Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6616/2021/1
Works approval holder	Fortescue Ltd
ACN	002 594 872
Registered business address	Level 2/87 Adelaide Terrace EAST PERTH WA 6004
DWER file number	DER2021/000623
Duration	24/06/2022 to 23/06/2028
Date of issue	24/06/2022
Date amendment	09/01/2025
Premises details	Rail Camp 145 Mining Tenement L1SA Town of Port Hedland WA 6721 As defined by the premises map and coordinates in Schedules 1 and 2

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed design capacity**
Category 85: Sewage facility	80 m^3 per day

This works approval is granted to the works approval holder, subject to the attached conditions, on 09 January 2025, by:

Sonya Poor
Digitally signed by Sonya Poor
Date: 2025.01.09 09:43:23 +08'00'

A/MANAGER, RESOURCE INDUSTRIES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Works approval history

Date	Reference number	Summary of changes
24/06/2022	W6616/2021/1	Works approval granted
09/01/2025	W6616/2021/1	Works approval duration extended by 3 years from 23/06/2025 to 23/06/2028 Works approval holder updated to Fortescue Ltd Premises details updated to reflect Mining Tenement L1SA (previously stated G45/286)

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.	Wastewater Treatment Plant (WWTP) and pipelines	The sewage treatment system must be designed and constructed to meet the following specifications: (a) All above ground infrastructure located on an impervious, bunded area. (b) All sewage storage and treatment tanks, transfer pipelines and conveyance infrastructure must be impermeable and free of leaks and defects. (c) The WWTP will consist of: ○ 2 x 45,000L Balance Tanks ○ Waste Activated Sludge Tank ○ Sequential Batch Reactor (SBR) and Primary, Flow Balance and Plant Room ○ Final Effluent/Chlorine Contact Tanks (3 x 45,000L tanks) (d) WWTP must have capacity to treat 50 m^3 per day of sewage and receive 30 m^3 per day of Reverse Osmosis (RO) reject water, with a capacity to contain a combined final effluent of 80 m^3 per day. (e) WWTP able to treat sewage to the following discharge targets; • Biochemical Oxygen Demand (BOD) <20 mg/L • Total Suspended Solids <30 mg/L • Total Nitrogen <20 mg/L • Total Phosphorus <2 mg/L • Thermotolerant coliforms <10 colony forming units /100ml	Depicted in Schedule 1, Figure 1 as “WWTP and Proposed WWTP” and Figure 2

	Infrastructure	Design and construction / installation requirements	Infrastructure location
		• pH 6.5-8.5 (f) Flow meter installed to discharge outlet pipe to monitor volumes discharged to spray field. (g) Flow meter installed to discharge outlet pipe to monitor volumes of RO Reject Water to WWTP. (h) Incorporate an alarm system which will activate in the event of: i) pump faults; ii) high tank levels; and iii) tank overflows. (i) Allow for manual operation if necessary. (j) All sewage conveyance, storage and treatment infrastructure must be designed and constructed to ensure that stormwater does not enter the sewage treatment system and sewage and treated wastewater storage infrastructure.	
2.	Irrigation spray field	The spray field must be designed and constructed so as to meet the following specifications: (a) Approximately 150 Sprinklers installed to distribute treated effluent evenly over a minimum 1.7 ha area; (b) Fence with safety signage installed to deter access.	Depicted in Schedule 1, Figure 1 as "existing and proposed irrigation sprayfield"

Environmental 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(s) 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 qualified and experienced engineer 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) 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 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
1.	WWTP and pipeline	(a) Sludge is contained within sealed sludge tanks prior to removal by a licensed waste carrier for disposal to a licensed disposal facility; (b) Volumetric flow meter is maintained on the WWTP outlet to the irrigation sprayfield; (c) Volumes of treated effluent discharged during commissioning are recorded; and (d) Spills of wastewater or chemicals outside of a vessel/container/pipeline are cleaned up immediately.	For a period not exceeding 60 calendar days in aggregate
2.	Irrigation spray field	(a) Irrigation is managed to prevent ponding and pooling of effluent on the ground surface of the irrigation spray field. (b) No effluent is permitted to runoff or discharge beyond the Irrigation spray field. (c) RO reject water must be diluted within WWTP final tanks before being discharged into the irrigation sprayfield.	

