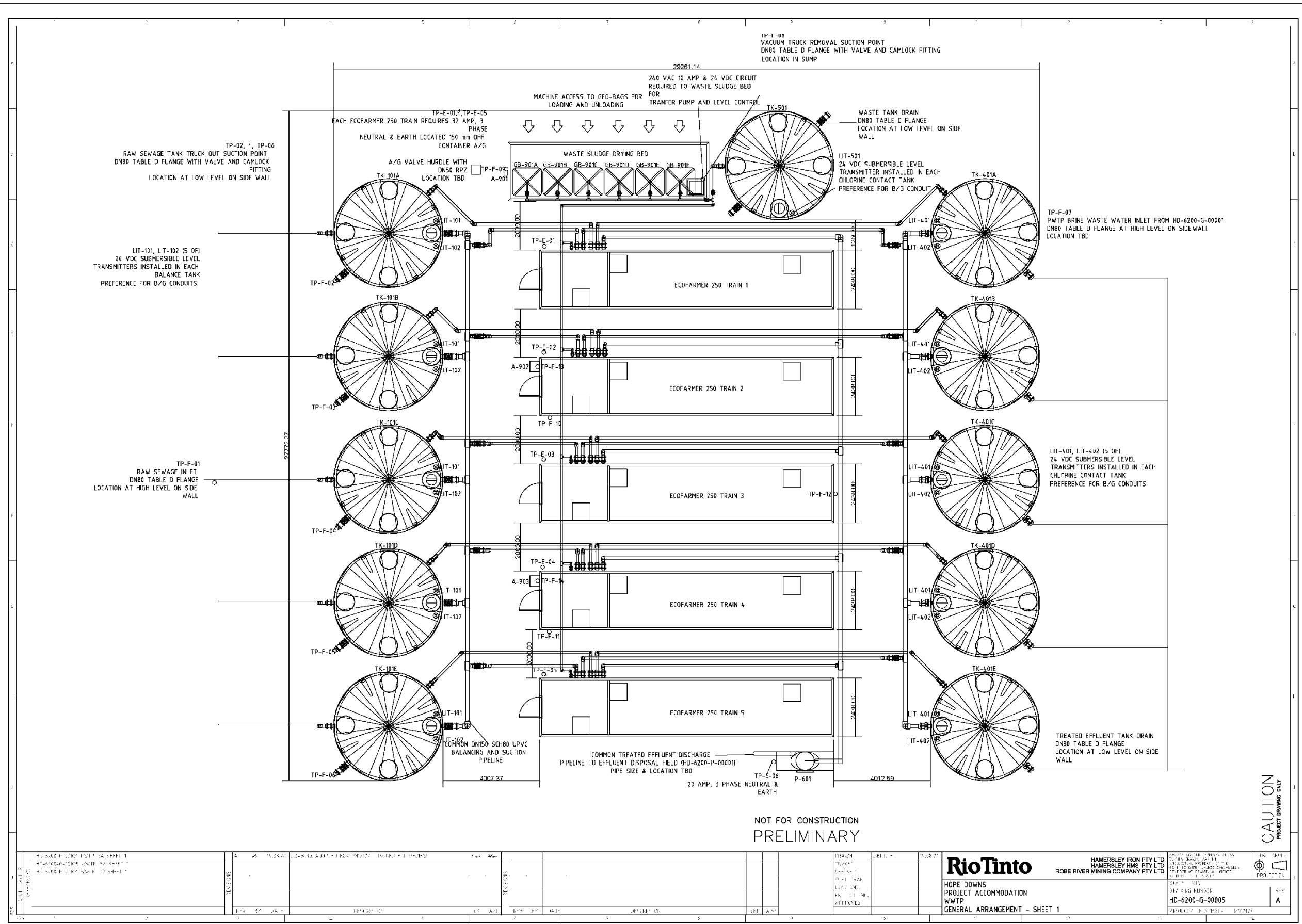


Figure 2: Site plan

W6970/2024/1 (4 March 2025)

IR-T05 Works approval template (v6.0) (September 2022)



NOT FOR CONSTRUCTION
PRELIMINARY

CAUTION
PROJECT DRAWING ONLY

		HAMERSLEY IRON PTY LTD HAMERSLEY HMS PTY LTD ROBE RIVER MINING COMPANY PTY LTD
HOPE DOWNS PROJECT ACCOMMODATION WWTP GENERAL ARRANGEMENT - SHEET 1		DRAWING NUMBER HD-6200-G-00005

