Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6740/2022/1
Works approval holder	Lithco No.2 Pty Ltd.
ACN	612 726 922
Registered business address	Level 7, 20 Parkland Road OSBOURNE PARK WA 6017
DWER file number	DER2022/000447
Duration	02/11/2023 to 01/11/2028
Date of issue	02/11/2023
Premises details	Bald Hill Tantalite Project, Binneringie Road Shire of Coolgardie Mining Tenement M15/400

Prescribed premises category description (Schedule 1, ***Environmental Protection Regulations 1987***)	**Assessed design capacity**
Category 85: Sewage facility – premises (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.	80 cubic metres per day.

This works approval is granted to the works approval holder, subject to the attached conditions, on 2 November 2023, by:

Christine Pustkuchen

Digitally signed by Christine Pustkuchen
Date: 2023.11.02 15:51:16 +08'00'

A/MANAGER, RESOURCE 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
02/11/2023	W6740/2022/1	Works approval granted to construct and operate sewage facility (Category 85) and treated water pond.

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.	Tristar Sequential Batch Reactor (SBR) & Ultra Filtration (UF) Wastewater Treatment Plant (WWTP) - Tertiary treatment	(a) The Tristar WWTP is to be installed next to the existing Biomax WWTP which consists of: • 3 x 56,500L Anaerobic Treatment Tanks • 3 x 56,500L Aerobic Treatment Tank; and • 4 x 22,500L Clarification and Disinfection Treatment Tanks The Tristar WWTP must be designed and constructed to meet the following specifications: (b) All above ground infrastructure located on an impervious, bunded area; (c) All sewage storage and treatment tanks, transfer pipelines and conveyance infrastructure must be impermeable and free of leaks and defects; (d) The equipment and tanks will consist approximately of: • 1 x 50,000L Feed Water Tank; and • 1 x 50,000L Treated Water Storage Tank; (e) The plant should have capacity to treat a maximum of 80 m^3 per day; (f) Plant should be able to treat sewage to the following discharge criteria; • Total suspended solids = < 5 mg/L • Biochemical Oxygen Demand (BOD) = < 20 mg/L • Thermotolerant coliforms (*E. coli*) = < 1 colony forming units per 100 ml • FAC = > 0.5 mg/L	Labelled as 'Tertiary Treatment Plant' as depicted in Figure 2, Schedule 1

	Infrastructure	Design and construction / installation requirements	Infrastructure location
		• TDS = < 1000 mg/L • Residual free chlorine = 0.2 - 2 mg/L • Nitrogen = < 30 mg/L • Phosphorous = < 30 mg/L (g) Flow meter must be installed on discharge outlet pipe to monitor daily volume discharged to the TWP. (h) Plant must incorporate an alarm system which will activate in the event of: 1) pump faults; and 2) High tank levels; and 3) Tank Overflows. To prevent spills to the environment: (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; (k) Wastewater system must not located in a trafficable area; and (l) Wastewater system not to be located 30m from any well, stream or underground source of water intended for consumption by humans.	
2.	Discharge pipelines to TWP	(a) Visible safety signage installed; and (b) must be impermeable and free of leaks and defects; and (c) HDPE pipes; and (d) with culverts where intersected with roads.	Figure 2 & 3 in Schedule 1
3.	Treated water pond	(a) Constructed as shown in Figure 2 Schedule 1 and Figures 2 and 3 in Schedule 2; (b) HDPE liner installed using weld joints at least 1.5 mm thick for a 1 x 10^{-9} m/s or less permeability; (c) Minimum capacity of 2 ML and maximum capacity of 5 ML; (d) Perimeter of pond fenced off with gated access; (e) Surface water drainage and sediment basins will surround the TWP to provide containment of any spillages of treated wastewater; (f) The chosen site for the construction of the TWP will provide natural topographical gradient back into the processing hub in the event of leakage	Figure 2, 3 & 4 in Schedule 1

	Infrastructure	Design and construction / installation requirements	Infrastructure location
		or damage to the facilities; and (g) Ensure pond capacity does not exceed 4000 m^3.	

Compliance reporting

2. The works approval holder must within 30 calendar days of an item of infrastructure or equipment required by condition 1 being 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 qualified and experienced engineer that the items of infrastructure or component(s) thereof, as specified in condition 1 and, have been constructed in accordance with the relevant requirements specified in condition 1.

