Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6734/2022/1
Works approval holder	MARBL Lithium Operations Pty Ltd
ACN	637 077 608
Registered business address	20 Walters Drive OSBORNE PARK WA 6017
DWER file number	DER2022/000448
DWER internal number	INS-0002602
Duration	10/05/2023 to 9/05/2027
Date of issue	10/05/2023
Date of amendment	12/08/2025
Premises details	Wodgina Lithium Project L45/443, M45/383, M45/923, M45/1188, M45/1252, G45/321 and G45/291 MARBLE BAR WA 6760 As defined by the premises map attached to Schedule 1

Prescribed premises category description **(Schedule 1, *Environmental Protection Regulations 1987*)**	**Assessed design capacity**
Category 5: Processing or beneficiation of metallic or non-metallic ore	8,750,000 tonnes per annual period 4,800,000 tonnes of tailings per annual period

This amended works approval is granted to the works approval holder, subject to the attached conditions, on 12 August 2025, by:

Christine Pustkuchen
Digitally signed by Christine Pustkuchen
Date: 2025.08.12 13:26:50 +08'00'

MANAGER, RESOURCE INDUSTRIES

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

Works approval history

Date	Reference number	Summary of changes
10/05/2023	W6734/2022/1	Works approval granted.
01/02/2024	W6734/2022/1	Amendment to extend time limited operation for an additional 12 months until 24 March 2025 and remove EWL-h monitoring bore from condition 2, Table 2.
09/09/2024	W6734/2022/1	Works approval amendment to: • Expand part of the existing Atlas TSF above ground. • Amend the minimum tailings discharge density (% solid). • Increase the premises boundary and include tenement G45/291. • Update to the groundwater monitoring and seepage recovery bore network.
12/08/2025	W6734/2022/1	Works approval amendment (APP-0027293) to: • Authorise the use of seepage recovery water from the Atlas TSF recovery bores mixed with RO brine for material conditioning and dust suppression during the construction of the Combined Anson TSF and Combined Dragon TSF embankments; and • Authorise the temporary storage of seepage and decant water generated from the Atlas TSF in Constellation B decant storage pit.

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.	Constellation B decant storage pit	Discharge point located at pit wall with delivery pipe extending a minimum distance of 5 to 10 m over the pit rim crest. Discharge points located on pit crest will be high density polyethylene (HDPE) pipe extending down the pit crest face.	Schedule 1: Figure 6
2.	[1]Combined Anson TSF	<u>Combined Anson TSF – consisting of Anson A, B and C pits</u> • Perimeter and saddle embankment built to RL 290 m. <u>Embankments</u> • An upstream (or inner) zone of roller-compacted (to a minimum of 95% Standard Modified Dry Density) of select mine waste with a hydraulic conductivity range between $1x10^{-8}$ m/s and $1x10^{-6}$ m/s. • A downstream (or outer) zone of traffic compacted general mine waste with a hydraulic conductivity range between $1x10^{-6}$ m/s and $1x10^{-5}$ m/s, which buttresses the upstream zone. • Embankment to incorporate a cut-off trench excavated to a nominal depth of up to 0.5 m within the natural ground or competent material to reduce seepage losses. <u>Decant pumps</u> • Decant pumps located on respective pit ramps for water recovery within pits, with a minimum capacity of not less than 260 tonnes per hour (or nominally 50% average annual water return with an allowance for removal of a large storm event (1:100 yr. AEP 72 hr. event) over 1 month). <u>Tailings discharge point</u> • At the discharge points located at pit walls the tailings delivery pipe extends a minimum distance of 5 to 10 m over the pit rim crest. Discharge points located on embankments will be HDPE pipe extending down the	Schedule 1: Figures 2, 3, 4, 5, 6

