



<b>Licence Number</b>	L9056/2017/1
<b>Licence Holder</b>	Pilgangoora Operations Pty Ltd
<b>ACN</b>	616 560 395
<b>Registered business address</b>	Level 2, 146 Colin Street WEST PERTH WA 6005
<b>File Number</b>	DER2017/000318
<b>Duration</b>	25/07/2019 to 24/07/2039
<b>Date of amendment</b>	27/05/2025
<b>Premises</b>	Pilgangoora Lithium -Tantalum Project Mining Tenements M45/1256, L45/417, L45/454, L45/614, G45/350 and G45/351 MARBLE BAR WA 6760 As depicted in Schedule 1, Figure 3

<b>Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)</b>	<b>Assessed production / design capacity</b>
Category 5: Processing or beneficiation of metallic or non-metallic ore	6,000,000 tonnes per annum
Category 6: Mine dewatering: premises on which water is extracted and discharged into the environment to allow mining of ore.	256,000 tonnes per annum
Category 52: Electric power generation	20.9 MW
Category 54: Sewage facility	275 m <sup>3</sup> /day
Category 64: Putrescible landfill	25,000 tonnes per annum
Category 73: Bulk storage of chemicals	1,036 m <sup>3</sup> in aggregate

This Licence is amended and issued to the Licence Holder, subject to the following conditions, on 27 May 2025, by:

**Alana Kidd**  
**MANAGER, GREEN ENERGY**

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

## Explanatory notes

These explanatory notes do not form part of this Licence.

### Defined terms

---

Definition of terms used in this Licence can be found at the start of this Licence. Terms which are defined have the first letter of each word capitalised throughout this Licence.

### Department of Water and Environmental Regulation

---

The Department of Water and Environmental Regulation (DWER) is 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 *Environmental Protection Act 1986* (WA) (EP Act). The Department also monitors and audits compliance with licences, takes enforcement action and develops and implements licensing and industry regulation policy.

### Licence

---

Section 56 of the EP Act provides that an occupier of Prescribed Premises commits an offence if Emissions are caused or increased, or permitted to be caused or increased, or Waste, noise, odour or electromagnetic radiation is altered, or permitted to be altered, from Prescribed Premises, except in accordance with a works approval or licence.

Categories of Prescribed Premises are defined in Schedule 1 of the *Environment Protection Regulations 1987* (WA) (EP Regulations).

This Licence does not authorise any activity which may be a breach of the requirements of another statutory authority including, but not limited to the following:

- conditions imposed by the Minister for Environment under Part IV of the EP Act;
- conditions imposed by DWER for the clearing of native vegetation under Part V, Division 2 of the EP Act;
- any requirements under the *Waste Avoidance and Resource Recovery Act 2007*;
- any requirements under the *Environmental Protection (Controlled Waste) Regulations 2004*; and
- any other requirements specified through State legislation.

It is the responsibility of the Licence Holder to ensure that any action or activity referred to in this Licence is permitted by, and is carried out in compliance with, other statutory requirements.

The Licence Holder must comply with the Licence. Contravening a Licence Condition is an offence under s.58 of the EP Act.

### Responsibilities of a Licence Holder

---

Separate to the requirements of this Licence, general obligations of Licence Holders are set out in the EP Act and the regulations made under the EP Act. For example, the Licence Holder must comply with the following provisions of the EP Act:

- the duties of an occupier under section 61; and
- restrictions on making certain changes to Prescribed Premises unless the changes are in accordance with a works approval, Licence, closure notice or environmental protection notice (s.53).

Strict penalties apply for offences under the EP Act.

## Reporting of incidents

---

The Licence Holder has a duty to report to DWER all discharges of waste that have caused or are likely to cause Pollution, Material Environmental Harm or Serious Environmental Harm, in accordance with s.72 of the EP Act.

## Offences and defences

---

The EP Act and its regulations set out a number of offences, including:

- Offence of emitting an Unreasonable Emission from any Premises under s.49.
- Offence of causing Pollution under s.49.
- Offence of dumping Waste under s.49A.
- Offence of discharging Waste in circumstances likely to cause Pollution under s.50.
- Offence of causing Serious Environmental Harm (s.50A) or Material Environmental Harm (s.50B).
- Offence of causing Emissions which do not comply with prescribed standards (s.51).
- Offences relating to Emissions or Discharges under regulations prescribed under the EP Act, including materials discharged under the *Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)*.
- Offences relating to noise under the *Environmental Protection (Noise) Regulations 1997 (WA)*.

Section 53 of the EP Act provides that a Licence Holder commits an offence if Emissions are caused or altered from a Prescribed Premises unless done in accordance with a Works Approval, Licence or the requirements of a Closure Notice or an Environmental Protection Notice.

Defences to certain offences may be available to a Licence Holder and these are set out in the EP Act. Section 74A(b)(iv) provides that it is a defence to an offence for causing Pollution, in respect of an Emission, or for causing Serious Environmental Harm or Material Environmental Harm, or for discharging or abandoning Waste in water to which the public has access, if the Licence Holder can prove that an Emission or Discharge occurred in accordance with a Licence.

This Licence specifies the Emissions and Discharges, and the limits and Conditions which must be satisfied in respect of Specified Emissions and Discharges, in order for the defence to offence provision to be available.

## Authorised Emissions and Discharges

---

The Specified and General Emissions and Discharges from Primary Activities conducted on the Prescribed Premises are authorised to be conducted in accordance with the Conditions of this Licence.

Emissions and Discharges caused from other activities not related to the Primary Activities at the Premises have not been Conditioned in this Licence. Emissions and Discharges from other activities at the Premises are subject to the general provisions of the EP Act.

## Amendment of licence

---

The Licence Holder can apply to amend the Conditions of this Licence under s.59 of the EP Act. An application form for this purpose is available from DWER.

The CEO may also amend the Conditions of this Licence at any time on the initiative of the CEO without an application being made.

Amendment Notices constitute written notice of the amendment in accordance with s.59B(9) of the EP Act.

## Duration of Licence

---

The Licence will remain in force for the duration set out on the first page of this Licence or until it is surrendered, suspended or revoked in accordance with s.59A of the EP Act.

## Suspension or revocation

---

The CEO may suspend or revoke this Licence in accordance with s.59A of the EP Act.

## Fees

The Licence Holder must pay an annual licence fee. Late payment of annual licence fees may result in the licence ceasing to have effect. A licence that has ceased to have effect due to non-payment of annual licence fees continues to exist; however, it ceases to provide a defence to an offence under s.74A of the EP Act.

Late fees are a component of annual licence fees and should a Licence Holder fail to pay late fees within the time specified the licence will similarly cease to have effect.

## Definitions and interpretation

### Definitions

In this Licence, the terms in Table 1 have the meanings defined.

**Table 1: Definitions**

Term	Definition
ACN	Australian Company Number
AER	Annual Environment Report
Annual Audit Compliance Report (AACR)	means a report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO (guidelines and templates may be available on the Department's website).
Annual Period	means a 12-month period commencing from 1 July until 30 June in the following year.
ANZECC/ARMCANZ Guidelines	Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australia and New Zealand Environment and Conservation Council and the Agriculture and Resource Management Council of Australia and New Zealand. Paper No. 4. Canberra. (ANZECC/ARMCANZ). Available at <a href="http://www.agriculture.gov.au/water/quality/nwqms">http://www.agriculture.gov.au/water/quality/nwqms</a>
Application	The inclusion of all applications, including revised applications and additional information provided in Works Approval Holder responses to requests for information between 15 November 2017 and 5 June 2018.
Approved Policy	has the same meaning given to the term under the EP Act
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
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 Water quality - Sampling Guidance on sampling of groundwaters
Averaging Period	means the time over which a limit is measured or a monitoring result is obtained
Bq/L	Becquerel per litre
Books	has the same meaning given to that term under the EP Act.
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations

Condition	means a condition to which this Licence is subject under s.62 of 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 <a href="mailto:info@dwer.wa.gov.au">info@dwer.wa.gov.au</a>
CO	means carbon monoxide
Delegated Officer	an officer under section 20 of the EP Act.
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.
Department Request	means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Licence Holder in writing and sent to the Licence Holder's address for notifications, as described at the front of this Licence, in relation to: <ul style="list-style-type: none"> <li>(a) compliance with the EP Act or this Licence;</li> <li>(b) the Books or other sources of information maintained in accordance with this Licence; or</li> <li>(c) the Books or other sources of information relating to Emissions from the Premises.</li> </ul>
Discharge	has the same meaning given to that term under the EP Act.
DWER	Department of Water and Environmental Regulation.
Effluent	means treated sewage.
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 Harm	has the same meaning given to that term under the EP Act.
EP Act	means the <i>Environmental Protection Act 1986</i> (WA).
EP Regulations	means the <i>Environmental Protection Regulations 1987</i> (WA).
EPBC Act	Means the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth)
Freeboard	Means the distance between the maximum water surface elevation and the top of the retaining banks or structures at their lowest point
HDPE	High Density Polyethylene.
Implementation Agreement or Decision	has the same meaning given to that term under the EP Act.
Influent	means un-treated sewage
Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.
Licence	refers to this document, which evidences the grant of a Licence by the CEO under s.57

	of the EP Act, subject to the Conditions.
Licence Holder	refers to the occupier of the premises being the person to whom this Licence has been granted, as specified at the front of this Licence.
Material Environmental Harm	has the same meaning given to that term under the EP Act.
mbgl	metres below ground level
m <sup>3</sup>	metres cubed
mRL	metres Reduced Level
mtpa	million tonnes per annum
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
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
NOx	means oxides of nitrogen, calculated as the sum of nitric oxide and nitrogen dioxide and expressed as nitrogen dioxide
Occupier	has the same meaning given to that term under the EP Act.
PM	means particulate matter
Pollution	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Licence applies, as specified at the front of this Licence and as shown on the map in Schedule 1 to this Licence.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Primary Activities	refers to the Prescribed Premises activities listed on the front of this Licence as described in Schedule 2, at the locations shown in Schedule 1.
Quarterly	means the 4 inclusive periods from 1 January to 31 March, 1 April to 30 June, 1 July to 30 September and 1 October to 31 December in the same year
Risk Event	As described in Guidance Statement: Risk Assessment
Serious Environmental Harm	has the same meaning given to that term under the EP Act.
significant rainfall event	A significant rainfall event is defined based on the Bureau of Meteorology website for the location of Marble Bar ( <a href="http://www.bom.gov.au/water/designRainfalls/revisedifd/?year=2016">http://www.bom.gov.au/water/designRainfalls/revisedifd/?year=2016</a> ). A significant rainfall event has been based on Intensity Frequency Duration (IFD), being 24 hours rainfall duration at 20% Annual Exceedance Probability (AEP). Note that a 20% AEP is equivalent to a 4.48 Annual Recurrence Interval (ARI).
SOx	means oxides of sulfur
Spot Sample	means a discrete sample representation at the time and place at which the sample is taken
suitably qualified engineer	means a person who: (a) holds a Bachelor of Engineering recognised by the Institute of Engineers; and

	(b) has a minimum of five years of experience working in engineering or is otherwise approved by the CEO to act in this capacity.
TDS	Total Dissolved Solids
TRH	Total Recoverable Hydrocarbons
TMF	Tailings Management Facility
TMF Cell 1	Cell 1 of the Tailings Management Facility
TMF Cell 2	Cell 2 of the Tailings Management Facility
TMF 1 Stage 1A	Tailings Management Facility Cell 1, Stage 1A to final RL of 185.3 m
TMF 1 Stage 1B	Tailings Management Facility Cell 1, Stage 1B to final RL of 189.3 m
TMF 2 Stage 1A	Tailings Management Facility Cell 2, Stage 1A to final RL of 185.3 m
TMF 2 Stage 1B	Tailings Management Facility Cell 2, Stage 1B to final RL of 189.3 m
TMF 1 Stage 2	Tailings Management Facility Cell 1, Stage 2 to final RL of 194.8 m
TMF 2 Stage 2	Tailings Management Facility Cell 2, Stage 2 to final RL of 194.8 m
TMF 1 Stage 3	Tailings Management Facility Cell 1, Stage 3 to final RL of 200.8 m
TMF 2 Stage 3	Tailings Management Facility Cell 2, Stage 3 to final RL of 200.8 m
tpa	tonnes per annum
TSS	Total Suspended Solids
Unreasonable Emission	has the same meaning given to that term under the EP Act.
µS/cm	MicroSiemens per centimetre
VOC	Volatile Organic Carbons
Waste	has the same meaning given to that term under the EP Act.
WRD	Waste Rock Dump
WWTP	Wastewater Treatment Plant

## Interpretation

In this Licence:

- (a) the words 'including', 'includes' and 'include' will be read as if followed by the words 'without limitation';
- (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 Licence means the version of the standard, guideline or code of practice in force at the time of granting of this Licence and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the Licence; and
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act.



## Conditions

### Emissions

1. The Licence Holder must not cause any Emissions from the Primary Activities on the Premises except for specified Emissions and general Emissions described in Column 1 of Table 2 subject to the exclusions, limitations or requirements specified in Column 2 of Table 2.

**Table 2: Authorised Emissions table**

Column 1	Column 2
Emission type	Exclusions/Limitations/Requirements
<b>Specified Emissions</b>	
Sediment – laden water from the Sediment Ponds	Subject to compliance with Conditions 2, 5, 16 and Schedule 2.
Air emissions from the Power Station	Subject to compliance with Conditions 2, 5 and Schedule 2.
Discharge of tailings to TMF 1 Stages 1A and B, 2 and 3	Subject to compliance with Conditions 2, 5, 9, 11, 12, 13 14, 19 and Schedule 2.
Discharge of tailings to TMF 2 Stages 1A and B, 2 and 3	Subject to compliance with Conditions 2, 5, 9, 11, 12, 13 14, 19 and Schedule 2.
TMF Decant water and Seepage water	Subject to compliance with Conditions 2, 5, 9, 10, 11, 19
Pilgangoora Creek mine dewater discharge	Subject to compliance with Conditions 2, 3, 5, 17, 18, 19 and Schedule 1 Figure 6 and Figure 8
Combined treated effluent and reverse osmosis reject water to camp irrigation area	Subject to compliance with Conditions 2, 3, 5, 12, 15 Schedule 1 Figure 9 and Schedule 2.
Putrescible and Inert Waste to Landfill	Subject to compliance with Conditions 2, 4, 5 and Schedule 2.
<b>General Emissions (excluding Specified Emissions)</b>	
Emissions which: <ul style="list-style-type: none"> <li>• arise from the Primary Activities set out in Schedule 2; or</li> <li>• arise from a Material Change.</li> </ul>	Emissions excluded from General Emissions are: <ul style="list-style-type: none"> <li>• Unreasonable Emissions; or</li> <li>• Emissions that result in, or are likely to result in, Pollution, Material Environmental Harm or Serious Environmental Harm; or</li> <li>• Discharges of Waste in circumstances likely to cause Pollution; or</li> <li>• Emissions that result, or are likely to result in, the Discharge or abandonment of Waste in water to which the public has access; or</li> <li>• Emissions or Discharges which do not comply with an Approved Policy; or</li> <li>• Emissions or Discharges which do not comply with a prescribed standard; or</li> <li>• Emissions or Discharges which do not comply with the conditions in an Implementation Agreement or Decision; or</li> </ul>

Column 1	Column 2
Emission type	Exclusions/Limitations/Requirements
	<ul style="list-style-type: none"> <li>Emissions or Discharges the subject of offences under regulations prescribed under the EP Act, including materials discharged under the Environmental <i>Protection (Unauthorised Discharges) Regulations 2004</i>.</li> </ul>

### Discharge of emissions

2. The Licence 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**

Emission	Discharge point name and location Schedule 1, Schedule 2 and Schedule 4
Sediment laden / potentially contaminated water that has been settled through the Sediment Ponds	Sediment Pond East Sediment Pond West Sediment Pond 3 Sediment Pond 4
NOx SOx CO VOC PM	GEN1 GEN2 GEN3 GEN4 GEN5 GEN6 GEN7 GEN8 GEN9 GEN10
Tailings	TMF Cell 1 TMF Cell 2
TMF Decant Water and Seepage water	Process Water Pond as depicted in Figure 5 of Schedule 1 and for dust suppression purposes within purple demarcated area depicted in Figure 7 of Schedule 1
Mine dewater discharge	Pilgangoora Creek discharge as depicted in Figure 6 and Figure 8 of Schedule 1
Combined treated effluent and reverse osmosis reject water	WWTP Spray Fields as depicted in Figure 9 of Schedule 1
Inert and putrescible wastes	Landfill including trenches within Monster WRD as depicted in Figure 4 of Schedule 1

## Emission Limits

3. The Licence Holder must ensure that emissions from the discharge point listed in Table 4 for the corresponding parameter do not exceed the corresponding limit when monitored in accordance with Condition 11, 15 or 17.

**Table 4: Emission and discharge limits**

Discharge point	Parameter	Limit
Oily Water Separators	TRH	< 15 mg/L
WWTP effluent stream to irrigation area	TDS	< 4,000 mg/L
Dust suppression at authorised area shown in Figure 7 of Schedule 1	Volume of TMF decant and/or seepage water discharged	15,000 m <sup>3</sup> per month
Mine dewater discharge Pilgangoora Creek	Volume of mine water discharge.	Maximum of 256,000 tonnes per annum from Central and South pits.  Maximum flow rate 150 L/s.