(b) photographs, 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.

Time limited operations phase

Commencement and duration

4. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1 where the Environmental Compliance Report for that item of infrastructure as required by condition 2 has been submitted by the works approval holder.

5. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 6:

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 3 for that item of infrastructure.

(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.

Whichever is sooner.

Time limited operations requirements and emission limits

6. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 2 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 2.

Table 2: Infrastructure and equipment requirements during time limited operation.

	Infrastructure and equipment	Operational Requirements	Infrastructure location
1.	WWTP (both secondary and tertiary systems)	• Treated effluent from the existing Biomax WWTP to be treated by the Tertiary WWTP prior to discharge into the TWP • Flow meters must be maintained on the WWTP outlet to the TWP. • Spills of wastewater, or chemicals outside of a vessel/container/pipeline are cleaned up immediately.	Depicted in Schedule 1, Figure 1 as "WWTP"
2.	Discharge Pipelines	• No more than 80 m^3 of effluent is discharged to the TWP. • Inspected daily for leaks.	Depicted in Schedule 1 Figure 2
3.	Treated Water Pond (TWP)	• Maintain a minimum operating freeboard of 300 mm • Ensure minimum freeboard markers are in place • Ensure capacity does not exceed 4000 m^3 • All water discharged to TWP will have undergone tertiary treatment • Inspected daily	Depicted in Schedule 1 Figure 2 and Schedule 2 Figure 3

7. The works approval holder must ensure that during time limited operations, the treated wastewater is only discharged in accordance with the discharge point specified in Table 3.

Table 3: Authorised discharge points

Emission	Discharge point	Discharge location
Treated effluent from Biomax WWTP	Tristar WWTP	As specified as 'Tertiary Treatment Plant' in Figure 2 of Schedule 1
Treated effluent from Tristar WWTP	TWP	As specified in Figure 2 of Schedule 1 as "TWP"
Treated wastewater from TWP	Treated water used across site in dust suppression, plant processing, and vehicle washdown bay	Depicted in Schedule 1, Figure 2

Monitoring during time limited operations

8. The works approval holder must monitor emissions and record the results of monitoring during time limited operations in accordance with Table 4.

Table 4: Emissions and discharge monitoring during time limited operations

Discharge point	Monitoring location	Parameter	Frequency	Averaging Period	Unit
TWP	WWTP outlets	*E. coli*	Weekly for the first month, and monthly after that.	Spot sample	cfu/100mL
		Total coliforms			
		BOD_5			mg/L
		Total dissolved solids			
		Nitrogen			
		Phosphorous			
		Cumulative flow volume	Continuous	N/A	m^3

9. For monitoring activity required by condition 8, the works approval holder must:

(a) record the results; and

(b) handle and preserve all water samples collected during the monitoring of the WWTP in accordance with AS5667.1:1998.

Time Limited Operations Compliance reporting

10. 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.

11. The works approval holder must ensure the report required by condition 10 includes the following:

(a) a summary of the time limited operations, including timeframes and amount of waste and effluent processed, and the overall water balance for the premises.

(b) a summary of monitoring results obtained during time limited operations under condition 8.

(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

(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 (general)

12. 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.

13. 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 6.

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

(d) complaints received under condition 12.

14. The books specified under condition 13 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 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ATU	Aerobic treatment unit
AS5667.1:1998	A document that sets out the general principles for, and provides guidance on, the design of sampling programmes and sampling techniques for all aspects of sampling of water (including waste waters, sludges, effluents, suspended solids and sediments).
AS/NZS 3000	A document of technical wiring rules that help electricians design, construct and verify electrical installations. Essential for electricians, inspectors and regulators, AS/NZS 3000 specifies the electrical installation safety requirements for all premises in Australia and New Zealand.
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	Colony forming units.
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 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.
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).