	Infrastructure	Design and construction / installation requirements	Infrastructure location
		embankment face	
3.	[1]Combined Dragon TSF	<u>Combined Dragon TSF – consisting of Dragon A, B and C pits</u> • Saddle embankment on the eastern side to an elevation of RL 275 m. <u>Embankments</u> • An upstream (or inner) zone of roller-compacted (to a minimum of 95% Standard Modified Dry Density) of select mine waste with a hydraulic conductivity range between $1x10^{-8}$ m/s and $1x10^{-6}$ m/s. • A downstream (or outer) zone of traffic compacted general mine waste with a hydraulic conductivity range between $1x10^{-6}$ m/s and $1x10^{-5}$ m/s, which buttresses the upstream zone. • Embankment to incorporate a cut-off trench excavated to a nominal depth of up to 0.5 m within the natural ground or competent material to reduce seepage losses. <u>Decant pumps</u> • Decant pumps located on respective pit ramps for water recovery within pits, with a minimum capacity of not less than 260 tonnes per hour (or nominally 50% average annual water return with an allowance for removal of a large storm event (1:100 yr. AEP 72 hr. event) over 1 month). <u>Tailings discharge point</u> • At the discharge points located at pit walls the tailings delivery pipe extends a minimum distance of 5 to 10 m over the pit rim crest. Discharge points located on embankments will be HDPE pipe extending down the embankment face.	
4.	[1]Constellation B In-pit TSF	<u>Constellation B In-pit TSF</u> • Final tailings deposition level from RL 286 m to RL 290 m. <u>Decant pumps</u> • Decant pumps located on respective pit ramps for water recovery within pits, with a minimum capacity of not less than 260 tonnes per hour (or nominally 50% average annual water return with an allowance for removal of a large storm event (1:100 yr. AEP 72 hr. event) over 1 month). <u>Tailings discharge point</u> • At the discharge points located at pit walls the tailings delivery pipe extends a minimum distance of 5 to 10 m over the pit rim crest. Discharge points located on embankments will be HDPE pipe extending down the embankment face.	

	Infrastructure	Design and construction / installation requirements	Infrastructure location
5.	Tailings pipelines and decant return water pipelines	• Constructed according to Australian Standards AS/NZS 2033, 4129, 4130 and 4131 for polyethylene pipes; • Existing tailings delivery pipeline from the processing plant to the northeast side of the Atlas in-pit TSF, from where it will be connected and rerouted to the Atlas TSF; • All pipelines equipped with telemetry system and pressure sensors along pipelines to allow the detection of leaks and failures; • All pipelines provided with secondary containment (bunding) sufficient to contain any spill for a period equal to the time between routine inspections; and • Scour sumps installed along pipelines route.	Schedule 1: Figure 6
6.	Turkeys Nest	• Poly liner 2.0 mm thick HDPE or linear low-density polyethylene. • Fauna egress matting. • Perimeter fencing.	Schedule 1: Figures 6 and 7

Note 1: Areas combined consist of the Atlas TSF.

Construction of Monitoring and Seepage Recovery Infrastructure

2. The works approval holder must design, construct, and install groundwater monitoring bores in accordance with the requirements specified in Table 2.

Table 2: Infrastructure requirements – groundwater monitoring bores

Infrastructure	Design, construction, and installation requirements	Monitoring bore location(s)
Groundwater monitoring bore(s)	<u>Bore location and number:</u> Appropriate location and number of bores to be assessed, identified, or verified by suitably qualified hydrogeologist, based on the presence of targeted aquifer structural features, supported by geological and hydrogeological assessments, including ground-based investigations.	As depicted in Schedule 1: Figure 9 for monitoring bores TSFMB001 TSFMB002 TSFMB003 TSFMB004
	<u>Bore design and construction:</u> Designed and constructed in accordance with *ASTM D5092/D5092M-16: Standard practice for design and installation of groundwater monitoring bores* where applicable. Bore screens must target the part, or parts, of the aquifer most likely to be affected by contamination. Where temporary/seasonal perched features are present, bores must be nested, and the perched features individually screened.	
	<u>Logging of borehole:</u> Soil samples must be collected and logged during the installation of the monitoring bores. A record of the geology encountered during drilling must be described and classified in accordance with the *Minimum*	