## Waste Acceptance

4. The Licence Holder must only accept waste of a waste type into the landfill shown in Schedule 1, which does not exceed the corresponding rate at which waste is received, and which meets the corresponding acceptance specification set out in Table 5.

**Table 5: Types of waste authorised to be accepted into the landfill**

Waste type	Acceptance specification <sup>1</sup>
Inert Waste Type 1	<ul style="list-style-type: none"> <li>Construction and demolition waste for storage and sorting</li> <li>Waste containing asbestos must not be accepted.</li> </ul>
Inert Waste Type 2	Tyres only
Putrescible waste	None specified
Contaminated solid waste	Meeting the guideline values waste acceptance criteria specified for class I or II landfills listed in Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009).

Note 1: Waste is authorised to be accepted from the Pilgan premises (Licence L9056/2017) and Ngungaju (Prescribed Premises L9036/2017).

## Infrastructure and equipment

5. The Licence Holder must ensure that the site 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 controls table**

Site infrastructure and equipment	Operational requirements
Processing Plant with a maximum process capacity of	<ul style="list-style-type: none"> <li>Ore is fed through three stages (primary/secondary/tertiary) of crushing, multiple screening processes, dense media separation, high pressure grinding, gravity concentrators, cyclones, cleaner spirals, cleaner scavenger spirals, wet spiral</li> </ul>

5 Mtpa	<p>concentrators, low intensity magnetic separation, rougher wet shaking tables, hydrocyclones, ball mill, flotation circuit, mill and concentrate thickener to produce lithium and tantalum concentrate;</p> <ul style="list-style-type: none"> <li>• With the exception of the Tailings Thickener, plant is on a concrete pad and concrete bunded with a containment capacity equivalent to 110% of the capacity of largest tank and drainage to the Process Water Pond. Tailings Thickener will have a diversion drain to divert any spill into the sediment pond.</li> <li>• Tailings Thickener fitted with bed level alarm to indicate if there is a leak in the Tailings Thickener. Bed level alarm linked to process control instrumentation.</li> <li>• Tailings Thickener to have constant monitoring via digital CCTV camera, and visual inspection of the area at least twice a day (once per shift)</li> <li>• Spills of tailings materials (associated with processing plant or tailings thickener) to be contained and removed as soon as practicable to an appropriate location.</li> <li>• Electric sump pumps installed and operational in the concrete flooring to collect and pump any spilled material back into the process stream;</li> <li>• Flow transmitter and magflow meter must be installed and operational;</li> <li>• Isotainers, mixing tanks and storage tanks are located on a concrete bunded area with plinths within the Processing Plant area;</li> <li>• Spray/sprinkler systems must be operational at the crusher conveyor transfer points and crushing circuit; and</li> <li>• All product stockpiles must be no greater than 12 metres above ground level.</li> </ul>
Mobile crusher/screener with a maximum process capacity of 1 Mtpa throughput	<ul style="list-style-type: none"> <li>• Dust suppression system must be maintained in operational condition.</li> <li>• No contaminated runoff including any waste listed in <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> is discharged to any watercourse.</li> <li>• All stormwater and plant run-off must be captured and directed to the sump located in the mobile crushing and screening area.</li> <li>• All non-contaminated stormwater must be diverted around the mobile crushing and screening area.</li> </ul>
TMF Cell 1	<p><u>General:</u></p> <ul style="list-style-type: none"> <li>• Integrated waste landform over 30.2 ha;</li> <li>• Embankment level: <ul style="list-style-type: none"> <li>➢ TMF 1, Stage 1A - 185.3mRL;</li> <li>➢ TMF 1, Stage 1B - 189.3mRL;</li> <li>➢ TMF1, Stage 2 - 194.8mRL;</li> <li>➢ TMF1, Stage 3 - 200.8mRL;</li> </ul> </li> <li>• Permeability of between <math>2.48 \times 10^{-6}</math> m/s and <math>27.40 \times 10^{-6}</math> m/s;</li> <li>• Minimum freeboard of 500m maintained; and</li> <li>• Contain rainfall of a 1 in 100 year, 72 hour ARI event.</li> <li>• TMF Operations manual updated at least every two years.</li> </ul> <p><u>Underdrainage system:</u></p> <ul style="list-style-type: none"> <li>• Underdrainage provided at the low point of the Cell 1 Stage 1A perimeter (northern corner) to minimize water accumulation.</li> <li>• Underdrainage pipe is pre-slotted and comprises of: <ul style="list-style-type: none"> <li>➢ "HDPE PE100 PN16 DN200 mm,</li> <li>➢ PVC-U PN16 DN200, or</li> <li>➢ SRP Rocla Plastream DN225" (115275.04 SP01 Rev0)</li> </ul> </li> <li>• This pipe is placed in the existing drainage line and extends 60 m towards the upstream side of the embankment and is covered by 0.5 m of gravel material which is extended until the gravel packing meets the natural ground surface.</li> </ul> <p><u>Cut-off trench:</u></p> <ul style="list-style-type: none"> <li>• Cut off trench (to a depth of 1.5m and width of 3.0m through superficial materials) constructed through the surficial deposits on the upstream side of the starter embankments (constructed from pre-strip mine waste rock materials with low permeability upstream zone formed from clayey sand materials excavated from the vicinity of the TMF footprint) and extended around the full TMF perimeter; and</li> <li>• A sandy filter zone separates the low-permeability zone from the waste rock zone.</li> </ul> <p><u>Decant Pond:</u></p> <ul style="list-style-type: none"> <li>• Decant removed to Process Water Dam via submersible pumps to minimize surface area of the decant pond at all times;</li> <li>• Return water pump installed and operational with capacity of at least 30L/s;</li> <li>• Shade cloth filter added to the decant tower to prevent smaller filter rock particles entering the tower sump and effecting the submersible pump operation;</li> <li>• The maximum operating pond depth at decant tower of 1.3 m; and</li> </ul>

	<ul style="list-style-type: none"> <li>• Daily inspection of decant pond location.</li> </ul> <p><u>Deposition:</u></p> <ul style="list-style-type: none"> <li>• Multiple rotating spigots (ring main) on a cyclic (rotating) basis.</li> <li>• Discharge spigot spacing -24m</li> <li>• Directional discharge control at the spigots should be managed on a daily basis to maintain an overall drainage gradient towards the pond area, prevent long term ponding in areas other than the designated decant area and minimise drying beach thickness.</li> <li>• Target “wet” layer thickness of a maximum 250 mm to be achieved for tailings deposition on each deposition cycle.</li> <li>• Tailings discharge at minimum 50% solids concentration rate.</li> </ul> <p><u>Pipelines (tailings delivery, distribution and decant return):</u></p> <ul style="list-style-type: none"> <li>• Monitoring of pressure changes to all pipelines must be monitored in the control room</li> <li>• Tailings delivery line and return water line above ground within bunds with spill catch pits of 12 hours containment;</li> <li>• Continuous process control monitoring (leak detection) and flow meters at either end of the tailings delivery lines;</li> <li>• Physical inspection of the pipeline corridors at least once per 12 hour shift (twice daily); and</li> <li>• In the event flow meter readings indicate pipeline failure, the affected pipeline is shut down.</li> </ul> <p><u>Monitoring:</u></p> <ul style="list-style-type: none"> <li>• Eight piezometers are monitored for determining phreatic surface within the tailings;</li> <li>• Groundwater monitoring is conducted at the thirteen monitoring bores adjacent to the TMF (Figure 6) to enable detection of seepage and groundwater mounding/quality; and</li> </ul>
<p>TMF Cell 2</p>	<p><u>General:</u></p> <ul style="list-style-type: none"> <li>• Integrated waste landform over 30.9 ha;</li> <li>• Embankment level: <ul style="list-style-type: none"> <li>➢ TMF 2, Stage 1A of 185.3mRL;</li> <li>➢ TMF 2, Stage 1B of 189.3mRL;</li> <li>➢ TMF 2, Stage 2 - 194.8mRL;</li> <li>➢ TMF 2, Stage 3 - 200.8mRL;</li> </ul> </li> <li>• Permeability of between <math>2.4 \times 10^{-9}</math> to <math>9.5 \times 10^{-9}</math> m/s;</li> <li>• Minimum freeboard of 500m maintained; and</li> <li>• Contain rainfall of a 1 in 100 year, 72 hour ARI event.</li> <li>• TMF Operations manual updated at least every two years.</li> </ul> <p><u>Underdrainage system and Cut-off trench:</u></p> <ul style="list-style-type: none"> <li>• Cut off trench constructed through the surficial deposits on the upstream side of the starter embankments and extended around the full TMF perimeter.</li> </ul> <p><u>Decant Pond:</u></p> <ul style="list-style-type: none"> <li>• Decant removed to Process Water Dam via submersible pumps to minimize surface area of the decant pond at all times;</li> <li>• Return water pump installed and operational with capacity of at least 30L/s;</li> <li>• Shade cloth filter added to the decant tower to prevent smaller filter rock particles entering the tower sump and effecting the submersible pump operation;</li> <li>• The maximum operating pond depth at decant tower of 1.3 m; and</li> <li>• Daily inspection of decant pond location.</li> </ul> <p><u>Seepage Trenches:</u></p> <ul style="list-style-type: none"> <li>• Southern and Northern Seepage trenches and associated infrastructure installed, maintained and operational as depicted in Schedule 1, Figure 5.</li> </ul> <p><u>Deposition:</u></p> <ul style="list-style-type: none"> <li>• Multiple rotating spigots (ring main) on a cyclic (rotating) basis.</li> <li>• Discharge spigot spacing - 24m</li> <li>• Directional discharge control at the spigots should be managed on a daily basis to maintain an overall drainage gradient towards the pond area, prevent long term ponding in areas other than the designated decant area and minimise drying beach thickness.</li> <li>• Target “wet” layer thickness of a maximum 250 mm to be achieved for tailings</li> </ul>

	<p>deposition on each deposition cycle.</p> <ul style="list-style-type: none"> <li>Tailings discharge at minimum 50% solids concentration rate.</li> </ul> <p><u>Pipelines (tailings delivery, distribution and decant return):</u></p> <ul style="list-style-type: none"> <li>Monitoring of pressure changes to all pipelines must be monitored in the control room;</li> <li>Tailings delivery line and return water line above ground within bunds with spill catch pits of 12 hours containment;</li> <li>Continuous process control monitoring (leak detection) and flow meters at either end of the tailings delivery lines;</li> <li>Physical inspection of the pipeline corridors at least once per 12 hour shift (twice daily); and</li> <li>In the event flow meter readings indicate pipeline failure, the affected pipeline is shut down.</li> </ul> <p><u>Monitoring:</u></p> <ul style="list-style-type: none"> <li>Ten piezometers are monitored for determining phreatic surface within the tailings;</li> <li>Groundwater monitoring is conducted at the thirteen monitoring bores adjacent to the TMF (Table 8) to enable detection of seepage and groundwater mounding/quality.</li> </ul>
Power Station	<ul style="list-style-type: none"> <li>Installed load capacity of 20.9 MW;</li> <li>10 x diesel generators with capacities ranging from 1300 kVA to 3100 kVA;</li> <li>Drainage at the power station units graded such that spills and surface water flow enters a triple oil/water interceptor;</li> <li>Sediment pond to receive surface water flow;</li> <li>Automated Control System;</li> <li>Waste oil tanks self-contained double skin design within concrete aprons;</li> <li>Fully enclosed metal bin storage for used oil contaminated parts are collected for disposal offsite; and</li> <li>Oily water separator, with oil from the separation process stored in a 1,000 L tank prior to disposal offsite.</li> </ul>
Fuel Storage Facilities	<ul style="list-style-type: none"> <li>Complies with Australian Standard AS 1940-2004 The storage and handling of flammable and combustible liquids.</li> </ul>
Pilgangoora Creek discharge point	<ul style="list-style-type: none"> <li>Must only be used for discharge once Condition 26 has been complied with;</li> <li>No more than 256,000 tonnes of mine dewater is discharged per annum</li> <li>Only mine dewater is discharged from the Pilgangoora central pit and receiving pipeline from licence L9036/2017/1 south pit;</li> <li>Mine dewater must only occur following an uncontrollable event including cyclone and / or significant rainfall event;</li> <li>Layer of riprap is maintained to protect the receiving Pilgangoora Creek bank from erosion and scouring; and</li> <li>The diffuser arrangement at the end of the pipeline to spread the flow of the mine dewater prior to release on the Pilgangoora Creek is to be maintained.</li> </ul>
Sediment Ponds	<ul style="list-style-type: none"> <li>Receives site stormwater;</li> <li>Clay lined;</li> <li>Minimum freeboard of 300mm is maintained in the ponds;</li> <li>Twice daily Inspections, and before known significant rainfall events to ensure they are capable of functioning to remove sediment during high-rainfall events;</li> <li>Surface water monitoring sites have been established, which include sites upstream and downstream of the (entire) operation; and</li> <li>Receives overflow from the Process Water Ponds in the event of extreme rainfall events.</li> <li>Receives overflow from tailings thickener in the event of a spill, leak or rupture.</li> <li>Any tailings material or leachate contained within sediment pond to be removed as soon as practicable to an appropriate location.</li> </ul>
Oily Water Separators	<ul style="list-style-type: none"> <li>Where water is likely to be contaminated with hydrocarbons and other contaminants, this water will be directed to an Oily Water Separator prior to discharge to the environment or re-use onsite; and</li> <li>Oily Water Separators treat hydrocarbon waste to a maximum TRH concentration of &lt;15mg/L prior to discharge which is monitored monthly.</li> </ul>
Raw Water Tank	<ul style="list-style-type: none"> <li>1.833 ML capacity (with 288 kL reserved for fire water capacity);</li> <li>HDPE lined steel impermeable tank;</li> <li>Fully covered; and</li> </ul>

	<ul style="list-style-type: none"> <li>Water cannot ingress the tank during rainfall events.</li> </ul>
Process Water Pond	<ul style="list-style-type: none"> <li>Capacity of Cell 1 is 9.2 ML and capacity of Cell 2 is 15 ML;</li> <li>Minimum freeboard of 300mm maintained in the pond;</li> <li>Freeboard markers visible;</li> <li>Maintain 1.8 mm HDPE liner via regular inspections;</li> <li>Float cut-off system maintained to prevent overflow;</li> <li>Twice daily inspections of the pond during operation;</li> <li>Monitored after each rainfall event to check for adequate freeboard being available and to initiate pumping of the retained water into the process circuit or used for dust suppression within purple area demarcated in Figure 7 of Schedule 1; and</li> <li>Water collected in the pond is reused in processing.</li> </ul>
WWTP	<ul style="list-style-type: none"> <li>Moving Bed Bioreactor and sequencing batch reactor systems with less than 275 m<sup>3</sup>/day treatment capacity;</li> <li>Balance tanks fitted with high level alarms wired to visual strobe light and sounder to alert of overflows;</li> <li>Treated effluent / Irrigation tanks fitted with operational high level alarms;</li> <li>Flow meters installed at influent inlet point and effluent egress points; and</li> <li>Stock exclusion fence maintained surrounding entire WWTP facility.</li> <li>WWTP when operated is to achieve the following water quality emissions: <ul style="list-style-type: none"> <li>Biochemical oxygen demand &lt;20 mg/L</li> <li>Total suspended solids &lt;30 mg/L;</li> <li>Total nitrogen &lt;30 mg/L;</li> <li>Total phosphorus &lt;7.5 mg/L;</li> <li>Chlorine residual &gt;0.2 - 2 mg/L;</li> <li>pH between 6.5 - 8.5; and</li> <li>E.coli &lt;1,000 cfu/100 mL.</li> </ul> </li> </ul>
WWTP Spray Fields- including spray fields 1, 2 and 3.	<ul style="list-style-type: none"> <li>Irrigation sprayfields of 7.36 ha;</li> <li>Internal soil berm must be maintained inside the fence to prevent surface run off from the spray fields during storm events;</li> <li>The spray fields are managed to prevent waterlogging of the surface or ponding of water by alternating discharge between the sprinklers;</li> <li>No irrigation generated run-off, spray drift or discharge occurs beyond the boundary of the irrigation areas;</li> <li>Wastewater is evenly distributed over the irrigation areas;</li> <li>Soil erosion is prevented from occurring inside the irrigation areas;</li> <li>Healthy vegetation cover is maintained over the wastewater irrigation areas;</li> <li>The spray field areas are monitored for the presence of weeds on at least a quarterly basis, with herbicide treatment being carried out as required;</li> <li>Daily inspections of the spray field areas are undertaken to ensure there are no waterlogging of soil or ponding, vegetation health is not declining and to identify maintenance requirements;</li> <li>Maintain the fencing around the irrigation areas that acts as an effective barrier to unauthorised persons, cattle, horses and other stock;</li> <li>Undertake regular inspections of all fencing and repair damage as soon as practicable; and</li> <li>Maintenance is undertaken as required to ensure correct operation of the system.</li> </ul>
Landfill	<ul style="list-style-type: none"> <li>Capacity of 25,000 tpa;</li> <li>Must only be located within the areas outlined in Schedule 1 Figure 4;</li> <li>Only putrescible waste, inert wastes and tyres are disposed of at the landfill in separate trenches;</li> <li>Trenches are covered a minimum of once per fortnight with soil material;</li> <li>Appropriate and adequate signage is maintained around the landfill sites;</li> <li>Place and compact waste to ensure that all faces are stable and capable of retaining restoration material;</li> <li>Restore cells (trenches) within 6 months after disposal in that cell (trench) has been completed;</li> <li>Store sufficient, dense, inert and incombustible material that is readily available at all times to cover the landfill tipping area;</li> <li>The size of the tipping face is kept to a minimum, and not larger than 30 metres in length or more than 2 metres above ground level in height;</li> <li>Waste is levelled and compacted (e.g. maximum 300 mm lifts, passed over at least 3 times by heavy earthmoving machinery) as soon as practicable after it has been</li> </ul>