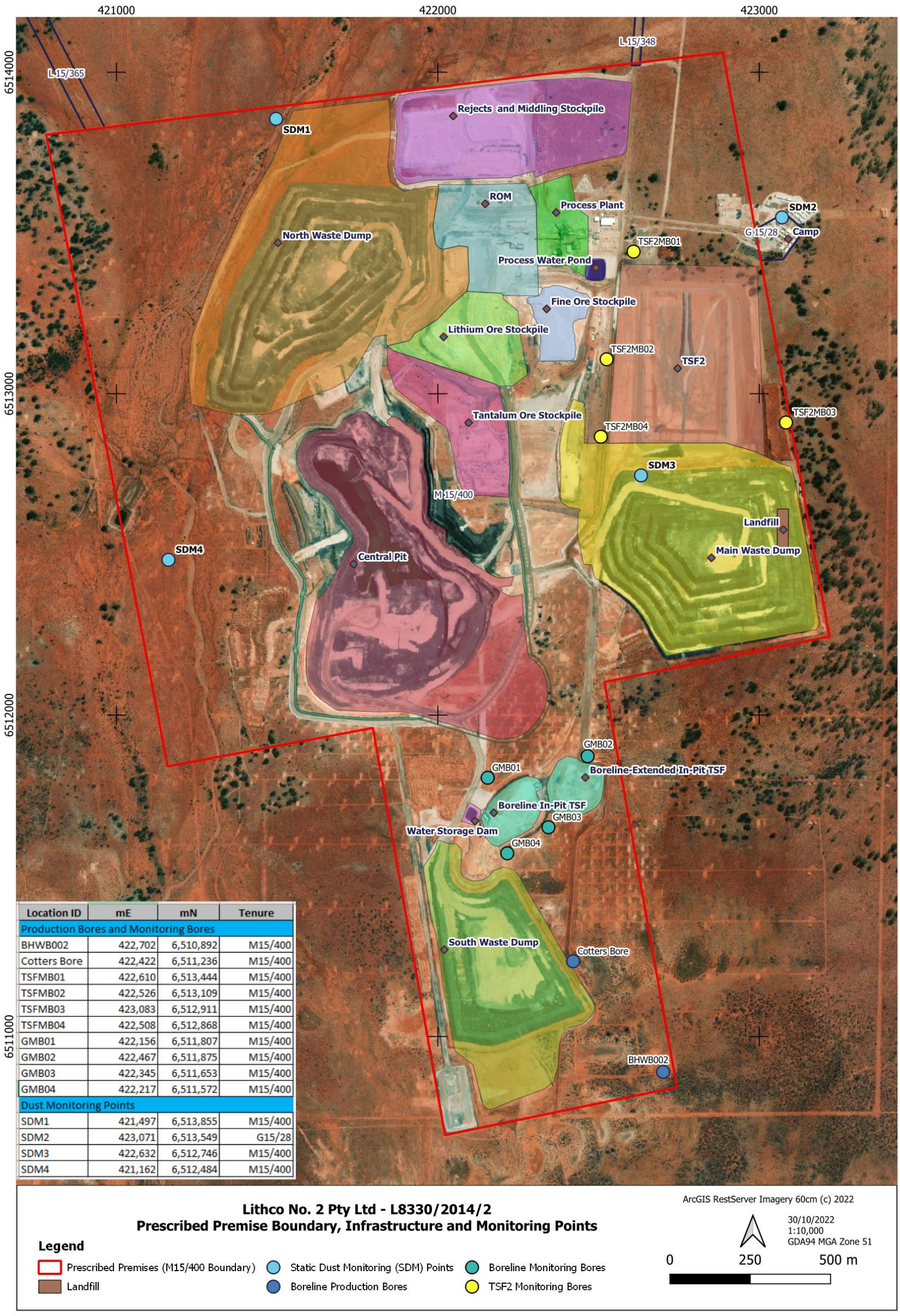
Term	Definition
FAC	Free available chlorine
HDPE	High-density polyethylene
m^3	Cubic metres
mg/L	Milligram per liter
ML	Mega Litre
premises	the premises to which this works approval applies, as specified at the front of this works approvals and as shown on the premises map (Figure 1) in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
TWP	Treated water pond
Qualified, Competent Civil or Structure Engineer	Means a person who: (a) holds a Bachelor's degree recognised by Engineers Australia; and (b) has a minimum of five years of experience working in a supervisory role in civil or structural engineering; and (c) is employed by an independent third party external to the Works Approval Holder's business; (d) 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.
TSF	Tailings storage facility
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

Premises map

The boundary of the prescribed premises is shown in the map below.