Infrastructure	Design, construction, and installation requirements	Monitoring bore location(s)
	Construction Requirements for Water Bores in Australia, ensuring that sufficient information is recorded to provide a thorough understanding of the geological profile. Any observations of staining / odours or other indications of contamination must be included in the bore log.	
	Bore construction log: Bore construction details must be documented within a bore construction log to demonstrate compliance with *ASTM D5092/D5092M-16* where applicable for bore design and construction. The construction logs shall include elevations of the top of casing position to be used as the reference point for water-level measurements, and the elevations of the ground surface protective installations.	
	Bore development: All installed monitoring bores must be developed after drilling to remove fine sand, silt, clay and any drilling mud residues from around the bore screen to ensure the hydraulic functioning of the bore. A detailed record should be kept of bore development activities and included in the bore construction log.	
	Installation survey: the vertical (top of casing) and horizontal position of each monitoring bore must be surveyed and subsequently mapped by a suitably qualified surveyor.	
	Bore network map: a bore location map (using aerial image overlay) must be prepared and include the location of all monitoring bores in the monitoring network and their respective identification numbers.	

3. The works approval holder must design, construct, and install seepage recovery infrastructure in accordance with the requirements specified in Table 3.

Table 3: Seepage Recovery Infrastructure – Design and construction requirements / installation requirements

Infrastructure	Design and construction requirement / installation requirement	Infrastructure location
Seepage recovery bores	Must be situated at locations targeted to recover seepage and/or verified by suitably qualified hydrogeologist, supported by identification of key environmental receptors, interpretation of groundwater modelling and hydrogeological information available, including geological and geophysical assessments.	As depicted in Schedule 1: Figure 10 for seepage recovery bores REC-8 REC-9 and REC-10

Emissions during construction

4. The works approval holder must ensure that during construction the emissions specified in Table 4 are discharged only from the corresponding discharge point.

Table 4: Authorised discharge points

Emission	Discharge points
Diluted RO brine mixed with Atlas TSF seepage recovery water stored in the Turkeys Nest (show in Schedule 1: Figure 6)[1]	1. Dust suppression purposes along bunded haul roads within the Atlas TSF catchment[1] 2. Maintain moisture content of completed embankment lifts during construction of the Anson and Dragon TSF embankments[1] 3. Conditioning of material at the Atlas NAF stockpile (shown in Schedule 1: Figure 11), for use in the construction of the Anson and Dragon TSF embankments[1]

Note 1: Once construction has been completed for Combined Anson TSF and Combined Dragon TSF, seepage recovery water is to be re-directed to either Constellation B decant storage pit or directly to the processing plant and ceased to be discharged to the Turkeys Nest.

5. The works approval holder must ensure that while carrying out dust suppression and material conditioning activities as specified in condition 4, that water is applied in a manner that prevents pooling of water and overspray from coming into contact with native vegetation.

6. The works approval holder must ensure that all stormwater and sediment runoff, generated by rainfall events within areas where water authorised under condition 4 is applied for dust suppression or material conditioning, is captured and contained to prevent discharge to the environment.

7. Following completion of construction of the Combined Anson TSF and Combined Dragon TSF embankments, the Works Approval Holder must recover all sediment accumulated in stormwater management infrastructure used to comply with Condition 6 and dispose of it within the Combined Anson TSF, Combined Dragon TSF, or Constellation B in-pit TSF.

Monitoring during construction

8. The works approval holder must monitor the water within the Turkeys Nest during the construction of Combined Anson TSF and Combined Dragon TSF embankments in accordance with Table 5.