	<ul style="list-style-type: none"> <li>placed within the cell (trench);</li> <li>Cover landfilled waste with sufficient clean fill (e.g. 100 mm) at least weekly, to ensure that the waste is completely covered and that no waste is exposed;</li> <li>Windblown waste is returned to the landfill site on a regular and recurring basis, at least monthly;</li> <li>Unserviceable tyres shall be transported to a designated area within the approved wrl dump disturbance footprint. They shall be stacked appropriately and periodically buried in accordance with Regulation 14(2) of the EP Regs;</li> <li>No hydrocarbons and / or chemicals are disposed of into the landfill facility; and</li> <li>The volume of waste disposed of into the landfill is recorded.</li> </ul>
All	<ul style="list-style-type: none"> <li>Where stormwater is likely to be contaminated with hydrocarbons and other contaminants, water will be directed to an oil water separation system prior to discharge to the environment or re-use onsite (with TPH less than 15mg/L). Initial sampling for other contaminants will be required prior to discharge; and</li> <li>During periods of flow in the four creeks (Northern, Houston, Pilgangoora, Southern) at a minimum of once annually, surface water samples are collected at one site upstream of the project and one site downstream of the Project with laboratory analyses for pH, TDS, TSS, electrical conductivity, major cations and anions, and contaminants.</li> <li>Water carts used within purple demarcated area in Figure 7, Schedule 1 must be fitted with sprays and dribble bars that can be adjusted to avoid overspray and runoff.</li> <li>Quarterly visual monitoring of vegetation condition surrounding purple demarcated area shown in Figure 7, Schedule 1</li> </ul>

## Monitoring

6. The Licence Holder must ensure that:
  - (a) all samples are collected and preserved in accordance with AS/NZS 5667.1;
  - (b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
  - (c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11; and
  - (d) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured, unless indicated otherwise in the relevant table.
7. The Licence Holder must ensure that:
  - (a) monthly monitoring is undertaken at least 15 days apart;
  - (b) six monthly monitoring is undertaken at least 5 months apart; and
  - (c) quarterly monitoring is undertaken at least 45 days apart.
8. The Licence Holder must ensure that all monitoring equipment used on the Premises to comply with the Conditions of this Licence is calibrated in accordance with the manufacturer's specifications.
9. The Licence Holder must complete and document twice daily inspections of the integrity of the Process Water Pond, TMF and process pipelines (tailings delivery, distribution and decant return pipelines).
10. The Licence Holder must undertake water balance for the TMF each monthly period and (as a minimum) consider the following:
  - (a) site rainfall;
  - (b) evaporation rate obtained from on-site evaporation pan or calculated as per Schedule 3;
  - (c) surface runoff;
  - (d) decant water stored and recovery volumes;
  - (e) seepage recovery volumes from TMF underdrainage and other seepage infrastructure;



- (f) decant water and seepage recovery water volumes used for dust suppression within authorised area demarcated in Figure 7, Schedule 1;
- (g) volume of tailings deposited;
- (h) tailings solid content (w/w %);
- (i) volume of water in tailings; and
- (j) calculated seepage rate, calculated as per Schedule 3; and compared against predicted seepage rates for the TMF.

**11.** The Licence Holder must sample TMF decant water:

- (a) at the locations specified in Column 1 of Table 7;
- (b) for the parameters specified in Column 2 of Table 7;
- (c) in the units specified in Column 3 of Table 7;
- (d) over the Averaging Period specified in Column 4 of Table 7;
- (e) for the frequency specified in Column 5 of Table 7;
- (f) using the method specified in Column 6 of Table 7;
- (g) compare the results to the long-term irrigation (LTV) trigger values, aquatic ecosystem criteria and Livestock drinking water quality values applied from the ANZECC/ARMCANZ Guidelines, where applicable; and
- (h) compare the results to the groundwater monitoring results obtained in Condition 12.

**Table 7: Decant water monitoring**

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Location	Parameter <sup>2, 3</sup>	Unit	Averaging Period	Frequency	Method
Decant water within the TMF 1 and 2	pH <sup>1</sup>	mg/L	Spot sample	Six monthly	AS/NZS 5667.1 AS/NZS 5667.11
	Electrical Conductivity, EC <sup>1</sup>				
	Ammonia, NH <sub>3</sub>				
	Nitrite, NO <sub>2</sub> as NO <sub>2</sub>				
	Nitrate, NO <sub>3</sub> as NO <sub>3</sub>				
	Bicarbonate Alkalinity as HCO <sub>3</sub>				
	Calcium Carbonate CaCO <sub>3</sub>				
	Carbonate Alkalinity as CO <sub>3</sub>				
	Total Dissolved Solids, TDS				
	Total Alkalinity as CaCO <sub>3</sub>				
	Total Hardness by Calculation				
	Sulfate, SO <sub>4</sub>				
	Aluminium, Al				
	Antimony, Sb				
	Arsenic, As				
	Boron, B				
	Barium, Ba				
	Bismuth, Bi				
	Calcium, Ca				
	Cadmium, Cd				

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Location	Parameter <sup>2, 3</sup>	Unit	Averaging Period	Frequency	Method
	Chlorine, Cl				
	Cobalt, Co				
	Chromium, Cr				
	Caesium, Cs				
	Copper, Cu				
	Fluoride, F				
	Hexavalent Chromium, Cr <sup>6+</sup>				
	Iron, Fe				
	Potassium, K				
	Lead, Pb				
	Lithium, Li				
	Magnesium, Mg				
	Mercury, Hg				
	Molybdenum, Mo				
	Manganese, Mn				
	Nickel, Ni				
	Niobium, Nb				
	Nitrate, NO <sub>3</sub> as NO <sub>3</sub>				
	Nitrite, NO <sub>2</sub> as NO <sub>2</sub>				
	Phosphorus, P				
	Rubidium, Rb				
	Selenium, Se				
	Silicon, Si				
	Silver, Ag				
	Sodium, Na				
	Strontium, Sr				
	Tantalum, Ta				
	Thallium, Tl				
	Thorium, Th				
	Tin, Sn				
	Uranium, U				
	Vanadium, V				
	Zinc, Zn				
	Gross Alpha	Bq/L	Spot sample	Six monthly	AS/NZS 5667.1
	Gross Beta				AS/NZS 5667.11
	Radium-226				
	Radium-228				

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

Note 2: Level of detection is required to be sufficient to enable a comparison with ANZECC/ARMCANZ Guidelines.

Note 3: Metals should be monitored as total metals.

**12. The Licence Holder must sample ambient groundwater:**

- (a) at the locations specified in Column 1 of Table 8 and depicted in the Ambient Groundwater Monitoring Map in Schedule 1;
- (b) for the parameters specified in Column 2 of Table 8;
- (c) in the units specified in Column 3 of for the Table 8;
- (d) over the Averaging Period specified in Column 4 of Table 8;
- (e) for the frequency specified in Column 5 of Table 8;
- (f) using the method specified in Column 6 of Table 8;
- (g) compare the results to the long-term irrigation (LTV) trigger values and aquatic ecosystem criteria applied from the ANZECC/ARMCANZ Guidelines, where applicable;
- (h) compare results to the triggers specified in Column 7 of Table 8; and
- (i) compare the results to the limits specified in Column 8 of Table 8.

**Table 8: Ambient groundwater monitoring**

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Location	Parameter <sup>2, 5</sup>	Unit	Averaging Period	Frequency	Method	Trigger	Limit <sup>3</sup>
TMFMB01, TMFMB02, PMB001, PWE033, PMB003, PMB045, TMFMB03, TMFMB04, TMFMB05, PMB022, PMB021, PWBMB004, PWB038, PWB039, PWB040, PWB041, TMFMB008_S, TMFMB008_D, WELL5, as depicted in Schedule 1, Figure 6	Standing water level <sup>1</sup>	mbgl	Spot sample	Monthly	AS/NZS 5667.1  AS/NZS 5667.11	7 mbgl  (5 mbgl for PMB045, TMFMB04 and TMFMB05)	5 mbgl  (3 mbgl for PMB045, TMFMB04 and TMFMB05)
	pH <sup>1</sup>	pH units		Monthly		-	6.5-8.5
	Electrical Conductivity <sup>1</sup>	µS/cm		Monthly		-	-
	Ammonia, NH <sub>3</sub>	mg/L		Monthly		-	-
	Bicarbonate Alkalinity as HCO <sub>3</sub>			Monthly		-	-
	Calcium Carbonate CaCO <sub>3</sub>			Monthly		-	-
	Carbonate Alkalinity as CO <sub>3</sub>			Monthly		-	-
	Nitrate, NO <sub>3</sub> as NO <sub>3</sub>			Monthly		-	400
	Nitrite, NO <sub>2</sub> as NO <sub>2</sub>			Monthly		-	30
	Total Alkalinity as CaCO <sub>3</sub>			Monthly		-	-
	Total Dissolved Solids, TDS			Monthly		-	4,000 <sup>4</sup>
	Total Hardness by Calculation			Monthly		-	-

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Location	Parameter <sup>2, 5</sup>	Unit	Averaging Period	Frequency	Method	Trigger	Limit <sup>3</sup>
	Sulfate, SO <sub>4</sub>			Monthly		-	1,000
	Calcium, Ca			Monthly		-	-
	Chloride, Cl			Monthly		-	-
	Lithium, Li			Monthly		-	-
	Magnesium, Mg			Monthly		-	600
	Potassium, K			Monthly		-	-
	Silica, Soluble			Monthly		-	-
	Sodium, Na			Monthly		-	-
	Total nitrogen, TN			Quarterly		-	-
	Total phosphorus, TP			Quarterly		-	-
	Aluminum, Al			Quarterly		-	5
	Antimony, Sb			Quarterly		-	-
	Arsenic, As			Quarterly		-	0.5
	Barium, Ba			Quarterly		-	-
	Bismuth, Bi			Quarterly		-	-
	Boron, B			Quarterly		-	5
	Bromide, Br			Quarterly		-	-
	Cadmium, Cd			Quarterly		-	0.01
	Caesium, Cs			Quarterly		-	-
	Chromium, Cr			Quarterly		-	1
	Cobalt, Co			Quarterly		-	1
	Copper, Cu			Quarterly		-	1
	Fluoride, F			Quarterly		-	2 (with the exception of PMB002) 2.5 for PMB002
	Hexavalent Chromium, Cr <sup>6+</sup>			Quarterly		-	-
	Iron, Fe			Quarterly		-	-
	Lead, Pb			Quarterly		-	0.1

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Location	Parameter <sup>2, 5</sup>	Unit	Averaging Period	Frequency	Method	Trigger	Limit <sup>3</sup>
	Manganese, Mn			Quarterly		-	-
	Mercury, Hg			Quarterly		-	0.002
	Molybdenum, Mo			Quarterly		-	0.15
	Nickel, Ni			Quarterly		-	1
	Niobium, Nb			Quarterly		-	-
	Rubidium, Rb			Quarterly		-	-
	Selenium, Se			Quarterly		-	0.02
	Silicon, Si			Quarterly		-	-
	Tantalum, Ta			Quarterly		-	-
	Thallium, Tl			Quarterly		-	-
	Thorium, Th			Quarterly		-	-
	Tin, Sn			Quarterly		-	-
	Uranium, U			Quarterly		-	0.2
	Vanadium, V			Quarterly		-	0.2
	Zinc, Zn			Quarterly		-	20
	Gross Alpha	Bq/L	Six monthly	0.5 for PMB001, PMB022, PMB021, WELL 5  1 for PWE033, PWB045, TMFMB04, PWBMB004  1.5 for TMFMB05 and - PMB003  4 for TMFMB01 2 for TMFMB02	-		
	Gross Beta		Six monthly	0.5	-		
	Radium 226		Immediately, if Gross Alpha and/or Gross Beta are triggered and then	5	-		

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Location	Parameter <sup>2, 5</sup>	Unit	Averaging Period	Frequency	Method	Trigger	Limit <sup>3</sup>
				six monthly			
	Radium 228			Immediately, if Gross Alpha and/or Gross Beta are triggered and then six monthly		2	-

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

Note 2: Level of detection is required to be sufficient to enable a comparison with ANZECC/ARMCANZ Guidelines.

Note 3: Limits based on the Livestock drinking water quality in ANZECC/ARMCANZ Guidelines, with the exception of SWL.

Note 4: Limit for TDS based on the Livestock drinking water quality in ANZECC/ARMCANZ Guidelines for beef cattle.

Note 5: Metals should be monitored as filtered metals.

13. The Licence Holder shall implement measures to decrease standing water level within 3 months if monitoring required by Condition 12, indicates that the standing water trigger level has been exceeded, and is not a result of natural excessive rainfall events.
14. The Licence Holder must immediately notify the CEO in writing if the results required by Condition 12, Table 8 indicates that a trigger level and/or limit has been exceeded and outline measures to be actioned within set timeframes. Results of Gross Alpha and Gross Beta levels are exempted of this requirement and shall be included in the Annual Environmental Report, specified by Condition 24.
15. The Licence Holder must sample outputs from the combined camp reverse osmosis brine and camp wastewater treatment plant mixing tank and oily water separators:
  - (a) at the locations specified in Column 1 of Table 9 and depicted in the maps in Schedule 1;
  - (b) for the parameters specified in Column 2 of Table 9;
  - (c) in the units specified in Column 3 of Table 9;
  - (d) over the Averaging Period specified in Column 4 of Table 9;
  - (e) for the frequency specified in Column 5 of Table 9;
  - (f) using the method specified in Column 6 of Table 9; and
  - (g) compare the results to the Short-term irrigation trigger values applied from the ANZECC/ARMCANZ Guidelines, where applicable.

**Table 9: Wastewater monitoring during operation**

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Location	Parameter <sup>2, 3</sup>	Units	Averaging period	Frequency	Method
WWTP discharge point from combined effluent and RO Brine mixing tank(s)	Volume	m <sup>3</sup>	Annual	Continuous	Flow metering device
	Total nitrogen, TN	kg/ha/yr to the irrigation area	Annual	Quarterly	AS 5667.10 AS/NZS 5667.1
	Total phosphorus, TP	kg/ha/yr to the irrigation area			
	Total nitrogen, TN	mg/L	Spot sample		
	Total phosphorus, TP	mg/L			
	pH	pH units			
	Electrical Conductivity, EC	µS/cm			
	E.coli	cfu/100mL			
	Ammonia, NH <sub>3</sub>	mg/L			
	Nitrate, NO <sub>3</sub> as NO <sub>3</sub>				
	Nitrite, NO <sub>2</sub> as NO <sub>2</sub>				
	Bicarbonate Alkalinity as HCO <sub>3</sub>				
	Calcium Carbonate CaCO <sub>3</sub>				
	Carbonate Alkalinity as CO <sub>3</sub>				
	Biochemical Oxygen Demand, BOD				
	Total Suspended Solids, TSS				
	Total Dissolved Solids, TDS				
	Total Hardness by Calculation				
	Sulfate, SO <sub>4</sub>				
	Aluminum, Al				
	Arsenic, As				
	Bismuth, Bi				
	Bromide, Br				
	Cadmium, Cd				
	Caesium, Cs				
	Calcium, Ca				
	Chloride, Cl				
	Chromium, Cr				
	Cobalt, Co				
	Copper, Cu				
	Fluoride, Fl				
	Hexavalent Chromium.				