Figure 3: WWTP arrangement

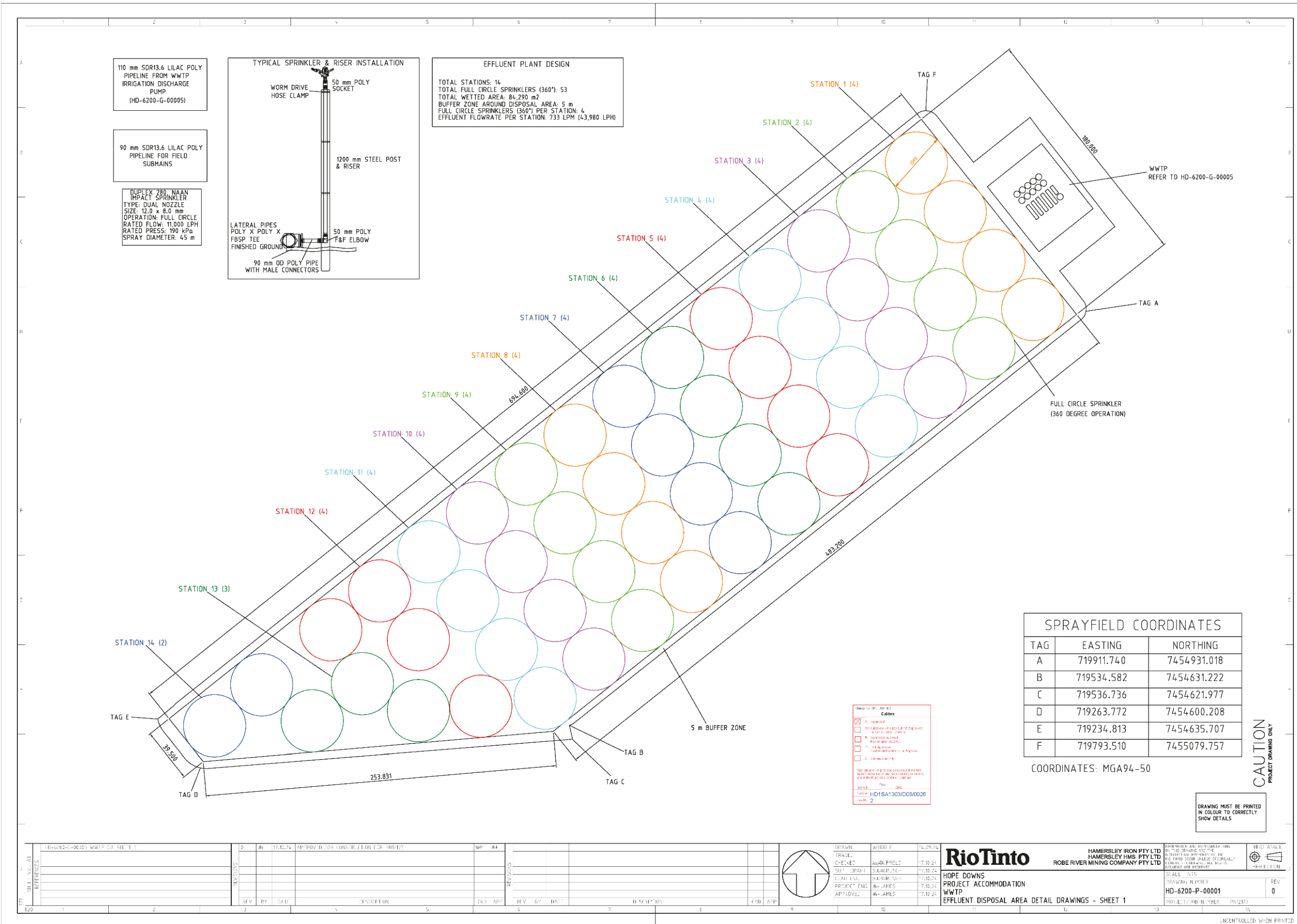


Figure 4: Irrigation sprayfield arrangement

Schedule 2: Premises boundary

The vertices of the premises boundary are the coordinates listed in Table 12.

Table 12: Premises boundary coordinates (GDA2020 MGA Zone 50)

	Easting	Northing		Easting	Northing
1.	719827	7455039	6.	719535	7454633
2.	719868	7455072	7.	719538	7454623
3.	719930	7454993	8.	719264	7454604
4.	719890	7454961	9.	719238	7454638
5.	719909	7454932	10.	719793	7455077