6. During environmental commissioning, the works approval holder must ensure that the emission specified in Table 3, are discharged only in accordance with the requirements specified in that table.

Table 3: Treated wastewater disposal requirements

Emission	Discharge point	Limit
Combined Treated effluent from WWTP	Must only be discharged to the irrigation sprayfield as depicted in Schedule 1, Figure 1	Irrigated at a rate of no more than 80 m^3 per day (combined effluent consisting of 50 m^3 of treated effluent and 30 m^3 of RO reject water).

Monitoring during environmental commissioning

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

Table 4: Emissions and discharge monitoring during environmental commissioning

Discharge Point	Monitoring Location	Parameter	Frequency	Averaging Period	Unit	Method
WWTP final tank	Flow meter from RO to WWTP final tank	Cumulative volumetric flow	Daily or continuous online	N/A	m^3 /day	-
Irrigation sprayfield	Flow meter to irrigation field	Cumulative volumetric flow discharge to sprayfield	Daily or continuous online	N/A	m^3 /day	-
	WWTP outlet pipe	Total Nitrogen	Weekly	Spot Sample	mg/L	Sample collection and preservation as per AS/NZS 5667.1; analysis as per AS/NZS 5667.10 Analysis conducted by a laboratory with NATA accreditation.
		Total Phosphorus				
		Biochemical oxygen demand				
		Total suspended solids				
		Total Dissolved Solids			mg/L	
		Thermo-tolerant Faecal Coliforms			colony forming units /100mL	
		pH	Weekly or continuous online		pH units	N/A

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 date(s) for commencement of commissioning, timeframes and amount of wastewater processed;

(b) a summary of treated effluent monitoring results recorded in accordance with condition 7;

(c) copies of laboratory reports for treated effluent monitoring results recorded in accordance with condition 7;

(d) a summary of the environmental performance of each item of infrastructure or equipment as installed, which at minimum includes:

(i) a comparison of the treated effluent monitoring results against discharge targets specified in Table 1;

(ii) assessment of the irrigation sprayfield performance against operational requirements in condition 5 ;

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

(f) 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 Table 5 where the Environmental Commissioning Report for that item of infrastructure as 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 90 calendar days from the day the works approval holder meets the requirements of condition 9 for that item of infrastructure.

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 requirement set out in Table 5.

Table 5: Infrastructure and equipment requirements during time limited operation.

	Infrastructure and equipment	Operational Requirements	Infrastructure location
1.	WWTP and Pipeline	(a) Record volumes of Reverse Osmosis Reject Water and treated effluent being combined and discharged during time limited operations. (b) Spills of wastewater, or chemicals outside of a vessel/container/pipeline are cleaned up immediately. (c) Sludge is contained within sealed sludge tanks prior to removal by a licensed waste carrier for disposal to a licensed disposal facility.	Depicted in Schedule 1, Figure 1 as "WWTP and Proposed WWTP" and Figure 2
2.	Irrigation sprayfield	(a) Irrigation is managed to prevent ponding and pooling of effluent on the ground surface of the irrigation spray field. (b) No more than 80 m^3 of effluent is discharged to the irrigation spray-field per day. (c) No effluent is permitted to runoff or discharge beyond the Irrigation spray field. (d) RO reject water must be diluted within WWTP final tanks before being discharged into the irrigation sprayfield.	Depicted in Schedule 1, Figure 1 as "existing and proposed irrigation sprayfield"

13. The works approval holder must ensure that during time limited operations, the treated wastewater is only discharged in accordance with the discharge limits specified in Table 6.