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Location	Parameter <sup>2, 3</sup>	Units	Averaging period	Frequency	Method
	Cr <sup>6+</sup>				
	Iron, Fe				
	Lead, Pb				
	Lithium, Li				
	Magnesium, Mg				
	Manganese, Mn				
	Mercury, Hg				
	Molybdenum, Mo				
	Nickel, Ni				
	Niobium, Nb				
	Potassium, K				
	Rubidium, Rb				
	Selenium, Se				
	Silicon, Si				
	Sodium, Na				
	Tantalum, Ta				
	Thallium, Tl				
	Thorium, Th				
	Tin, Sn				
	Uranium, U				
	Zinc, Zn				
	Gross Alpha	Bg/L			
	Gross Beta				
	Radium-226				
	Radium-228				
Process Water Pond	Volume input	m <sup>3</sup>	Annual	Continuous	Flow metering device
	Volume output	m <sup>3</sup>	Annual	Continuous	Flow metering device
	pH <sup>1</sup>	pH Units	Spot sample	Six monthly	AS 5667.10 AS/NZS 5667.1
	Electrical Conductivity, EC	µS/cm			
	Total nitrogen, TN	mg/L			
	Total phosphorus, TP				
	Ammonia, NH <sub>3</sub>				
	Nitrate, NO <sub>3</sub> as NO <sub>3</sub>				
	Nitrite, NO <sub>2</sub> as NO <sub>2</sub>				
	Bicarbonate Alkalinity as HCO <sub>3</sub>				
	Calcium Carbonate CaCO <sub>3</sub>				
	Carbonate Alkalinity as CO <sub>3</sub>				
	Total Dissolved Solids (TDS)				
	Total Hardness by				



Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Location	Parameter <sup>2, 3</sup>	Units	Averaging period	Frequency	Method
	Calculation				
	Sulfate, SO <sub>4</sub>				
	Aluminum, Al				
	Arsenic, As				
	Bismuth, Bi				
	Bromide, Br				
	Cadmium, Cd				
	Caesium, Cs				
	Calcium, Ca				
	Chloride, Cl				
	Chromium, Cr				
	Cobalt, Co				
	Copper, Cu				
	Fluoride, Fl				
	Hexavalent Chromium, Cr <sup>6+</sup>				
	Iron, Fe				
	Lead, Pb				
	Lithium, Li				
	Magnesium, Mg				
	Manganese, Mn				
	Mercury, Hg				
	Molybdenum, Mo				
	Nickel, Ni				
	Niobium, Nb				
	Potassium, K				
	Rubidium, Rb				
	Selenium, Se				
	Silicon, Si				
	Sodium, Na				
	Tantalum, Ta				
	Thallium <sup>2</sup> , Tl				
	Thorium, Th				
	Tin, Sn				
	Uranium, U				
Zinc, Zn					
Gross Alpha	Bg/L				
Gross Beta					
Radium-226					
Radium-228					
Oily-water treatment systems	Total Recoverable Hydrocarbons	mg/L	Spot sample	Monthly	AS 5667.10 AS/NZS 5667

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

Note 2: Level of detection is required to be sufficient to enable a comparison with ANZECC/ARMCANZ Guidelines.

Note 3: Metals should be monitored as total metals.

**16.** The Licence Holder must sample water in the sediment ponds:

- (a) at the locations specified in Column 1 of Table 10 and depicted in the Discharge Points Maps in Schedule 1;
- (b) for the parameters specified in Column 2 of Table 10;
- (c) in the units specified in Column 3 of Table 10;
- (d) over the Averaging Period specified in Column 4 of Table 10;
- (e) for the frequency specified in Column 5 of Table 10;
- (f) using the method specified in Column 6 of Table 10;
- (g) compare the results to the Livestock drinking water quality values in the ANZECC/ARMCANZ Guidelines, where applicable; and
- (h) compare the results to the groundwater monitoring results obtained in Condition 12.

**Table 10: Sediment Ponds monitoring during operation**

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Location	Parameter <sup>2, 3</sup>	Units	Averaging period	Frequency	Method
Sediment Pond East discharge point  Sediment Pond West discharge point  Sediment Pond 3 discharge point  Sediment Pond 4 discharge point	Volume	m <sup>3</sup>	Annual	Continuous	Flow metering device
	pH	pH units	Spot sample	Following rainfall events when discharging	AS 5667.10  AS/NZS 5667.1
	Electrical Conductivity, EC	µS/cm			
	Total nitrogen, TN	mg/L			
	Total phosphorus, TP				
	Bicarbonate Alkalinity as HCO <sub>3</sub>				
	Carbonate Alkalinity as CO <sub>3</sub>				
	Total Suspended Solids, TSS				
	Total Dissolved Solids, TDS				
	Sulfate, SO <sub>4</sub>				
	Calcium, Ca				
	Chloride, Cl				
	Lithium, Li				
	Magnesium, Mg				
	Potassium, K				
Sodium, Na					

**17.** The Licence Holder must sample Pilgangoora Creek surface water and discharge point:

- (a) at the locations specified in Column 1 of Table 11 and depicted in Figure 7 Schedule 1;
- (b) for the parameters specified in Column 2 of Table 11;
- (c) in the units specified in Column 3 of Table 11;

- (d) over the Averaging Period specified in Column 4 of Table 11;
- (e) for the frequency specified in Column 5 of Table 11;
- (f) using the method specified in Column 6 of Table 11;
- (g) compare the results to the Livestock drinking water quality values in the ANZECC/ARMCANZ Guidelines, where applicable; and

**Table 11: Pilgangoora Creek ambient surface water and discharge monitoring**

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Location	Parameter <sup>2, 3</sup>	Units	Averaging period	Frequency	Method
Pilgangoora discharge point  Upstream Pilgangoora Creek  Downstream Pilgangoora Creek  As depicted in Schedule 1 Figure 6	Volume	m <sup>3</sup>	Annual	When discharging	Flow metering device
	pH	pH units	Spot sample	During and immediately after any discharge event into Pilgangoora Creek.	AS 5667.10  AS/NZS 5667.1
	Electrical Conductivity, EC	µS/cm			
	Nitrate as NO <sub>3</sub>	mg/L / meq/L			
	Dissolved major anion silicate dioxide				
	Bicarbonate Alkalinity as HCO <sub>3</sub>				
	Carbonate Alkalinity as CO <sub>3</sub>				
	Total alkalinity				
	Dissolved metals - lithium				
	Total Dissolved Solids, TDS				
	Total recoverable hydrocarbons (TRH)				
	Sulfate, SO <sub>4</sub>				
	Calcium, Ca				
	Chloride, Cl				
	Lithium, Li				
	Magnesium, Mg				
	Potassium, K				
	Sodium, Na				

- 18.** The Licence Holder must submit to the CEO a written report within 14 days of becoming aware of a 10% or greater increase of any water quality parameter listed in Table 11, between upstream and downstream Pilgangoora Creek sampling sites when monitored in accordance with condition 17. An exemption to the reporting must only occur when the downstream water quality parameters remain under the Livestock drinking water quality values in the ANZECC/ARMCANZ Guidelines. The report must contain the following information:
- (a) a description of the emission exceedance;
  - (b) the time and date when the exceedance occurred;
  - (c) whether any environmental impact occurred as a result of the exceedance and, if so,

- what that impact was and where the impact occurred;
- (d) details of the management action(s) taken in response to resolving the exceedance; and
- (e) the details and result of any investigation undertaken into the cause of the exceedance.

## Records / Reporting

### Records

- 19.** The Licence Holder must maintain accurate and auditable Books including the following records, information, reports and data required by this Licence:
- (a) the calculation of fees payable in respect of this Licence;
  - (b) the maintenance of infrastructure required to ensure that it is kept in good working order in accordance with Condition 5 of this Licence;
  - (c) monitoring undertaken in accordance with Conditions 11, 12, 15, 16 and 17 of this Licence;
  - (d) complaints received under Condition 21 of this Licence; and
  - (e) any Material Change.

In addition, the Books must:

- (f) be legible;
- (g) if amended, be amended in such a way that the original and subsequent amendments remain legible and are capable of retrieval;
- (h) be retained for at least 3 years from the date the Books were made; and
- (i) be available to be produced to an Inspector or the CEO.

### Notification

- 20.** The Licence Holder must, within 7 days of becoming aware of any non-compliance with Conditions of this licence, notify the CEO in writing of that non-compliance and include in that notification the following information:
- (a) which Condition was not complied with;
  - (b) the time and date when the non-compliance occurred;
  - (c) if any environmental impact occurred as a result of the non-compliance and if so what that impact is and where the impact occurred;
  - (d) the details and result of any investigation undertaken into the cause of the noncompliance;
  - (e) what action has been taken and the date on which it was taken to prevent the non-compliance occurring again; and
  - (f) what action will be taken and the date by which it will be taken to prevent the non-compliance occurring again.

### Complaints

- 21.** The Licence Holder must record the following information in relation to complaints received relating to 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 Licence Holder to investigate or respond to any complaint.

#### Department Request

- 22.** The Licence Holder must comply with a Department Request, within 14 days from the date of the Department Request or such other period as agreed to by the Inspector or the CEO.

#### Annual Audit Compliance Report

- 23.** The Licence Holder must:
- (a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and
  - (b) prepare and submit to the CEO by no later than 120 days after the end of that annual period an Annual Audit Compliance Report in the approved form.

#### Annual Environmental Report

- 24.** The Licence Holder must submit to the CEO by no later than 120 days after the end of each annual period, an Annual Environmental Report for that annual period for the conditions listed in Table 12, and which provides information in accordance with the corresponding requirements set out in Table 12.

**Table 12: Annual Environmental Report**

Condition	Requirements
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken.
5, Table 6	Results of quarterly visual monitoring of vegetation condition surrounding authorised dust suppression area (Figure 7, Schedule 1).
10	<p><u>Annual water balance for TMF – for Cell 1 and 2</u></p> <p>The water balance provided to the CEO must include, but need not be limited to the following:</p> <ul style="list-style-type: none"> <li>(a) the data used to undertake the water balance;</li> <li>(b) details on how the parameters have been calculated / estimated; and</li> <li>(c) an interpretation of the data including: <ul style="list-style-type: none"> <li>i. analysis on how TMF is performing in regard to water management including seepage rate (calculated seepage rates against predicted rates); and</li> <li>ii. analysis on whether existing seepage controls are considered adequate or what measures to further reduce seepage rates are required.</li> </ul> </li> </ul> <p><u>Quarterly lithium mass balance from the groundwater data</u></p> <p>The four quarterly lithium mass balances provided to the CEO must include, but need not be limited to the following:</p> <ul style="list-style-type: none"> <li>(a) the data used to undertake the water balance;</li> <li>(b) details on how the parameters have been calculated / estimated; and</li> <li>(c) an interpretation of the data including: <ul style="list-style-type: none"> <li>i. analysis on how TMF is performing regarding water management including seepage rate (calculated seepage rates against predicted rates); and</li> <li>ii. analysis on whether existing seepage controls are considered adequate or what measures to further reduce lithium seepage are required.</li> </ul> </li> </ul>
11	<p>Decant water monitoring requirements as per Condition 11(a) – (h), Table 6</p> <p>The results to be provided to the CEO must include, but need not be limited to the following:</p> <ul style="list-style-type: none"> <li>(a) the dates and location of sampling;</li> <li>(b) the raw monitoring data from each location, for each parameter in a tabulated form; and</li> <li>(c) an interpretation of monitoring data results including a comparison to previous monitoring results, licence triggers, limits, and relevant criteria from ANZECC/ARMCANZ Guidelines.</li> </ul>
12	<p>Ambient groundwater monitoring requirements as per Condition 12(a) – (i), Table 8 .The results to be provided to the CEO must include, but need not be limited to the following:</p> <ul style="list-style-type: none"> <li>(a) the dates and location of sampling;</li> <li>(b) the raw monitoring data from each location, for each parameter in a tabulated form; and</li> <li>(c) an interpretation of monitoring data results including a comparison to previous monitoring results, licence triggers, limits, and relevant criteria from ANZECC/ARMCANZ Guidelines.</li> </ul>
15	<ul style="list-style-type: none"> <li>(a) Wastewater monitoring during operation requirements as per Condition 15(a) – (g), Table 9;</li> <li>(b) the dates and location of sampling;</li> </ul>

Condition	Requirements
	(c) the raw monitoring data from each location, for each parameter in a tabulated form; and (d) an interpretation of monitoring data results including a comparison to previous monitoring results and relevant criteria from ANZECC/ARMCANZ Guidelines.
16	Sediment Ponds monitoring requirements as per Condition 16(a) - (h), Table 10. (a) the dates and location of sampling; (b) the raw monitoring data from each location, for each parameter in a tabulated form; and (c) an interpretation of monitoring data results including a comparison to previous monitoring results and relevant criteria from ANZECC/ARMCANZ Guidelines.
17	Pilgangoora Creek and discharge point monitoring requirements as per Condition 17 (a) - (f), Table 11. (a) the dates and location of sampling; (b) the raw monitoring data from each location, for each parameter in a tabulated form; and (c) an interpretation of monitoring data results including a comparison to previous monitoring results and relevant criteria from ANZECC/ARMCANZ Guidelines.

## Works

### Construction phase

#### General

- 25.** The Licence Holder must ensure that during construction activities, mobile equipment (e.g. vehicles and heavy equipment) are managed so that:
- (a) environmentally harmful materials are stored in secured, covered, impervious and bunded areas;
  - (b) bunded areas have a minimum capacity of 110% of the largest container stored within it, or 25% of the volume of all containers, whichever is the larger;
  - (c) all mobile equipment is maintained as per manufacturer's specifications;
  - (d) suitably stocked spill response equipment is located in close proximity to where spills may occur;
  - (e) all staff are trained to use the spill response equipment; and
  - (f) any spills are contained and cleaned-up as soon as they occur provided it is safe to do so.
- 26.** The Licence Holder must ensure that during construction activities, stormwater is managed so that:
- (a) clean surface water is diverted around construction work areas<sup>1</sup>; and
  - (b) potentially contaminated waters are retained onsite via bunds or surface diversions.
- Note 1: pipelines on Table 13 are exempt from this requirement

### Infrastructure and equipment

- 27.** 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
  - (c) requirements; and

- (d) at the corresponding infrastructure location,  
as set out in Table 13.

**Table 13: Design and construction/installation requirement**

No.	Infrastructure and equipment	Design and construction/installation requirements	Infrastructure and equipment location
<b>Category 6 – Mine dewatering</b>			
1.	Dewatering pipeline from Central Pit to the final discharge point in Pilgangoora Creek (Discharge point in Schedule 1 Figure 8)	<ul style="list-style-type: none"> <li>Constructed of HDPE.</li> <li>Required to meet the following standards: <ul style="list-style-type: none"> <li>AS/NZS 2033: <i>Installation of polyethylene pipe systems</i>;</li> <li>AS/NZS 4129: <i>Fittings for polyethylene (PE) pipes for pressure applications</i>;</li> <li>AS/NZS 4130: <i>Polyethylene (PE) pipes for pressure applications</i>; and</li> <li>AS/NZS 4131: <i>Polyethylene (PE) compounds for pressure pipes and fittings</i>.</li> </ul> </li> </ul>	Dewatering pipeline as shown in Figure 8 of Schedule 1.
2.	Dewatering pipeline anchors	Dewatering pipeline anchored at regular intervals to restrict movement in the event of a significant rainfall event.	–
3.	Flow meter	Dewatering pump to be fitted with cumulative flow metre to measure flow rate and discharge volumes.	–
4.	Energy dissipation infrastructure	<ul style="list-style-type: none"> <li>Pilgangoora Creek outfall facility specifications: <ul style="list-style-type: none"> <li>Layer of riprap installed to protect the receiving Pilgangoora Creek bank from erosion and scouring;</li> <li>Only benign, non-acid forming (NAF) mine waste material used for rock armouring; and</li> <li>Diffuser arrangement at the end of the pipeline to spread the flow of mine dewater prior to release on the Pilgangoora Creek bed.</li> </ul> </li> </ul>	Discharge point (Discharge point) as shown in Figure 6 of Schedule 1.