Table 5: Monitoring of water within turkeys nest

Monitoring location	Parameters	Unit	Frequency	Sampling method
Turkeys Nest shown in Schedule 1, Figure 6	Electrical Conductivity[1]	µS/cm	Monthly	AS/NZS 5667.1 and AS/NZS 5667.4 Analysed by a NATA accredited laboratory
	pH[1]	pH unit		
	Total dissolved solids[1]	mg/L		
	Aluminum			
	Arsenic			

Monitoring location	Parameters	Unit	Frequency	Sampling method
	Boron			
	Bromide			
	Cadmium			
	Chromium			
	Cobalt			
	Copper			
	Fluoride			
	Iron			
	Lead			
	Lithium			
	Magnesium			
	Manganese			
	Mercury			
	Nickel			
	Rubidium			
	Selenium			
	Silicon			
	Sulphate			
	Thallium			
	Tin			
	Uranium			
	Zinc			

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

Geochemical characterisation of tailings

9. The works approval holder must undertake long-term kinetic testing (testing taking place for a period of at least one year) on representative samples of tailings streams deposited into Atlas in-pit TSF. Interpretation of the results, including implications for long-term management of seepage from Atlas in-pit TSF needs to be provided in a report to the CEO by no later than 31st October 2024.

Compliance reporting

10. The works approval holder must within 30 calendar days of infrastructure or equipment (or TSF) required by conditions 1, 2 and 3 being constructed and/or installed:

(a) undertake an audit of their compliance with the requirements of conditions 1, 2 and 3; and

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

11. The Environmental Compliance Report required by condition 10, must include as a minimum the following:

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

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

(c) certification by a suitably qualified hydrogeologist, that the infrastructure or component(s) thereof, as specified in conditions 2 and 3 have been constructed in accordance with the relevant requirements specified in conditions 2 and 3;

(d) map clearly showing the location and label of installed monitoring bores and seepage recovery infrastructure as specified in conditions 2 and 3;

(e) provide results for monitoring conducted in accordance with condition 8;

(f) bore logs, justification from a suitably qualified hydrogeologist of location and screen length of monitoring bores, and seepage recovery infrastructure as specified in conditions 2 and 3;

(g) confirmation, once the final item or component of infrastructure specified in condition 1 has been constructed, that seepage recovery water/decant water has been re-directed to either Constellation B decant storage pit or directly to the processing plant and ceased to be discharged to the Turkeys Nest; and

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

12. Subject to conditions 10 and 11, where an item of infrastructure or component of infrastructure has been certified as not being constructed, or does not comply with corresponding requirements, or contains material defects, the works approval holder must:

(a) correct the non-complaint or defective works, prior to re-certifying in accordance with condition 11(a); or

(b) provide to the CEO a description of, and explanation for, any departures from the requirements specified in condition 1 that do not require rectification and do not constitute a material defect along with the Environmental Compliance Report.

Environmental commissioning requirements

13. The works approval holder may only commence environmental commissioning of an item of infrastructure listed in condition 1 once the Environmental Compliance Report has been submitted for that item of infrastructure in accordance with conditions 10 and 11 of this works approval.

14. Any environmental commissioning activities undertaken for an item of infrastructure specified in Table 6 may only be carried out:

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

(b) for the corresponding authorised commissioning duration.

Table 6: Environmental commissioning requirements

	Infrastructure	Commissioning requirements	Authorised commissioning duration
1.	Combined Anson TSF	• Subject to completing the requirements of conditions 10 and 11	For a period not exceeding 30 calendar days from the submission date of the Environmental
2.	Combined Dragon TSF	• Subject to completing the requirements of conditions 10 and 11	

	Infrastructure	Commissioning requirements	Authorised commissioning duration
3.	Constellation B In-pit TSF	• Subject to completing the requirements of conditions 10 and 11	Compliance Report for each item as required by condition 10
4.	Constellation B decant storage pit	• Subject to completing the requirements of conditions 10 and 11	
5.	Tailings discharge and decant water return pipelines	• Visual inspection of pipelines to check for leaks or any other issues. • All flow meters, telemetry, and pressure transmitters to be tested and calibrated in accordance with manufacture's specifications. • Monitor and adjust tailings discharge point.	For a period not exceeding 30 calendar days in aggregate

Environmental Commissioning Report

15. The works approval holder must submit to the CEO an Environmental Commissioning Report within 30 calendar days of the completion date of environmental commissioning for each item of infrastructure specified in Table 6.