Table 6: Treated wastewater irrigation emission and discharge limits

Parameter	Unit	Concentration Limit
Total Nitrogen	mg/L	≤ 20
Total Phosphorus		≤ 2
Biochemical oxygen demand		≤ 20
Total suspended solids		≤ 30
pH	pH units	6.5-8.5
Thermo-tolerant Faecal Coliforms	colony forming units /100mL	≤ 10
Total Dissolved Solids	mg/L	≤ 1,396mg/L

Monitoring during time limited operations

14. The works approval holder must monitor emissions and record the results of monitoring during time limited operations in accordance with Table 7.

Table 7: Emissions and discharge monitoring during time limited operations

Discharge Point	Monitoring Location	Parameter	Frequency	Averaging Period	Unit	Method
WWTP final tank	Flow meter from RO to WWTP final tank	Cumulative volumetric flow	Daily or continuous online	N/A	m^3 /day	-
Irrigation sprayfield	Flow meter to irrigation field	Cumulative volumetric flow discharge to sprayfield	Daily or continuous online	N/A	m^3 /day	-
	Sewage treatment plant outlet	Total Nitrogen	Monthly	Spot Sample	mg/L	Sample collection and preservation as per AS/NZS 5667.1; and AS/NZS 5667.11. Analysis conducted by a laboratory with NATA accreditation.
		Total Phosphorus				
		Biochemical oxygen demand				
		Total suspended solids				
		Thermo-tolerant Faecal Coliforms			colony forming units /100mL	
		Total Dissolved Solids			mg/L	
		pH	Daily or continuous online		pH units	N/A

Time Limited Operation Compliance reporting

15. 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.

16. The works approval holder must ensure the report required by condition 15 includes the following:

(a) a summary of the time limited operations, including date(s) for commencement, timeframes and amount of treated wastewater discharged from the sewage treatment plant.

(b) a summary of monitoring results obtained during time limited operations under condition 14;

(c) copies of laboratory reports for treated effluent monitoring results recorded in accordance with condition 14;

(d) a comparison of the treated effluent monitoring results against discharge limits specified in Table 6;

(e) a review of performance and compliance against the conditions of the works approval and the Environmental Commissioning Report; and

(f) 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 (general)

17. 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.

18. 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 condition 5 and 12;

(c) monitoring programmes undertaken in accordance with condition 14; and

(d) complaints received under condition 17.

19. The books specified under condition 18 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 8 have the meanings defined.

Table 8: Definitions

Term	Definition
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 Water Quality – Sampling – Guidance on sampling of groundwaters
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
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).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
m^3	Cubic meters
mg/L	Milligram per liter

Term	Definition
monthly period	means a one-month period commencing from 15 of a month until 14 of the immediately following month.
NATA	National Association of Testing Authorities, Australia
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis.
premises	the premises to which this works approval applies, as specified at the front of this works approval 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.
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.
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 and design drawing