Location ID	mE	mN	Tenure
Production Bores and Monitoring Bores			
BHWB002	422,702	6,510,892	M15/400
Cotters Bore	422,422	6,511,236	M15/400
TSFMB01	422,610	6,513,444	M15/400
TSFMB02	422,526	6,513,109	M15/400
TSFMB03	423,083	6,512,911	M15/400
TSFMB04	422,508	6,512,868	M15/400
GMB01	422,156	6,511,807	M15/400
GMB02	422,467	6,511,875	M15/400
GMB03	422,345	6,511,653	M15/400
GMB04	422,217	6,511,572	M15/400
Dust Monitoring Points			
SDM1	421,497	6,513,855	M15/400
SDM2	423,071	6,513,549	G15/28
SDM3	422,632	6,512,746	M15/400
SDM4	421,162	6,512,484	M15/400

Figure 1: Map of the boundary of the prescribed premises.

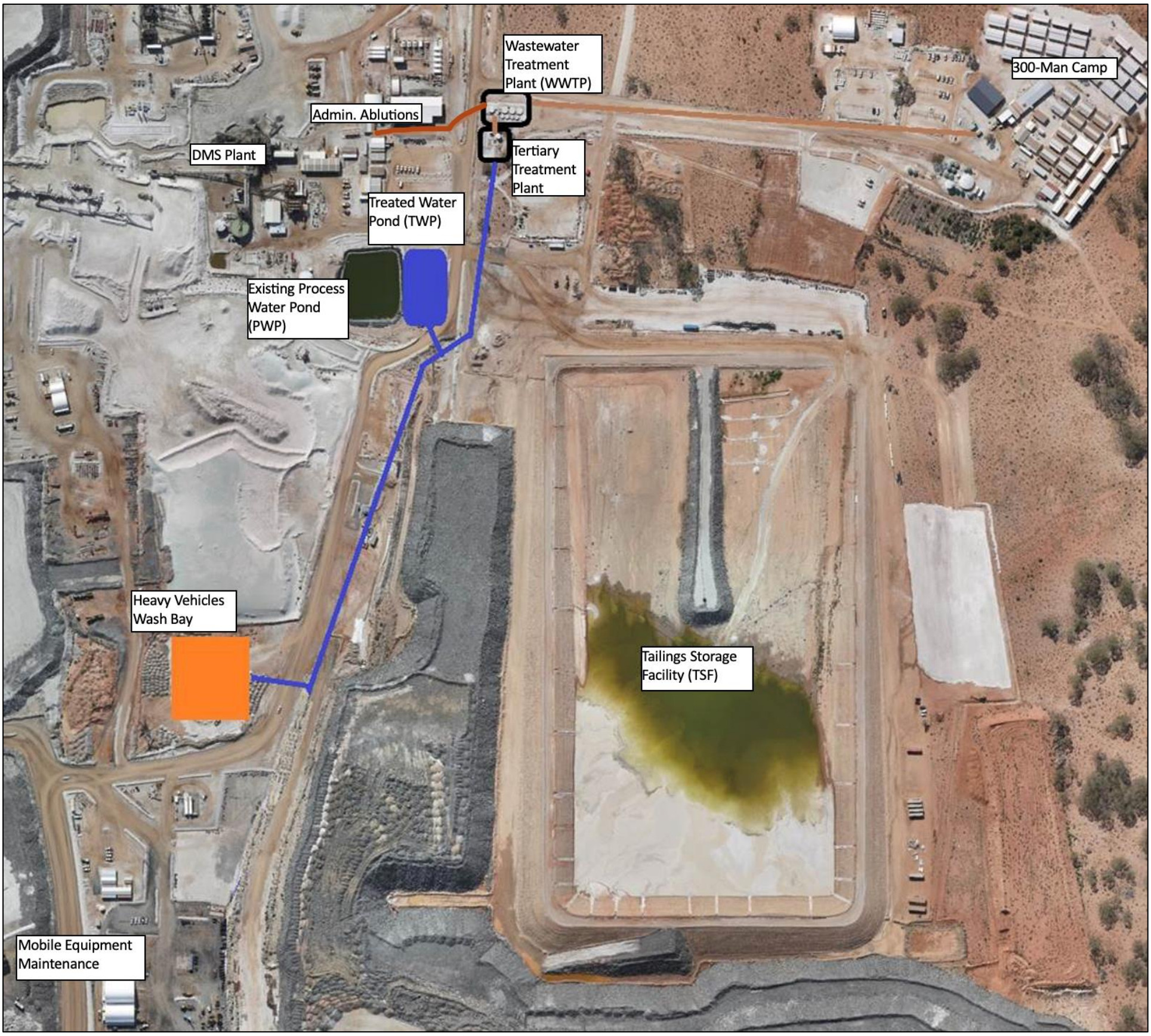


Figure 2: Map of the existing and proposed infrastructure

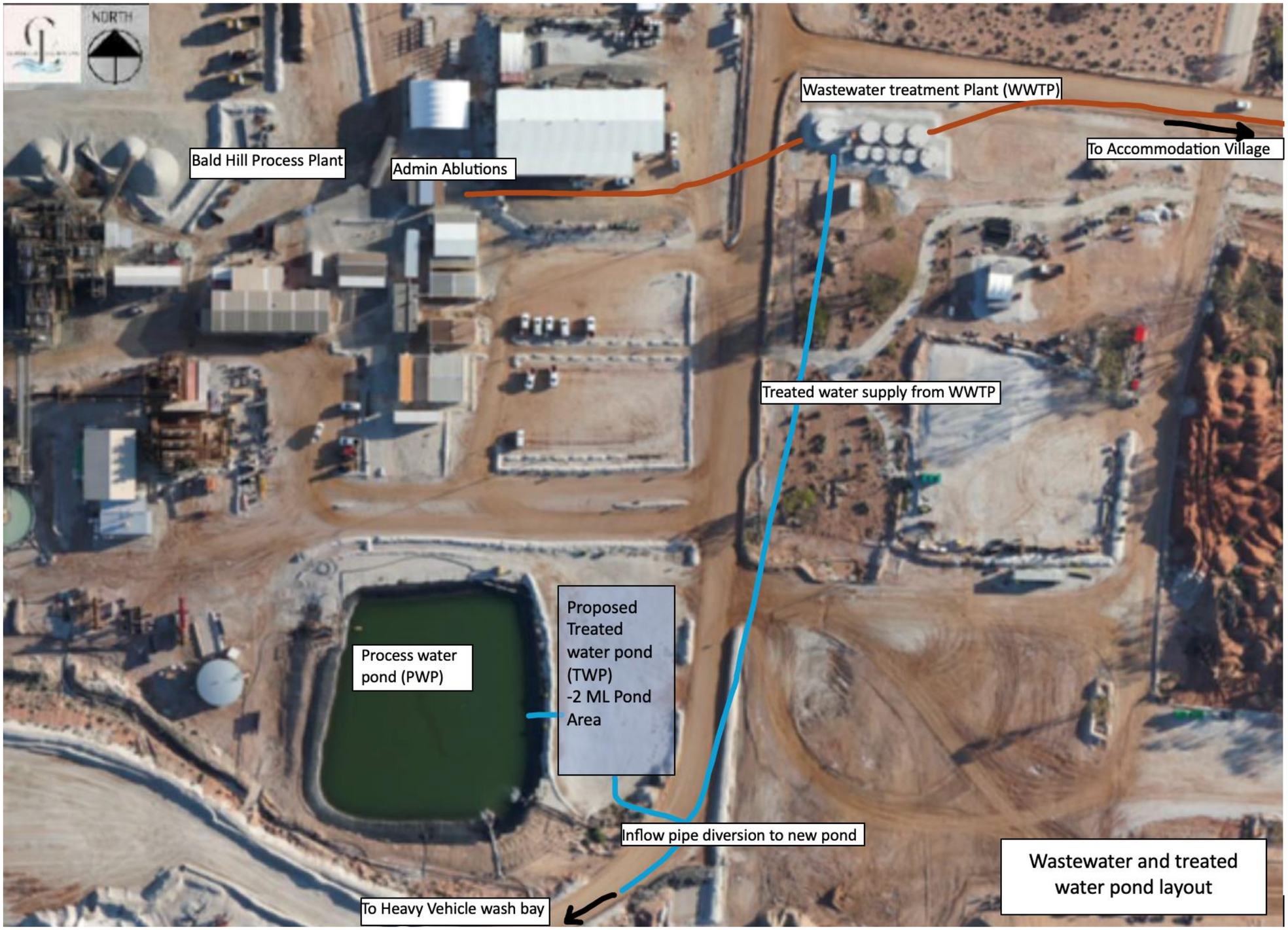


Figure 3: Proposed location of treated water pond