16. The works approval holder must ensure the Environmental Commissioning Report required by condition 15 of this works approval includes the following:

(a) a summary of the environmental commissioning activities undertaken, including volumes of tailings discharged into each Atlas TSF, tailings stream solids content, water returned to the plant and volume of decant/seepage recovery water discharged to Constellation B decant storage pit.

(b) a summary of the environmental performance of each item of infrastructure or equipment as constructed or installed (as applicable), which at minimum includes records detailing the:

(i) testing of pipelines; and
(ii) calibration of flow meters, telemetry, and pressure transmitters.

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

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

Time limited operations phase

Commencement and duration

17. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1 once the Environmental Commissioning Report for that item of infrastructure as required by conditions 15 and 16 has been submitted by the works approval holder.

18. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 19:

(a) for a period not exceeding 180[1] calendar days from the day the works approval holder meets the requirements of condition 17 for that item of infrastructure; or

(b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the *Environmental Protection Act 1986*, if one is granted before the end of the period specified in condition 18(a).

Note 1: The works approval holder may only conduct time limited operations for the Anson Pits A and B until 24 March 2025.

Time limited operations requirements and emission limits

19. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 7 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 7.

Table 7: Infrastructure and equipment requirements during time limited operations

	Infrastructure	Operational requirements	Infrastructure location
1.	Anson Pits A and B	• Anson Pits A and B to maintain a minimum freeboard of 0.5 m. • To be maintained as per the design and construction / installation requirements in condition 1. • Tailings deposition is cycled between pits to assist in optimising consolidation and reducing seepage losses and pond sizes. • The decant pond must be maintained at the smallest practical operational size to maximise water return to the plant. • Daily visual inspection of freeboard to confirm capacity is available.	Schedule 1: Figure 8
2.	[1]Combined Anson TSF	• Throughput of maximum of 4.8 million tonnes per annum (i.e. tailings discharge into Atlas TSF). • Combined Anson TSF must maintain a minimum freeboard of 0.5 m. • To be maintained as per the design and construction / installation requirements in condition 1. • Tailings deposition is cycled between pits to assist in optimising consolidation and reducing seepage losses and pond sizes. • Tailings streams discharged at Atlas TSF must contain a nominal 40% to 60% range of solids under normal operating conditions. • The decant pond must be maintained at the smallest practical operational size to maximise water return to the plant.	Schedule 1: Figures 6 and 10

	Infrastructure	Operational requirements	Infrastructure location
		• Daily visual inspection of freeboard to confirm capacity is available.	
3.	[1]Combined Dragon TSF	• Throughput of maximum of 4.8 million tonnes per annum (i.e. tailings discharge into Atlas TSF). • Combined Dragon TSF must maintain a minimum freeboard of 0.5 m, plus accommodate a 1% AEP 72-hour rainfall event. • To be maintained as per the design and construction / installation requirements in condition 1. • Tailings deposition is cycled between pits to assist in optimising consolidation and reducing seepage losses and pond sizes. • Tailings streams discharged at Atlas TSF must contain a nominal 40% to 60% range of solids under normal operating conditions. • The decant pond must be maintained at the smallest practical operational size to maximise water return to the plant. • Daily visual inspection of freeboard to confirm capacity is available.	Schedule 1: Figures 6 and 10
4.	[1]Constellation B In-pit TSF	• Water within Constellation B decant storage pit is sufficiently dewatered to the beneficiation plant prior to tailings deposition commencement to Constellation B In-pit TSF. • Throughput of maximum of 4.8 million tonnes per annum (i.e. tailings discharge into Atlas TSF). • To be maintained as per the design and construction / installation requirements in condition 1. • Tailings deposition is cycled between pits to assist in optimising consolidation and reducing seepage losses and pond sizes. • Tailings streams discharged at Atlas TSF must contain a nominal 40% to 60% range of solids under normal operating conditions. • The decant pond must be maintained at	Schedule 1: Figures 6 and 10