Figure 1: Map of the boundary of the existing and proposed prescribed premises

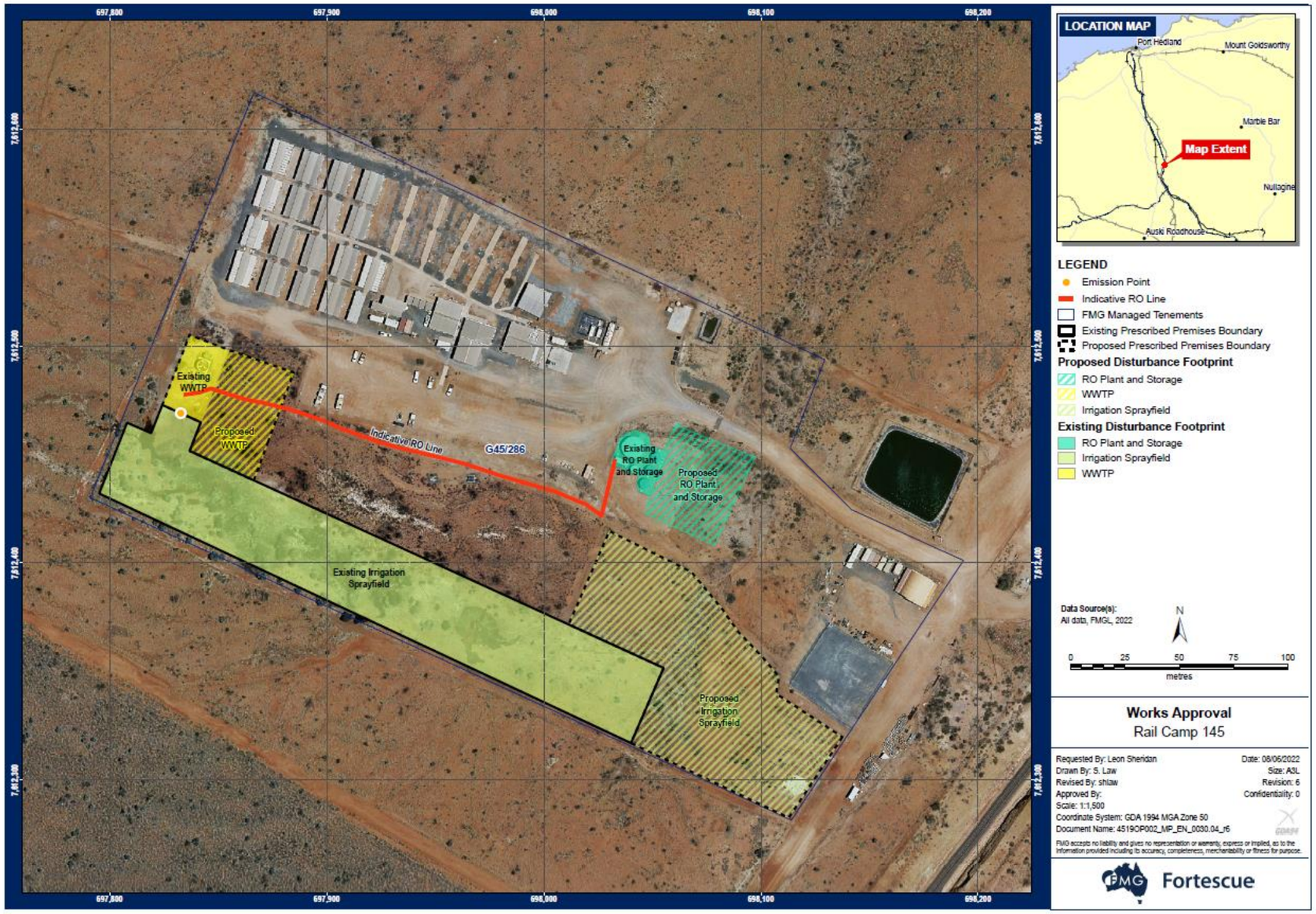