### Compliance reporting

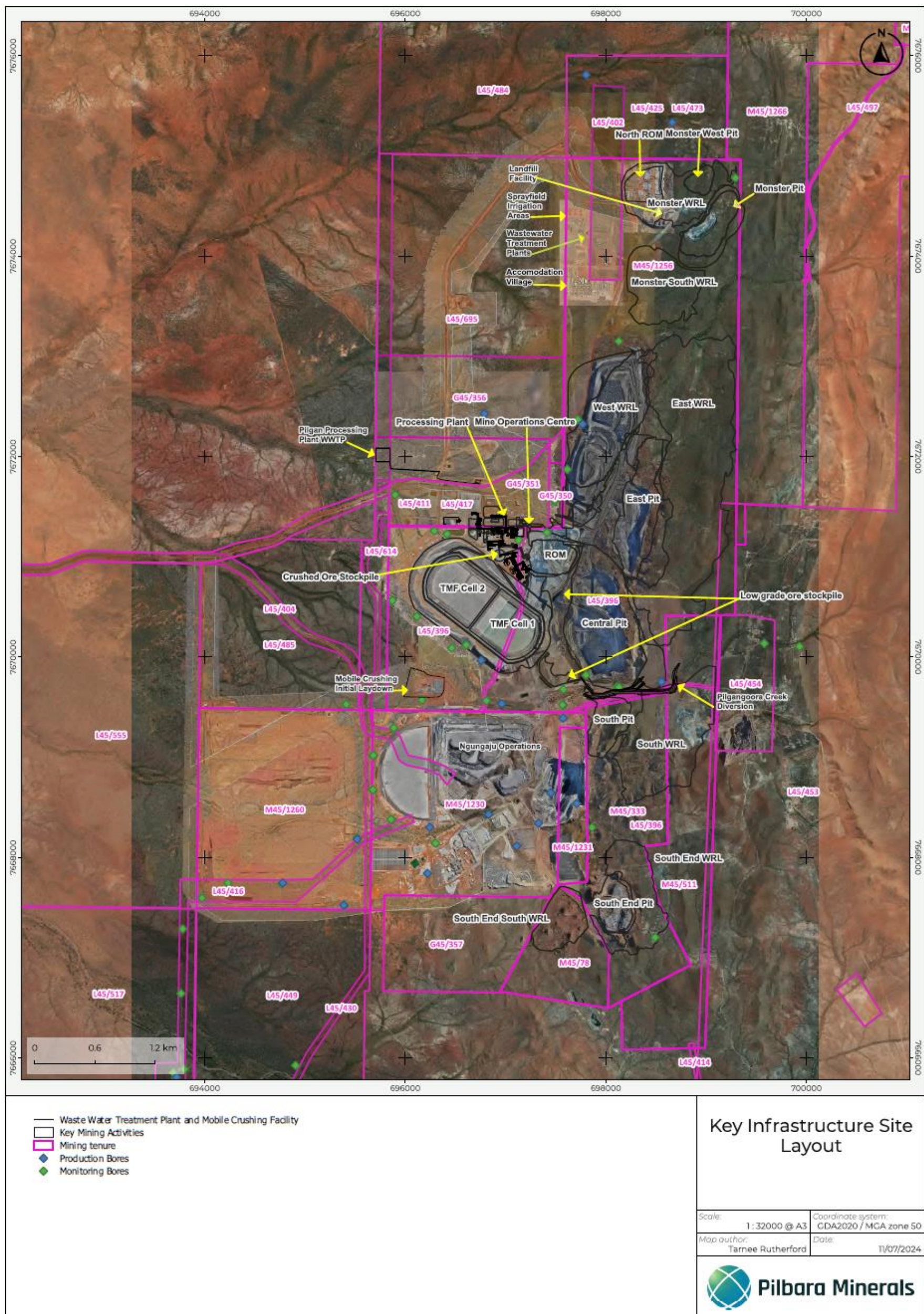
- 28.** The licence holder must within 30 calendar days of all items of infrastructure or equipment required by Condition 27 being constructed and/or installed:
- undertake an audit of their compliance with the requirements of Condition 27; and
  - prepare and submit to the CEO an Environmental Compliance Report on that compliance.
- 29.** The Environmental Compliance Report required by Condition 28, must include as a minimum the following:
- certification by a suitably qualified engineer that the items of infrastructure or component(s) thereof, as specified in Condition 27, have been constructed in accordance with the relevant requirements specified in Condition 27;
  - as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in Condition 27; and
  - be signed by a person authorised to represent the Licence Holder and contains the printed name and position of that person



## Schedule 1: Maps

### Premises map

The Premises are shown in Figure 1 below.



**Figure 1: Site Layout**





Figure 2: Locations of Sediment Ponds



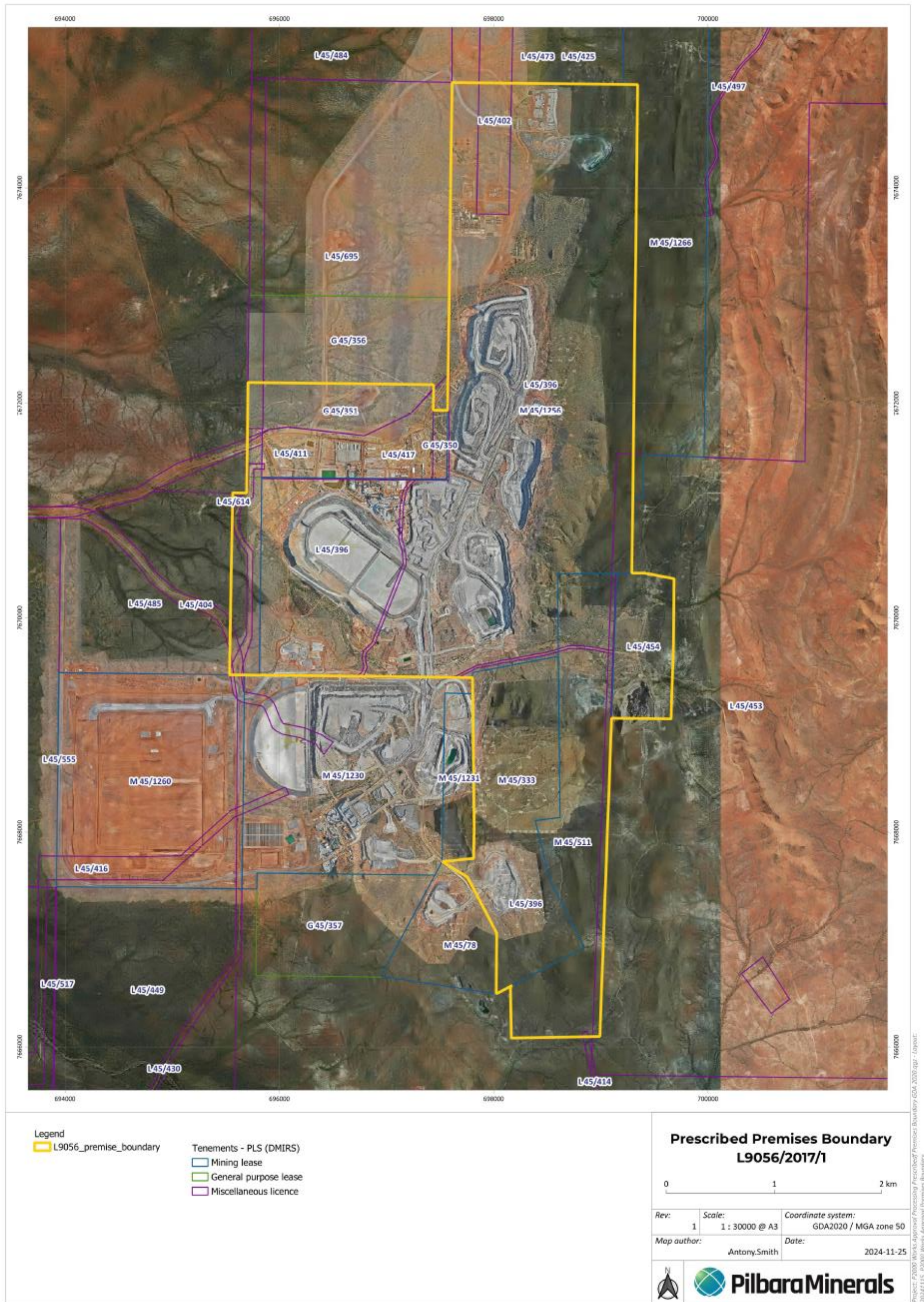
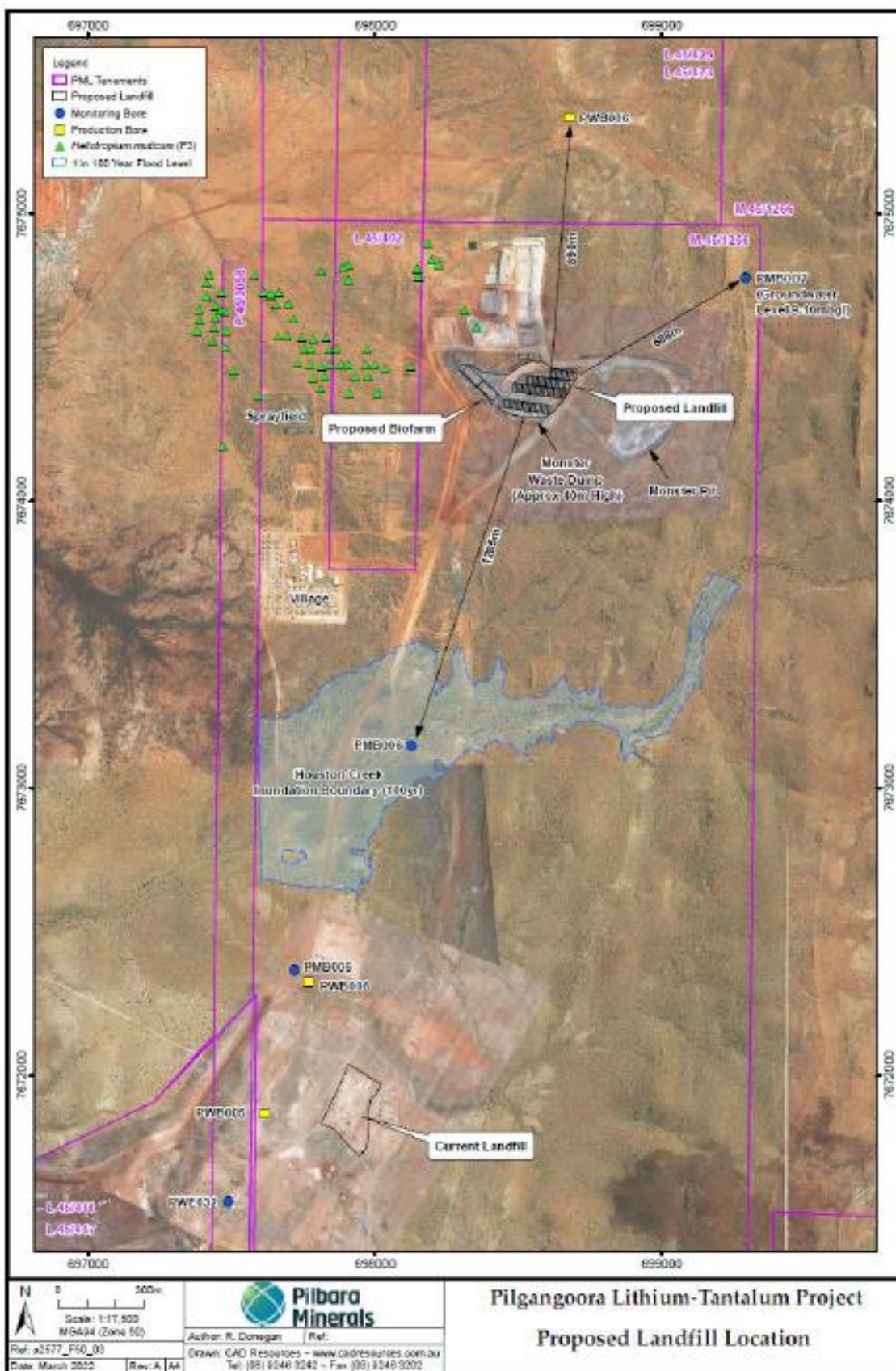


Figure 3: Prescribed Premises Boundary (outlined in yellow)





**Figure 4: Landfill location within Monster WRD**



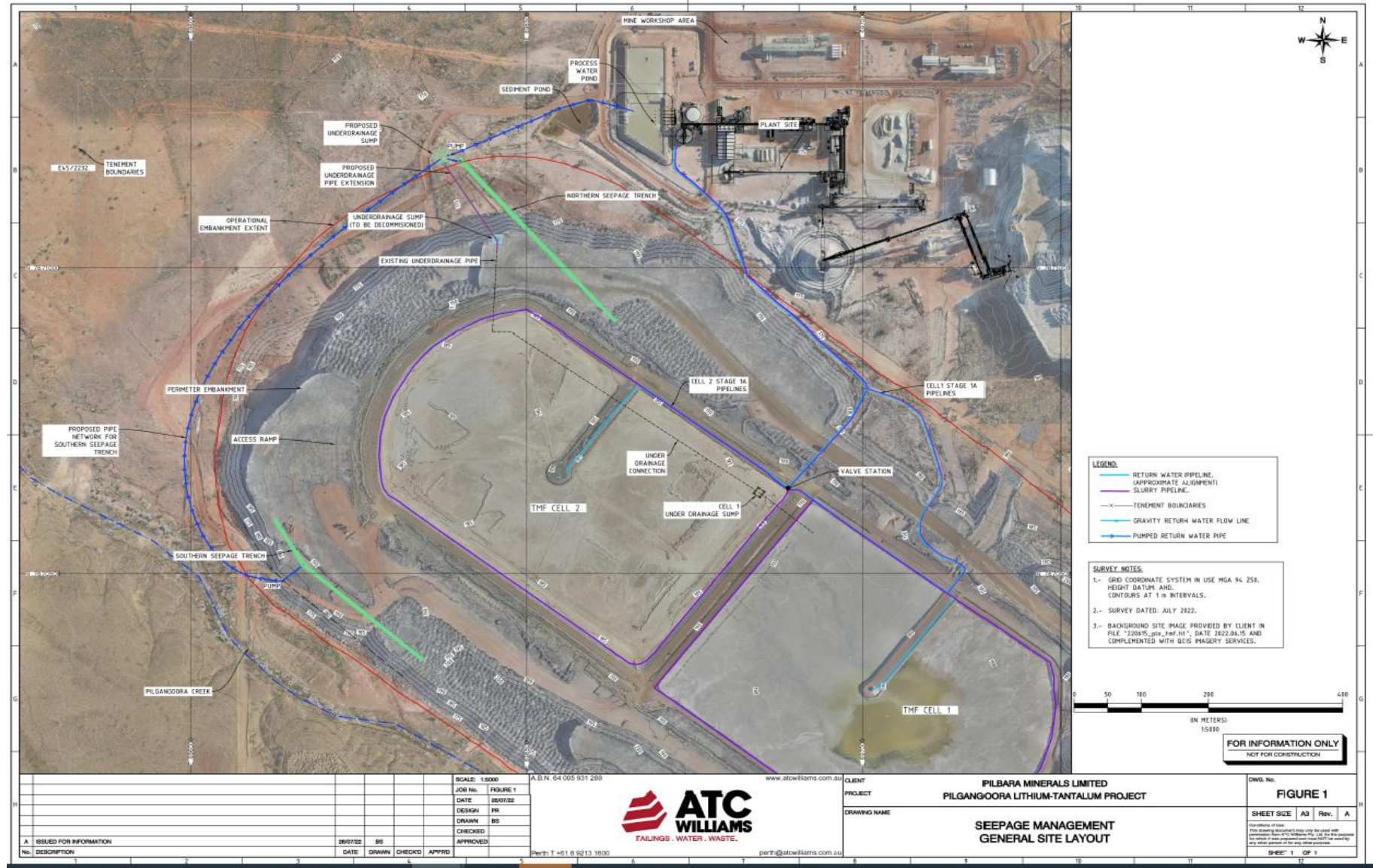


Figure 5: General configuration of pipelines and seepage management infrastructure



## Ambient groundwater and surface water monitoring map

The groundwater bores and Pilgangoora surface water sites are shown in the map below.

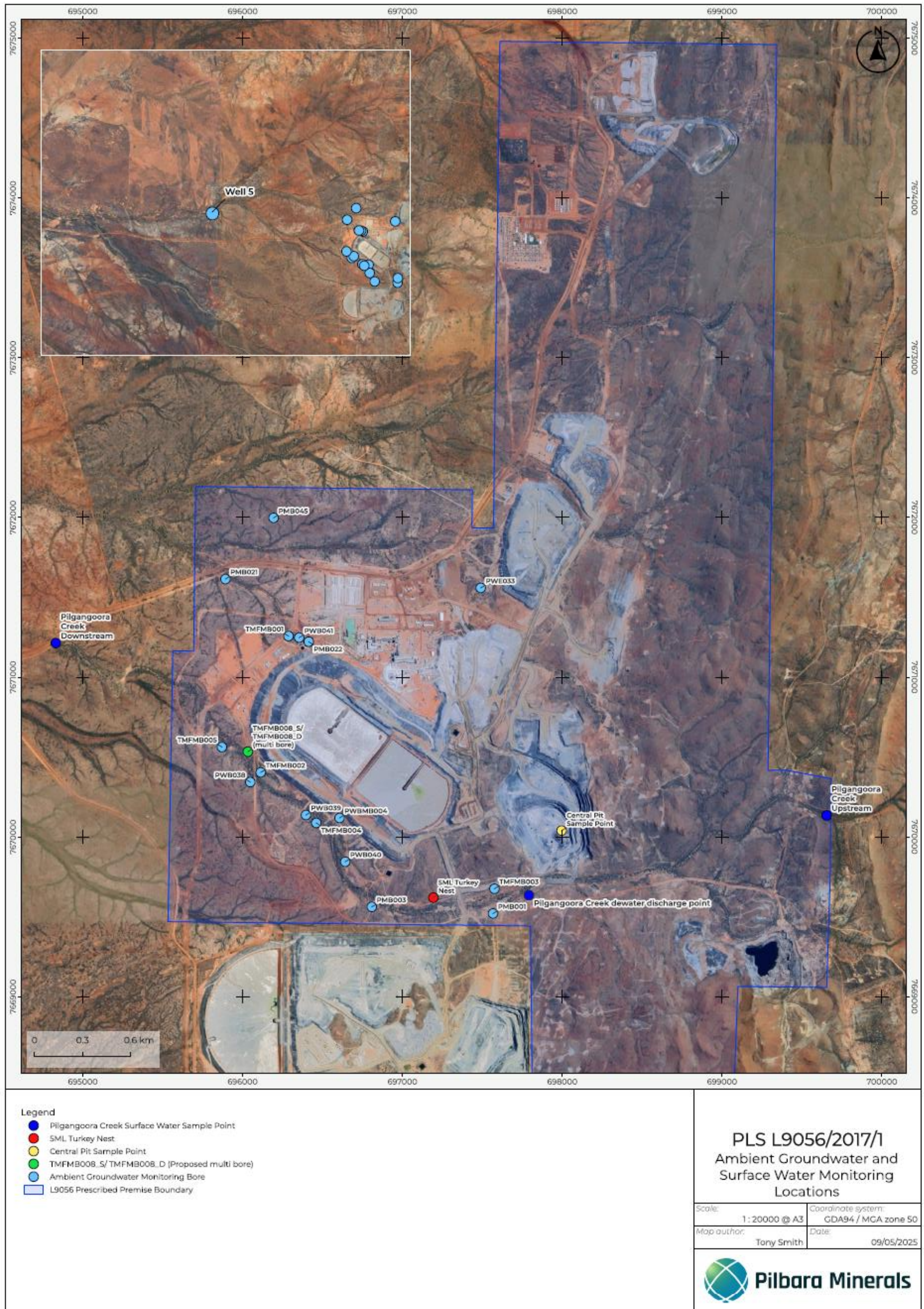


Figure 6: Location of TMF monitoring bores and Pilgangoora Creek surface water



L9056/2017/1 (amended 27 05 2025)