	Infrastructure	Operational requirements	Infrastructure location
		the smallest practical operational size to maximise water return to the plant. • Daily visual inspection of freeboard to confirm capacity is available.	
5.	Seepage recovery bores	• Must be operational and able to recover adequate seepage from Atlas TSF to prevent contaminated seepage surface expression and avoid or minimise groundwater contamination. • Recovered seepage must be either: ○ pumped to the Turkey's Nest, only during the construction of infrastructure specified in Table 1. ○ pumped back to the plant; or ○ discharged to Constellation B decant storage pit.	Schedule 1: Figures 6 and 10
6.	Decant infrastructure	• To be maintained as per the design and construction / installation requirements in condition 1. • Daily visual inspection of the location and size of the decant pond, ensuring water return is maximised. • Decant pumps appropriately positioned on pit ramps and able to recover decant water at all times. Recovery system operates with a minimum capacity of 260 tph (or nominally 50% average annual water return with an allowance for removal of a large storm event (1:100 yr. AEP 72 hr. event) over 1 month).	Schedule 1: Figures 6 and 10
7.	Discharge point	• Daily visual inspections to check for integrity or any malfunction.	Schedule 1: Figures 6 and 10
8.	Tailings discharge and return pipelines	• To be maintained as per the design and construction / installation requirements in condition 1. • Daily visual inspections when in operation to check the integrity of pipelines, and bunding. • Monthly inspection of flow meters, telemetry, and pressure transmitters.	Schedule 1: Figures 6 and 10
9.	Constellation B decant storage pit when storing decant and seepage recovery water	• Minimum freeboard to manage a minimum of 1:100 year, 72-hr storm event to be maintained. • Daily visual inspections to check for	Schedule 1: Figures 6 and 10

	Infrastructure	Operational requirements	Infrastructure location
		freeboard. • Decant and seepage recovery water must not be discharged to Constellation B decant storage pit once tailings deposition within Constellation B In-Pit TSF has occurred.	

Note 1: Areas combined consist of the Atlas TSF.

Emissions during time limited operations

20. The works approval holder must ensure that during time limited operations the emissions specified in Table 8 are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 8: Authorised discharge points

Emission	Discharge point	Discharge point location
Tailings	Atlas TSF	As shown in Schedule 1: Figure 6
Decant water and Seepage recovered water	Via new and existing pipelines to existing processing plant infrastructure	As shown in Schedule 1: Figure 6
	Constellation B decant storage pit[2]	As shown in Schedule 1: Figure 6
Diluted RO brine[1] mixed with Atlas TSF seepage recovery water stored in the Turkeys Nest (show in Schedule 1: Figure 6)	Dust suppression purposes along bunded haul roads within the Atlas TSF catchment	As shown in Schedule 1: Figure 1

Note 1: RO brine must not be diluted with Decant water and / or Seepage recovered water once construction works authorised under Table 1 have been completed.
Note 2: Decant and seepage recovery water must not be discharged to Constellation B decant storage pit once tailings deposition within Constellation B In-Pit TSF has commenced.

Monitoring during time limited operations

21. The works approval holder must monitor groundwater during time limited operations in accordance with Table 9 and must not exceed the corresponding limit in that table.