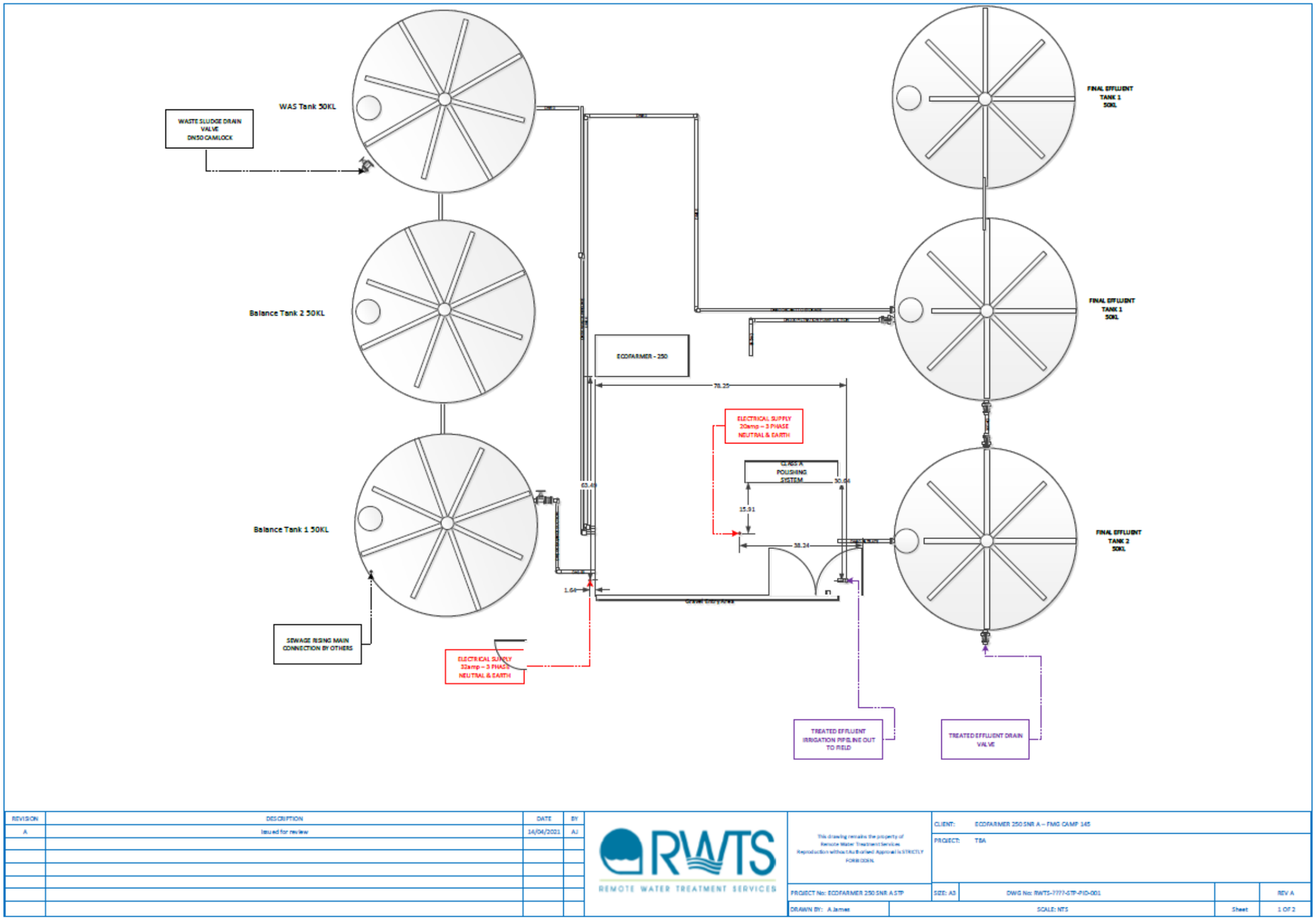
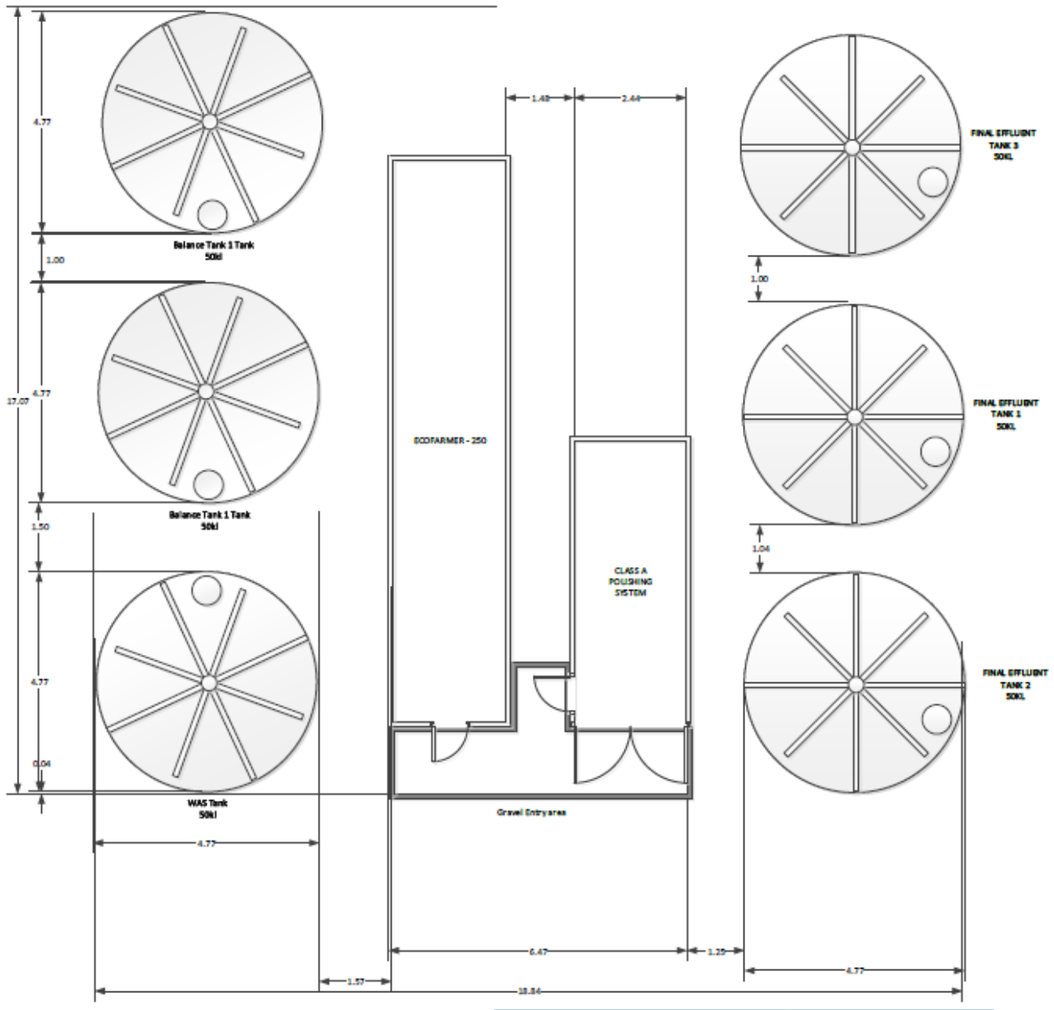