Schedule 2: Process flow and piping diagrams for WWTPs and TWP

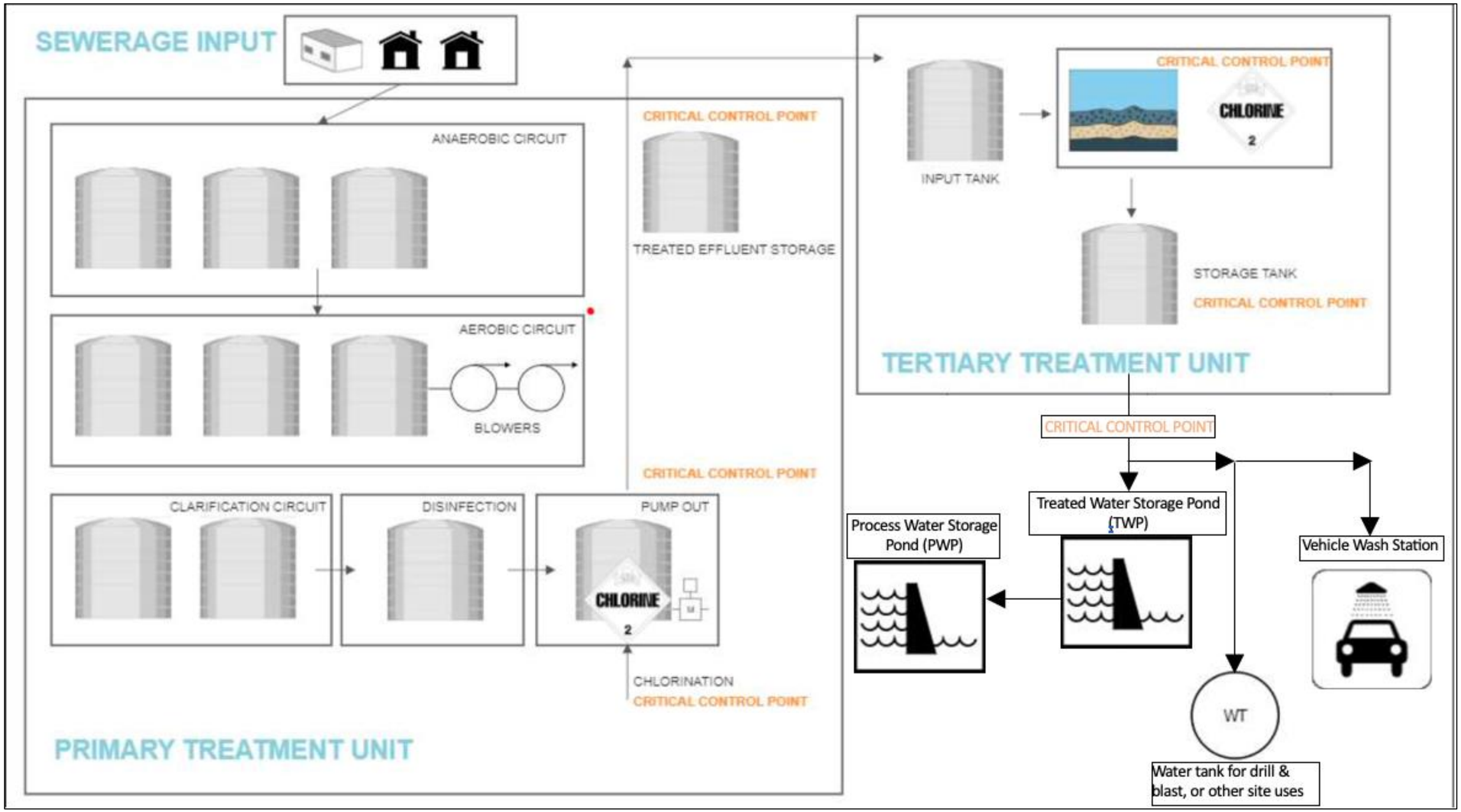


Figure 1: Simplified process flow diagram of WWTPs and discharge points

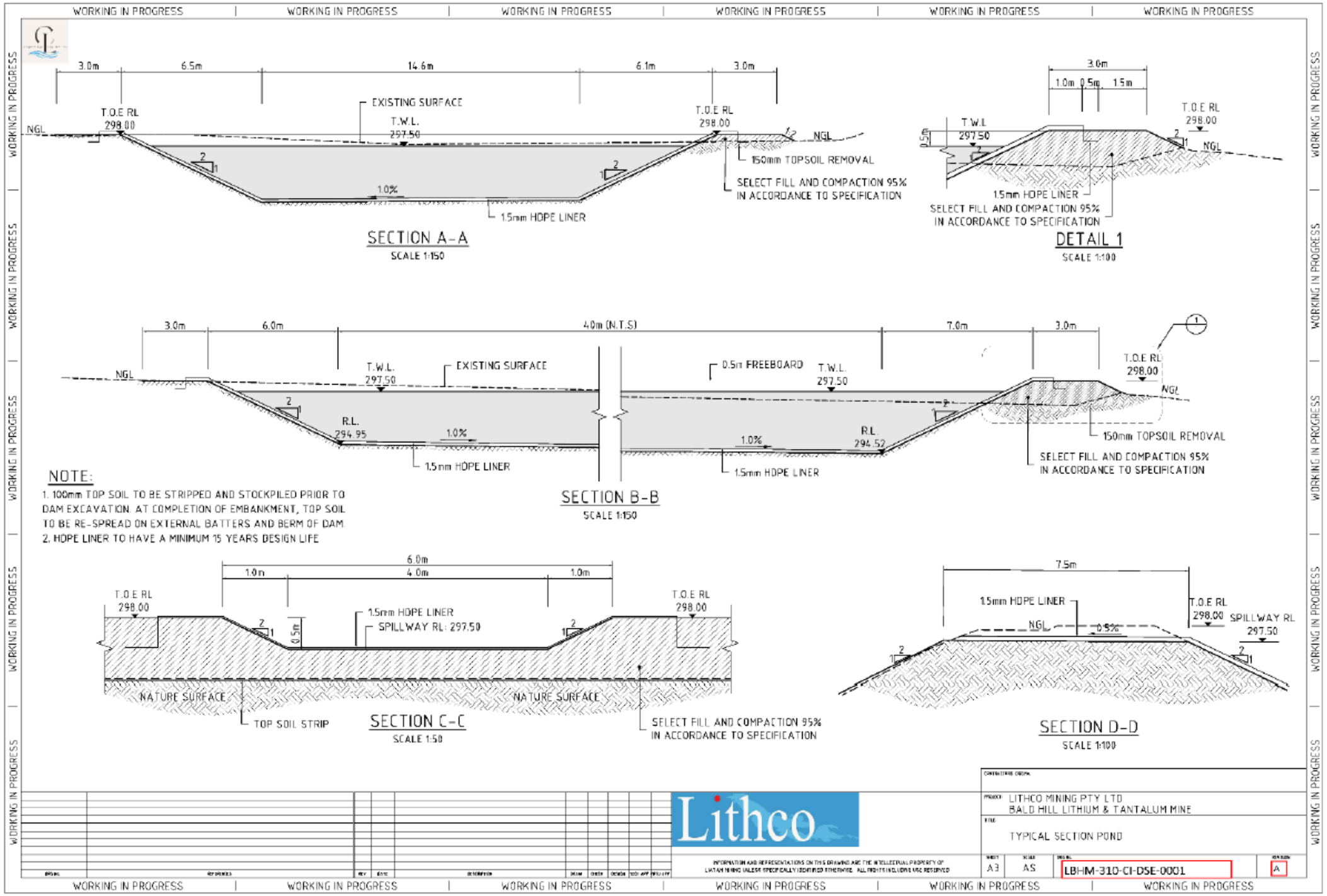
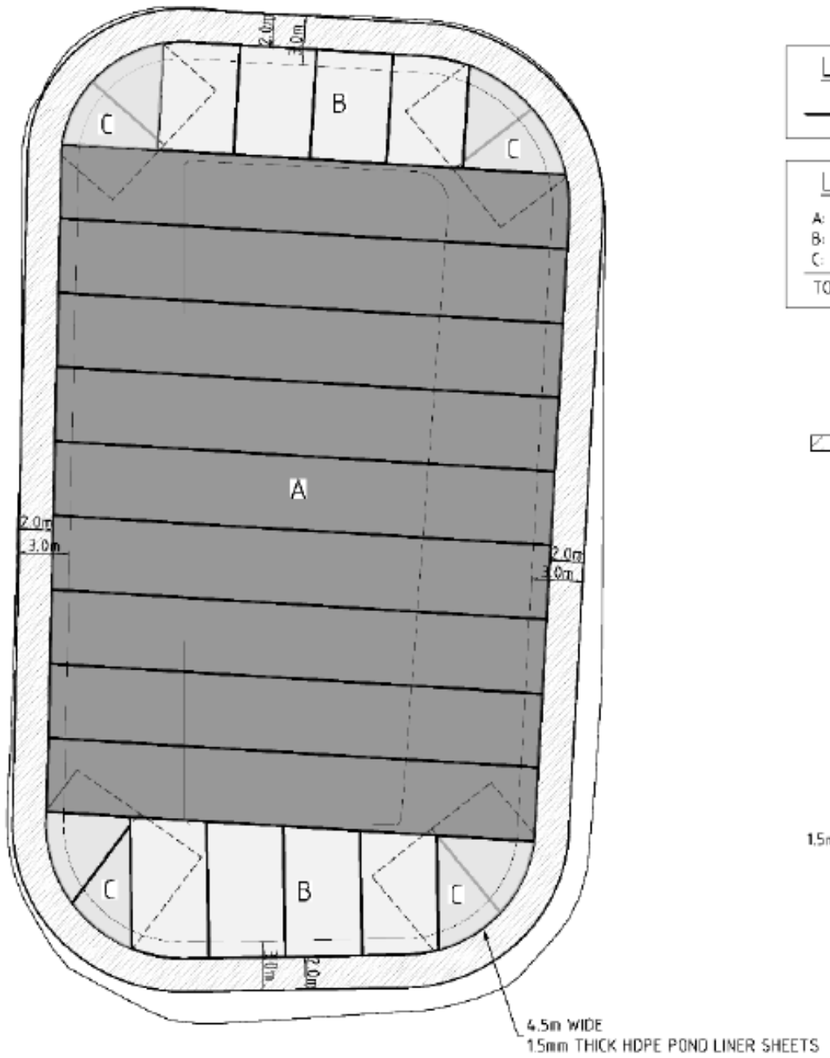