Table 9: Groundwater monitoring during time limited operations[2]

Monitoring location	Parameters	Limit	Unit	Frequency & Averaging period	Sampling method
Groundwater monitoring bore(s):	Standing water level (SWL)[1]	Not less than 4	mbgl	Daily or monthly	Data logger
	Electrical Conductivity[1]		µS/cm		

Monitoring location	Parameters	Limit	Unit	Frequency & Averaging period	Sampling method
MB19WOD08 MB19ATLAS02 MB19ATLAS04 MB19ATLAS07 MB19ATLAS08 MB19ATLAS09 MB18Anson01 MB18Anson02A MB18Anson03 WMB01 WMB02 WMB03 WMB04 TINMB05S TINMB05D TSFMB001 TSFMB002 TSFMB003 TSFMB004 As depicted in Schedule 1, Figure 9	pH[1]	-	pH unit	Bimonthly	Spot Sample AS/NZ 5667.1 & AS/NZS 5667.11 By a NATA accredited laboratory
	Aluminium	-	mg/L		
	Arsenic	-			
	Boron	-			
	Bromide	-			
	Cadmium	-			
	Caesium	-			
	Calcium	-			
	Calcium carbonate	-			
	Chloride	-			
	Chromium				
	Cobalt	-			
	Copper	-			
	Fluoride	-			
	Iron	-			
	Lead	-			
	Lithium	-			
	Magnesium	-			
	Manganese				
	Mercury	-			
	Nickel	-			
	Potassium	-			
	Rubidium	-			
	Selenium	-			
	Silicon	-			
	Sodium	-			
	Sulphate	-			
	Thallium				
	Tin	-			
	Uranium	-			
	Zinc	-			
	Total Dissolved Solids	-			
	Total Nitrogen	-			
	Total Recoverable Hydrocarbons	-			
	Total Phosphorus	-			
	Gross-alpha	-	Bq/L		
	Gross-beta	-			

Note 1: In-field non-NATA accredited analysis permitted.
Note 2: Level of detection is required to be sufficient to enable a comparison with *ANZG 2018*

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

Water Balance during time limited operations

23. The works approval holder must undertake a water balance for the Atlas TSF each monthly period, and (as a minimum) record the following information:

(a) site rainfall obtained from on-site meteorological unit;

(b) evaporation rate obtained from on-site meteorological unit;

(c) surface runoff;

(d) decant water stored and recovery volumes;

(e) seepage recovery volumes from seepage infrastructure;

(f) volume of tailings deposited;

(g) tailings solid content (w/w %);

(h) volume of water retained in tailings; and

(i) calculated seepage rates.

Seepage Mitigation Report

24. The works approval holder must submit a report with a revision of long-term seepage migration prediction (using the most recent validated/re-calibrated AQ2 seepage model) to the CEO within 24 months from commencement of tailings deposition. The report must include but not be limited to:

- results of solute transport modelling to predict transport and fate of lithium in groundwater near the Atlas in-pit TSF;
- identification of areas with native vegetation near the Atlas in-pit TSF where standing water level could reach less than 3 m due to seepage and where concentrations of lithium could exceed 2.5 mg/L;
- identification of surface water drainage lines near the Atlas in-pit TSF where seepage expression could occur and where concentrations of lithium would exceed 0.4 mg/L;
- a review of suitability of groundwater monitoring and seepage recovery or seepage management strategy based on results of solute transport modelling; and
- any response actions undertaken to improve long-term management of seepage from the facility (where necessary).

Compliance reporting

25. 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 90 calendar days before the expiration date of the works approval, whichever is the sooner.

26. The works approval holder must ensure the report required by condition 25 includes the following:

(a) a summary of the time limited operations, including timeframes and amount of the ore processed and tailings discharged into Atlas TSF;

(b) interpretation of ambient groundwater monitoring results obtained during time limited operations under condition 21;

(c) interpretation of water balance, including seepage rates, and volumes of any seepage recovered;

(d) a summary of the environmental performance of all infrastructure as constructed or installed (as applicable), which includes records detailing the:

(i) decant pump;
(ii) pipelines and tailings discharge and return pipelines, including deposition point.

(e) a review of performance of cycling deposition strategy and how it has assisted in optimising the consolidation of tailings, reducing seepage losses and maximising water return. A clear strategy being used to maximise water return from all pits, needs to be provided;

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

(g) 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.