## Pilgangoora Creek discharge layout

The following figure outlines the pipeline and discharge point for mine dewatering activities

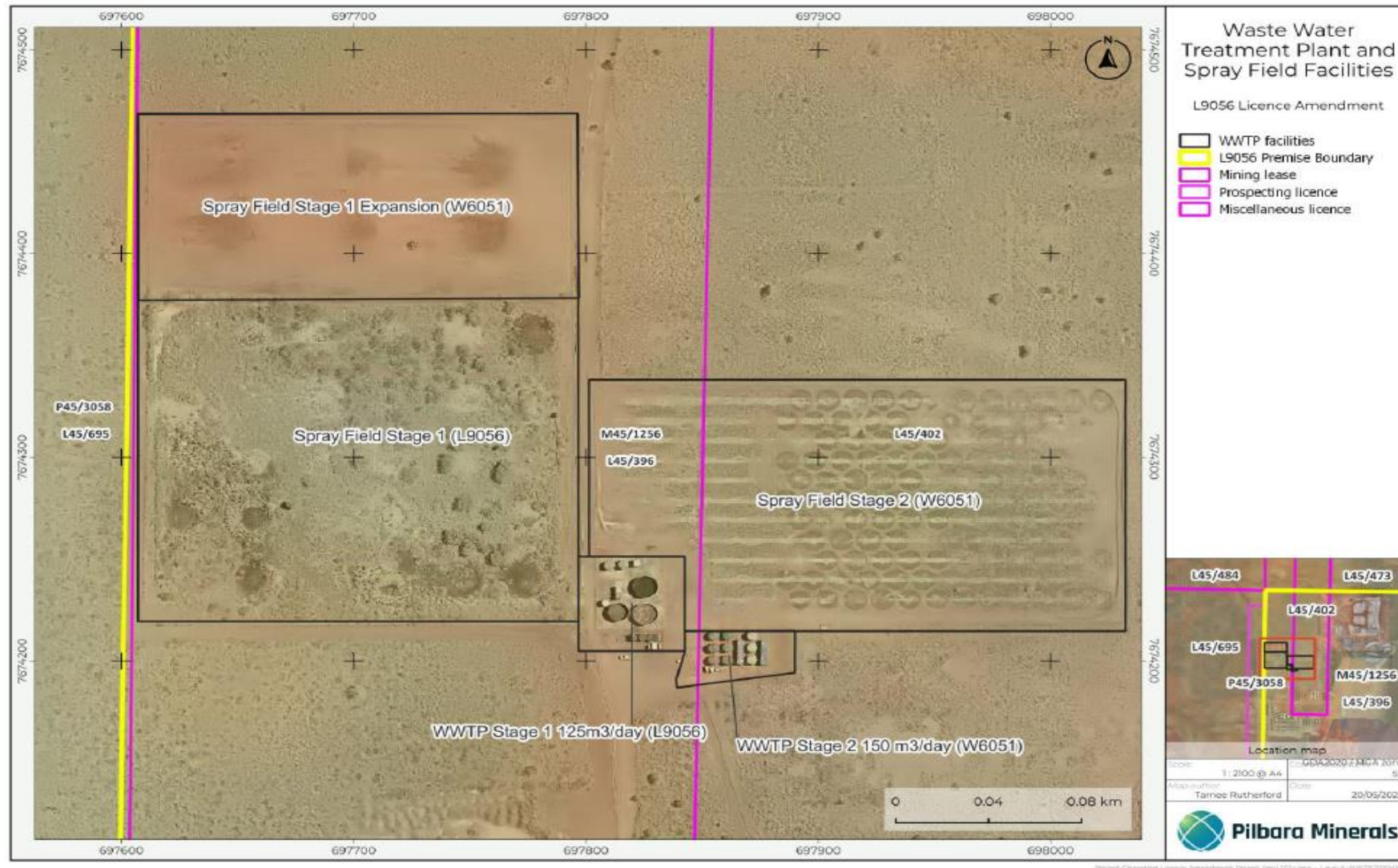


Figure 8: Pilgangoora Creek discharge point and location of off-site “south pit” and central pit pipelines.



## Spray field site layout

The following figure outlines the irrigation areas and WWTP locations



**Figure 9: Wastewater treatment plants and spray field locations.**

## Premises boundary

The Premises boundary comprising M45/1256, L45/417, L45/454, L45/614, G45/350, G45/351 is defined by the coordinates in Table 14.

**Table 14: Premises boundary coordinates (GDA 2020 MGA Zone 50)**

Easting	Northing
695706.878	7672195.105
697439.039	7672173.826
697436.423	7671936.264
697570.576	7671934.942
697611.16	7674982.347
699205.384	7674963.308
699343.818	7674961.655
699327.898	7673632.993
699289.352	7670418.141
699401.044	7670419.17
699684.043	7670365.171
699678.444	7669775.37
699656.244	7669057.969
699100.404	7669064.551
698990.713	7666098.564
698165.621	7666082.306
698155.927	7666564.284
698024.334	7666495.403
698029.344	7667059.19
697982.133	7667149.378
697795.547	7667505.814
697754.871	7667583.518
697518.243	7667727.26
697812.359	7667757.425
697817.741	7668037.706
697815.681	7668223.316
697811.622	7668588.966
697802.256	7669443.307
695534.163	7669470.288
695564.236	7671166.196
695694.711	7671164.662

## Schedule 2: Primary Activities

At the time of assessment, Emissions and Discharges from the following Primary Activities were considered in the determination of the risk and related Conditions for the Premises.

The Primary Activities are listed in Table 15.

**Table 15: Primary Activities**

Primary Activity	Premises production or design capacity
Category 5: Processing Plant	6, 000,000 tonnes per year processed ore 1, 680, 000 tonnes tailings produced
Category 6: Mine Dewatering	256,000 tonnes per year
Category 52: Power Station	20.9 MW
Category 54: Camp Wastewater Treatment Plant	275 m <sup>3</sup> per day
Category 64: Class II putrescible and inert landfill	25,000 tonnes per year
Category 73: Bulk storage of chemicals (diesel)	1,036 m <sup>3</sup> in aggregate

## Infrastructure and equipment

The Primary Activity infrastructure and equipment situated on the Premises is listed in Table 16.

**Table 16: Infrastructure and equipment**

Infrastructure and equipment	Plan reference
Processing Plant	Process Plant as shown in the premises map in Schedule 1
Tailings Management Facility Cell 1	TMF Cell 1 as shown in the premises map in Schedule 1 and drawings in Schedule 4
Tailings Management Facility Cell 2	TMF Cell 2 as shown in the premises map in Schedule 1 and drawings in Schedule 4
Power Station comprising diesel operated generators	Power Station & Fuel Farm as shown in the premises map in Schedule 1
Bulk Fuel Farm (Diesel storage)	Power Station & Fuel Farm as shown in the premises map in Schedule 1
Process Water Pond	Process Water Pond as shown in the premises map in Schedule 1
Camp Wastewater Treatment Plant	WWTP & spray field as shown in the premises map in Schedule 1
Class II putrescible and inert landfill	Landfill as shown in the premises map and Figure 4 in Schedule 1

## Site layout

The Primary Activity infrastructure and equipment is set out on the Premises in accordance with the site layout specified on Figures 1 to 5 in Schedule 1 and Drawings in Schedule 4.

## Schedule 3: Water Balance - Evaporation and Seepage Rate Calculation

For calculation of evaporation rate in water balance required by condition 10, if an on-site evaporation pan is not used, the following must be assumed:

- (i) a pan factor of 0.7
- (ii) evaporation is only to take place from the surface of the decant pond, not the whole surface of the TSF.

The seepage rates are required to be estimated on a monthly basis using the equation below:

$$\sum \text{Inputs} = \sum \text{outputs} \pm \Delta s$$

$$D + R = DE + E + RE + S$$

Where:

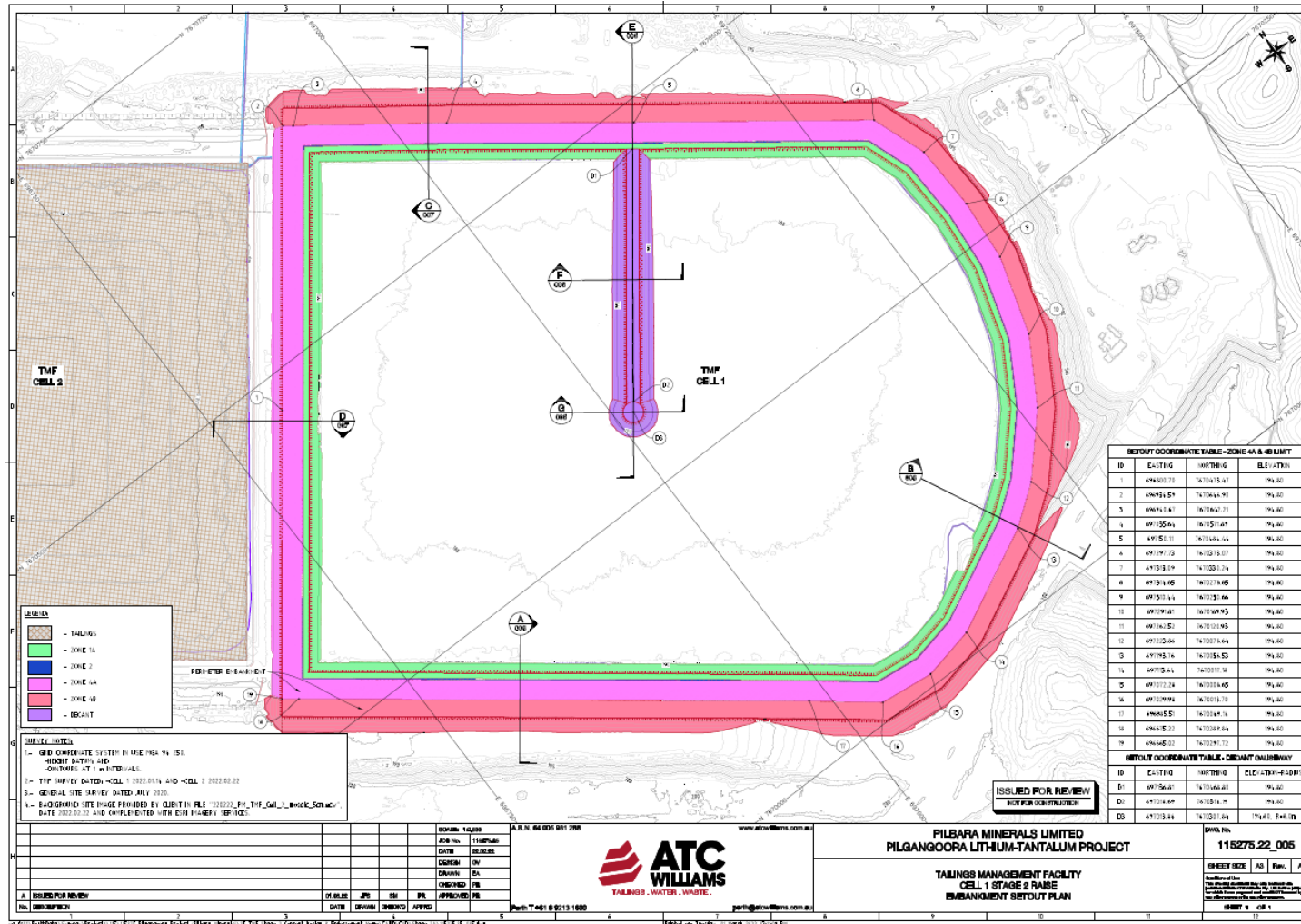
D	= discharge rate
R	= rainfall catchment
DE	= decant
E	= evaporation from the pond area
RE	= water retained in tailings pile
S	= seepage into substrate
$\Delta s$	= change in ponding storage

Assuming that there is no change in storage in the decant pond during the operational life of the TMF, and rearranging the equation gives the following expression for the seepage rate from the facility:

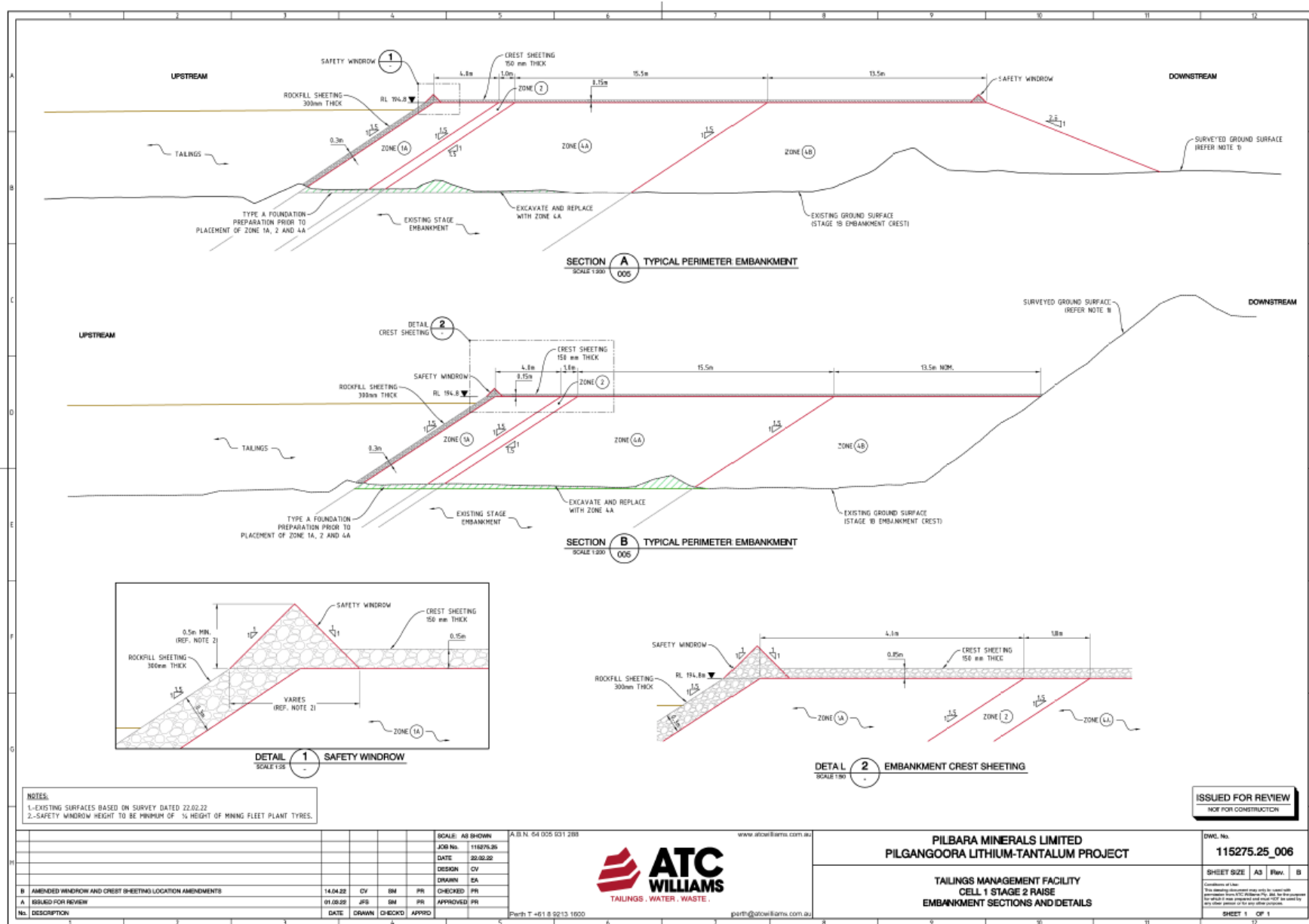
$$S = D + R - DE - E - RE$$

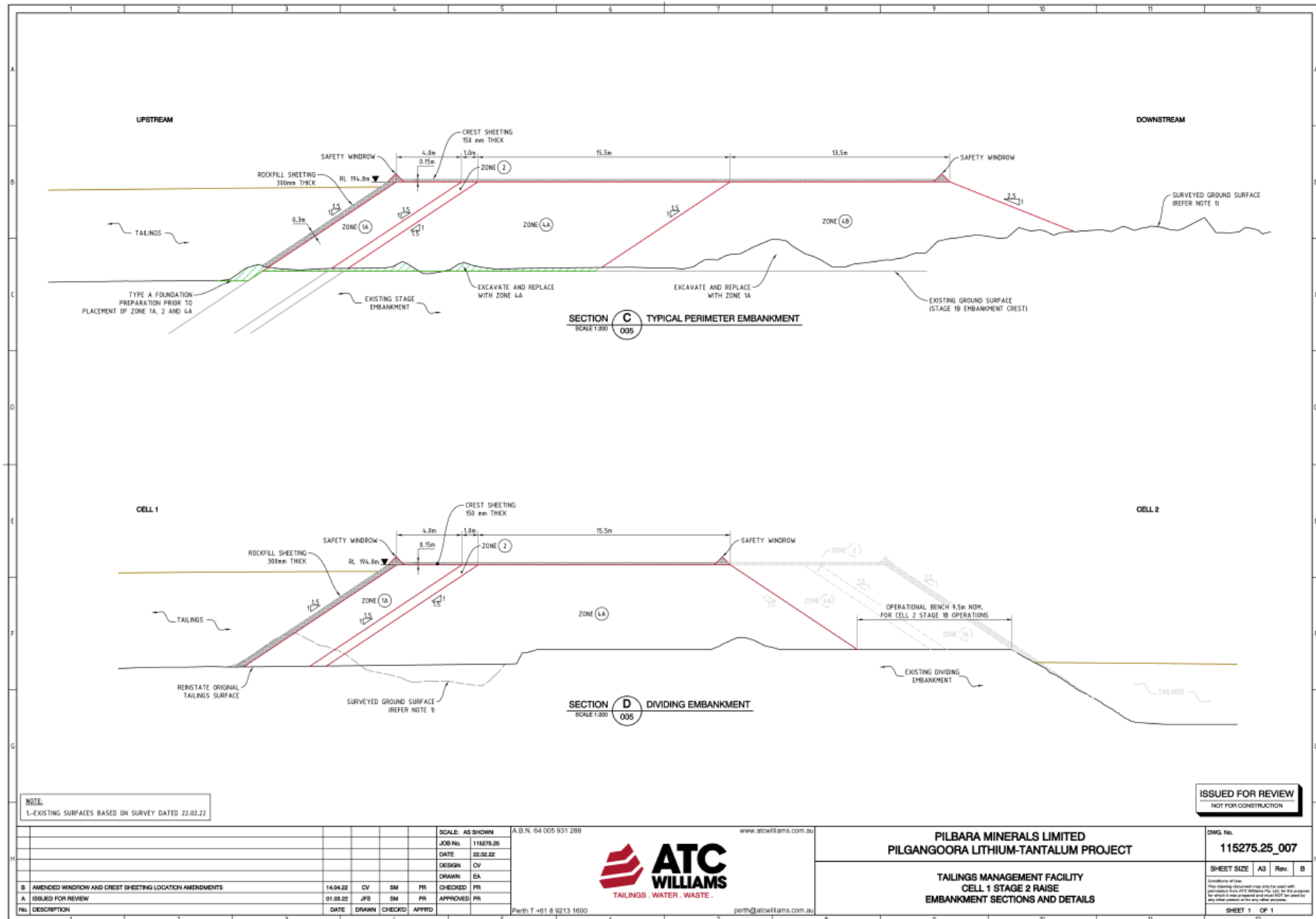
## Schedule 4: TMF Stage 2 and 3

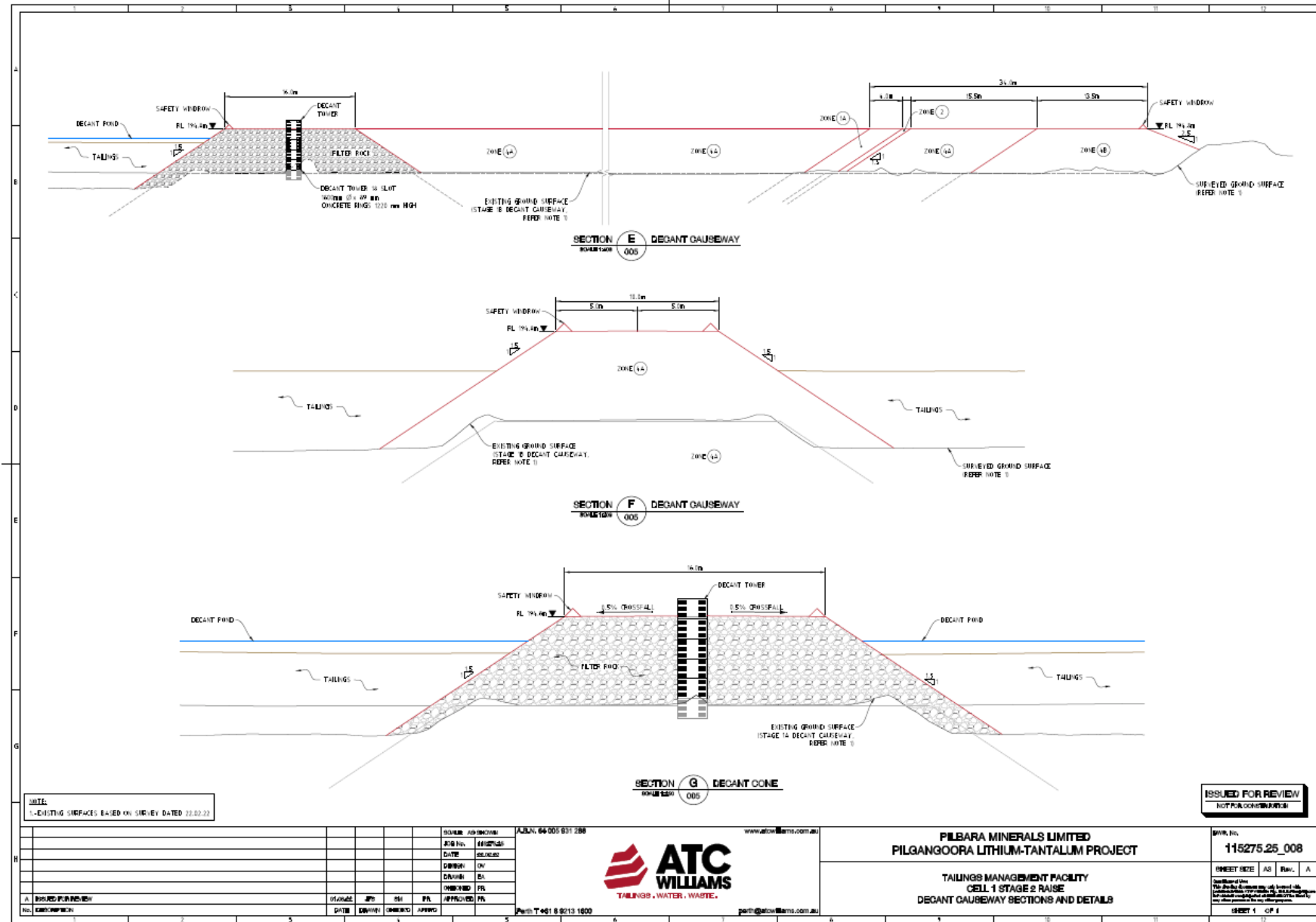
### Cell 1 – Stage 2 raise





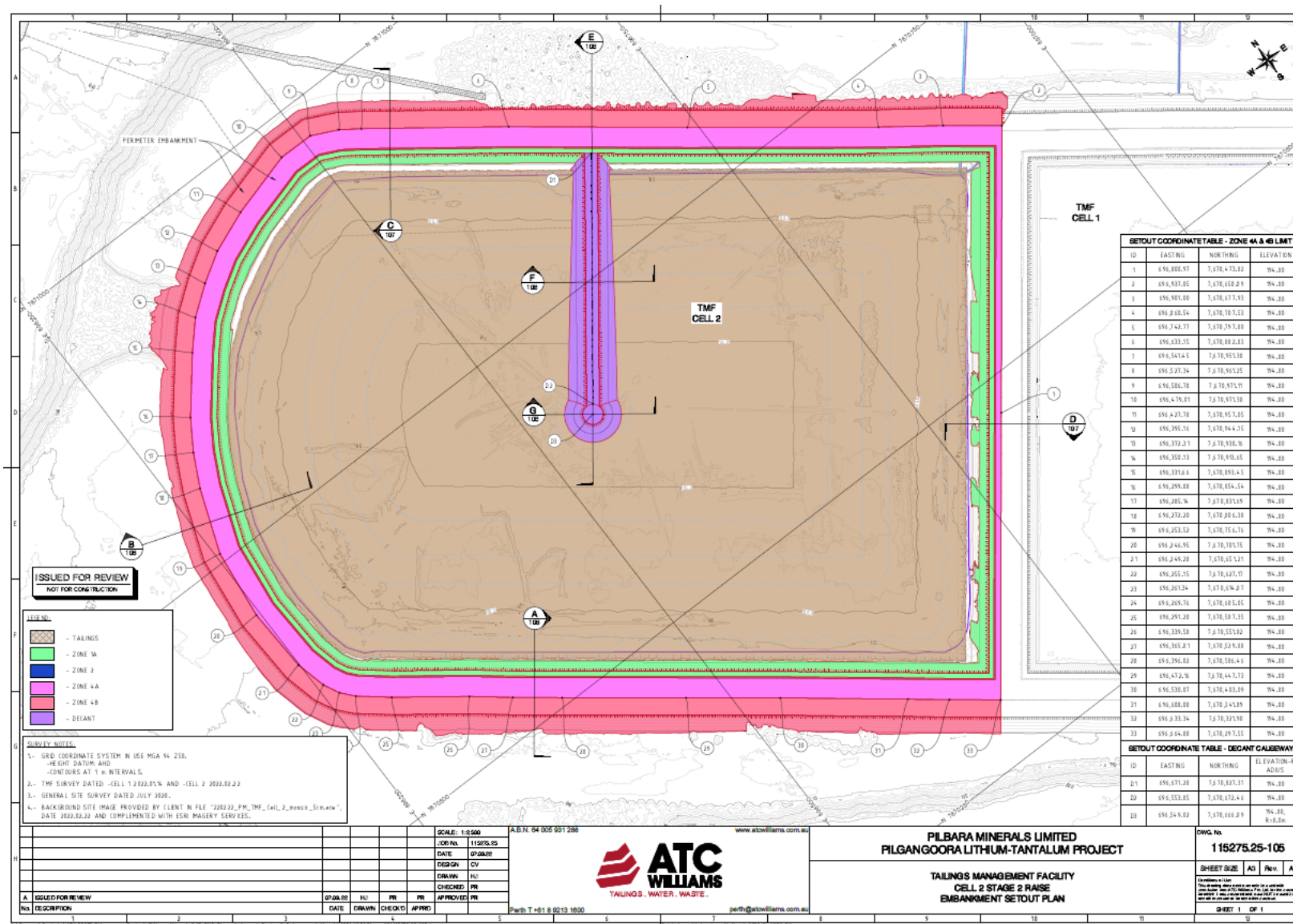




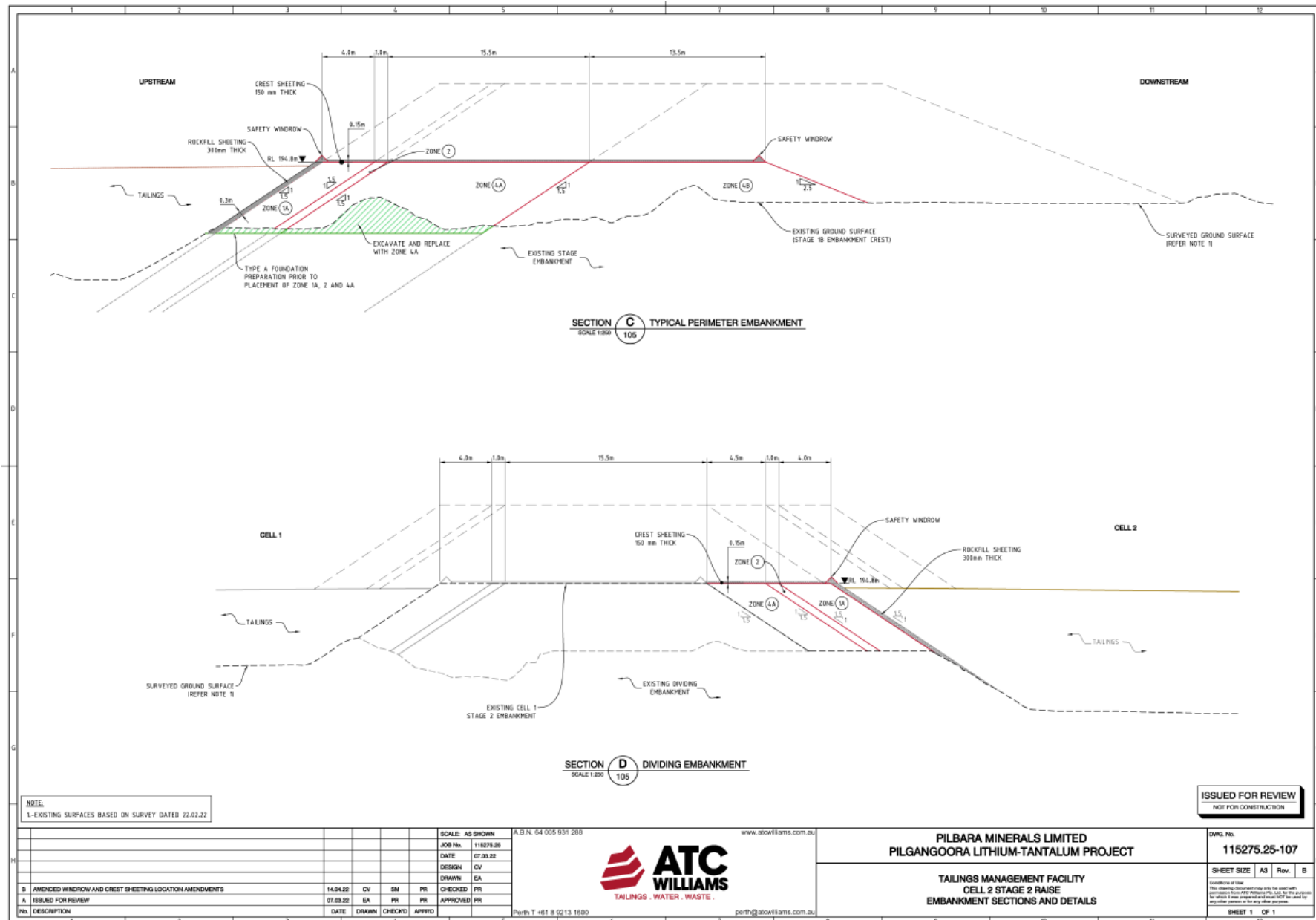