Figure 2: Design drawing of the Wastewater Treatment Plant.





REVISION	DESCRIPTION	DATE	BY
A	Issued for review	14/04/2021	AJ

REMOTE WATER TREATMENT SERVICES

CLIENT: ECOFARMER 250 SNR A – FMG CAMP 145

PROJECT: TBA

PROJECT No: ECOFARMER 250 SNR A STP | SIZE: A3 | DWG No: RWTS-????-STP-PID-001 | REV A

DRAWN BY: A James | SCALE: NTS Sheet | 2 OF 2

Schedule 2: Premises boundary

The premises boundary is defined by the coordinates in Table 9.

Table 9: Premises boundary coordinates (MGA 94 Zone 50)

Easting	Northing
697842	7612465
697836.8	7612452
698055.2	7612352
698040.2	7612317
697795.2	7612432
697808	7612465
697819.1	7612460
697824.3	7612473
697831.2	7612470
697842	7612465
698137.5	7612320
698112.8	7612283
698042.4	7612316
698040.2	7612317
698055.2	7612352
698011.4	7612372
698030.2	7612415
698068	7612396
698082	7612379
698089.7	7612368
698099.5	7612358
698100.6	7612357
698108.4	7612347
698107	7612340
698137.5	7612320
697873	7612456
697866.4	7612438
697836.8	7612452
697842	7612465
697831.2	7612470
697824.3	7612473
697824.7	7612474
697826	7612477
697836.9	7612505
697839.4	7612504
697847.3	7612501
697855	7612498
697884.8	7612488
697878.9	7612472
697873	7612456