Figure 2: Treated water pond section arrangement



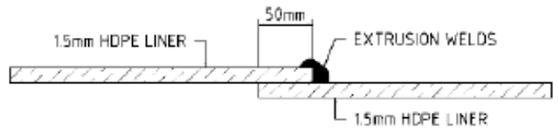
PLAN POND LINER ARRANGEMENT
SCALE 1:300

LEGEND:

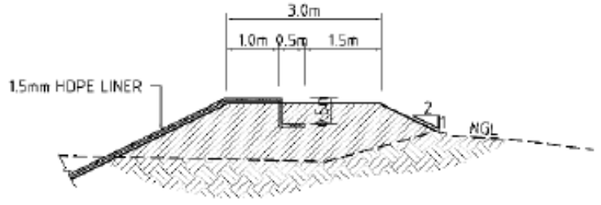
WEDGE WELDING LINE

LINER SHEET LENGTH:

A:	9 x 30	= 270m
B:	8 x 8	= 64m
C:	8 x 7	= 56m
TOTAL LENGTH		= 390m



TYPICAL EXTRUSION WELD CONNECTION
SCALE 1:50



DETAIL 1
(REFER TO TYPICAL SECTION POND)
SCALE 1:100

LITHCO MINING PTY LTD
BALD HILL LITHIUM & TANTALUM MINE

LINER PANEL LAYOUT AND DETAIL

SHEET	SIZE	DRG No.	REVISION
A3	A1	LBHM-310-CI-DTD-0001	A

Figure 3: Treated water pond liner arrangement

Figure 4: Treated water pond piping and fencing arrangement