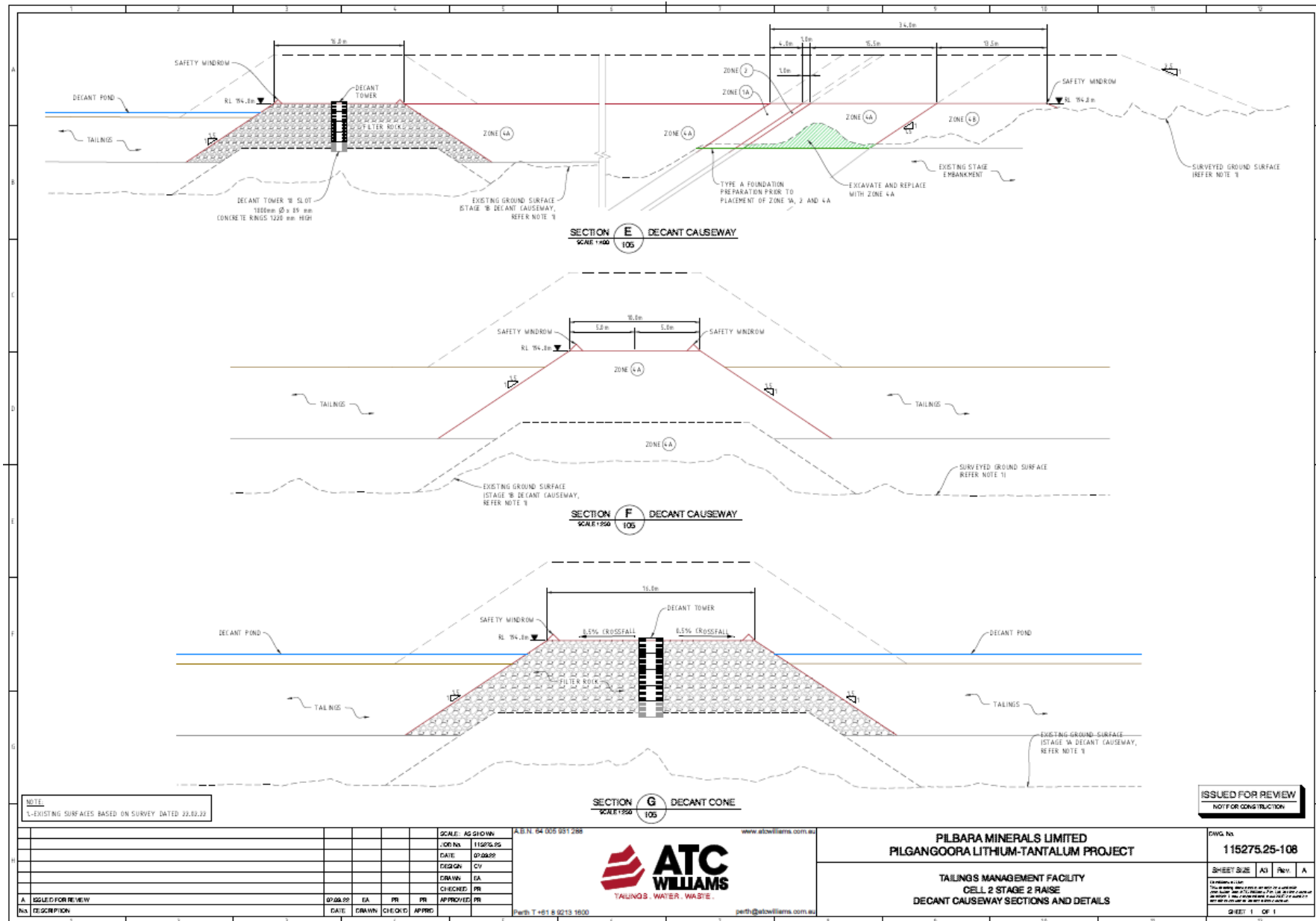


## Cell 2 – Stage 2 raise

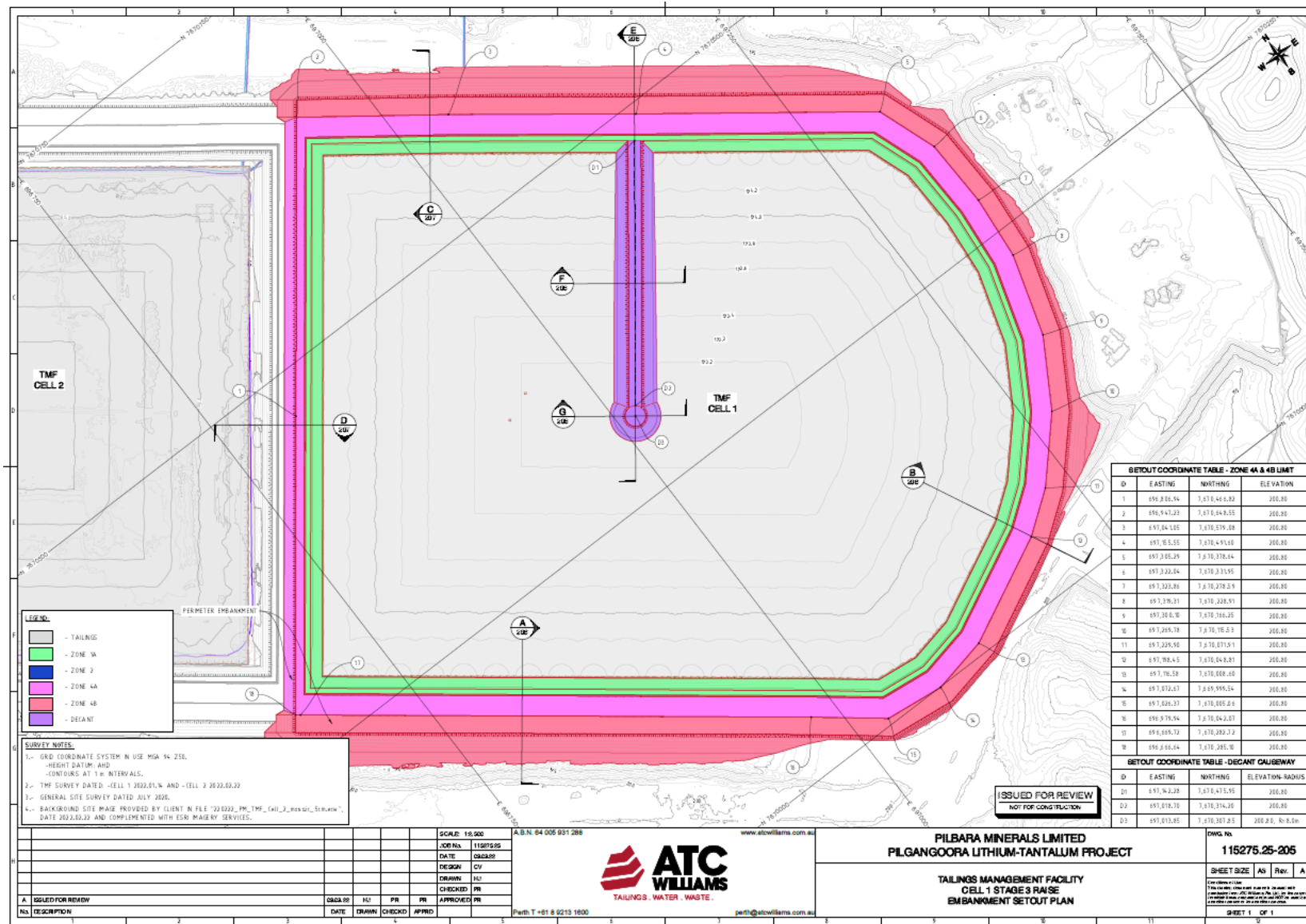




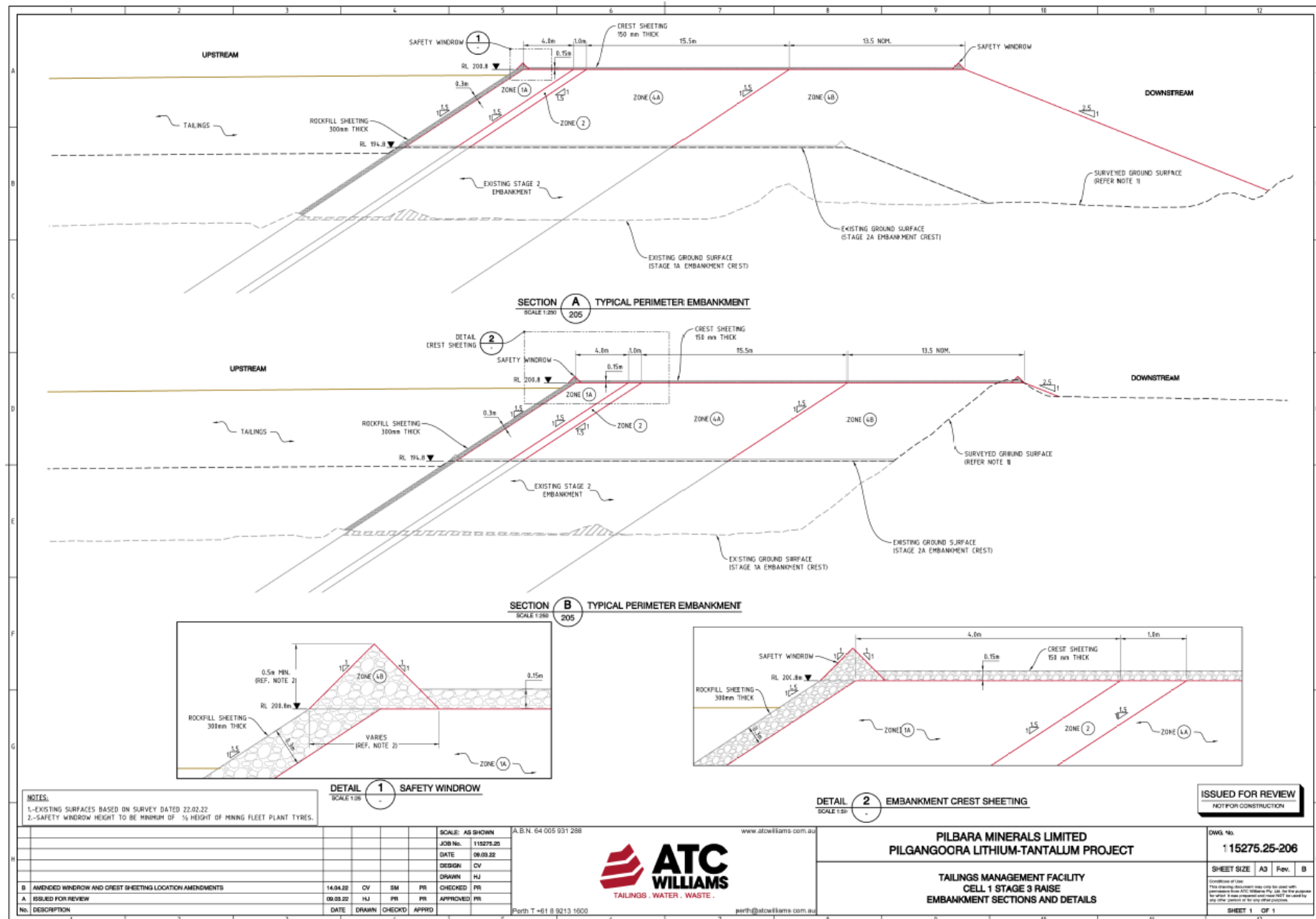




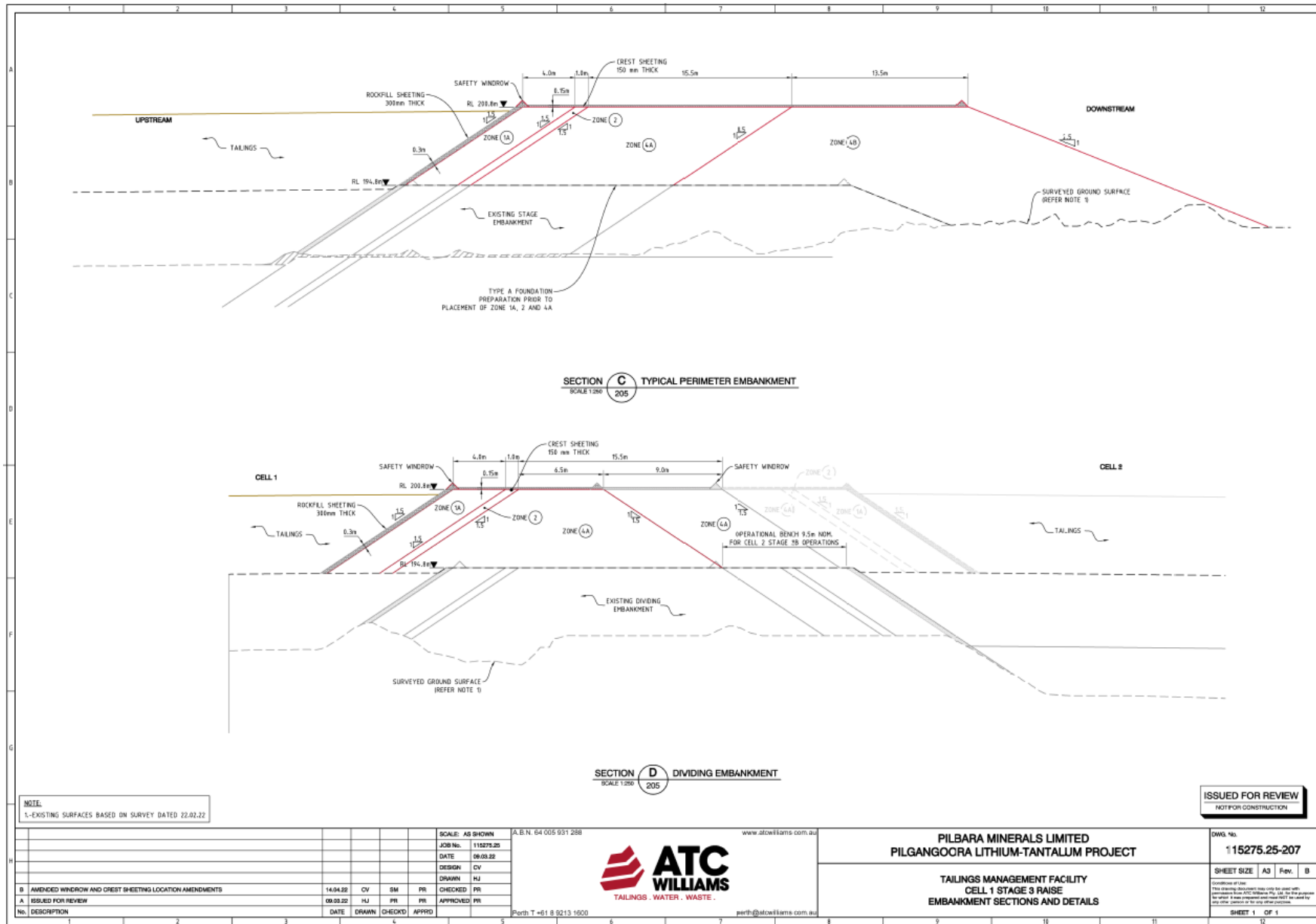
# Cell 1 – Stage 3 raise

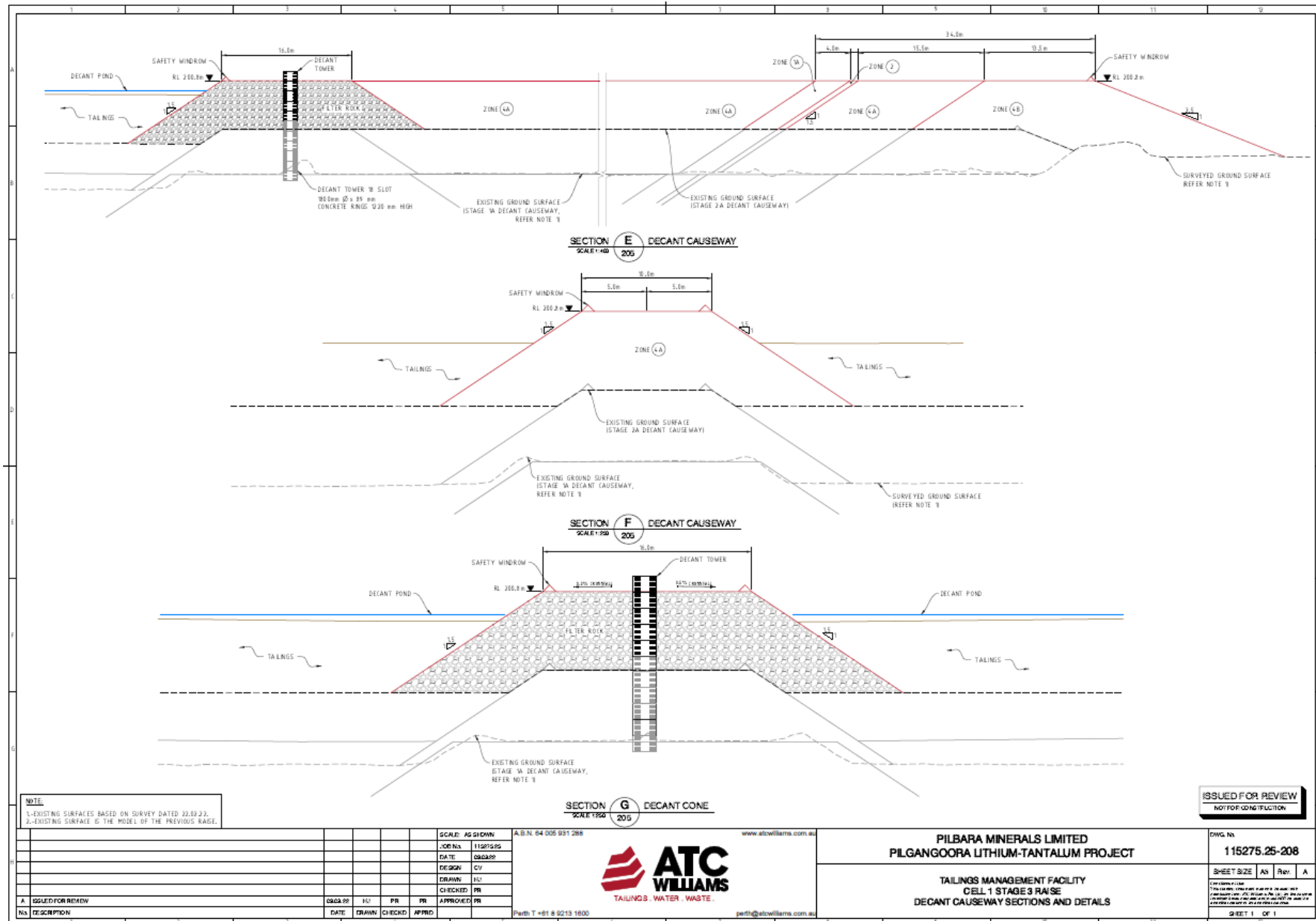






L9056/2017/1 (amended 27/05/2025)







## Cell 2 – Stage 3 raise