Notification

27. The works approval holder must immediately after becoming aware of any breach of any limit specified in the works approval, notify the CEO in writing of that non-compliance, and include in that notification the following information:

(a) which condition was not complied with and a copy of the corresponding data and previous trigger level data (if applicable);

(b) the time and date when the non-compliance occurred;

(c) if any environmental impact has 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 non-compliance;

(e) what action(s) has been taken and the date on which it was taken to prevent the non-compliance occurring again; and

(f) what action(s) will be taken and the date by which it will be taken to prevent the non-compliance, including monitoring undertaken to ensure compliance is met and there is and no environmental impact.

Records and reporting (general)

28. 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.

29. 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 19;

(c) monitoring undertaken in accordance with conditions 21 and 23; and

(d) complaints received under condition 28.

30. The books specified under condition 29 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 10 have the meanings defined.

Table 10: Definitions

Term	Definition
ACN	Australian Company Number.
AEP	Annual Exceedance Probability.
AQ2 seepage model	Refer to AQ2 Pty Ltd. (2022a). Wodgina Lithium Project In-Pit TSF Seepage Assessment Atlas Iron Pits. Unpublished report prepared for MARBL, August 2022.
annual period	a 12 month period commencing from 1 July until 30 June of the immediately following year.
Atlas TSF	means the Atlas TSF consisting of Combined Anson TSF; Combined Dragon TSF; and Constellation B In-pit TSF as shown in Figure 6.
ANZG 2018	means the most recent version and relevant parts of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia) Available at http://www.waterquality.gov.au/anz-guidelines.
AS/NZS 2033	means the Australian Standard AS/NZS 2033: *Installation of polyethylene pipe systems.*
AS/NZS 4129	means the Australian Standard AS/NZS 4129: *fittings for polyethylene (PE) pipes for pressure applications.*
AS/NZS 4130	means the Australian Standard AS/NZS 4130 *Polyethylene pipes for pressure applications.*
AS/NZS 4131	means the Australian Standard AS/NZS 4131 *Polyethylene compounds for pressure pipes and fittings.*
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples.*
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters.*
averaging period	means the time over which a limit is measured or a monitoring result is obtained.
bimonthly	done, produced, or occurring every two months.
books	has the same meaning given to that term under the EP Act.
Bq/L	Becquerel per litre.
Category/ categories/ cat	means categories of Prescribed Premises as set out in Schedule 1 of the *Environmental Protection Regulations 1987.*

Term	Definition
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V Division 3 of the EP Act.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
environmental commissioning	means the sequence of activities to be undertaken to test equipment integrity and operation, or to determine the environmental performance, of equipment and infrastructure to establish or test a steady state operation and confirm design specifications.
Environmental Commissioning Report	means a report on any commissioning activities that have taken place and a demonstration that they have concluded, with focus on emissions and discharges, waste containment, and other environmental factors.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and/or equipment has been constructed and/or installed in accordance with the works approval.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures.
HDPE	high density polyethylene.
m	metres.
mbgl	metres below ground level.
m/s	metres per second.
mg/L	milligrams per litre.
µS/cm	micro Siemens per centimetre.
NATA	means the National Association of Testing Authorities, Australia.
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis.
premises	the premises to which this works approval applies, as specified at the

Term	Definition
	front of this works approval and as shown on the premises map (Figure 1) in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
spot sample	means a discrete sample representative at the time and place at which the sample is taken.
suitably qualified geotechnical 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 the area of geotechnical engineering or is otherwise approved by the CEO to act in this capacity.
suitably qualified hydrogeologist	means a person who holds a tertiary qualification specialising in environmental science, geology or equivalent and has a minimum of five years of experience working in area of hydrogeology, including investigation and assessment of groundwater resources, or who is otherwise approved by the CEO to act in this capacity.
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.

END OF CONDITIONS

Schedule 1: Maps

Premises map

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

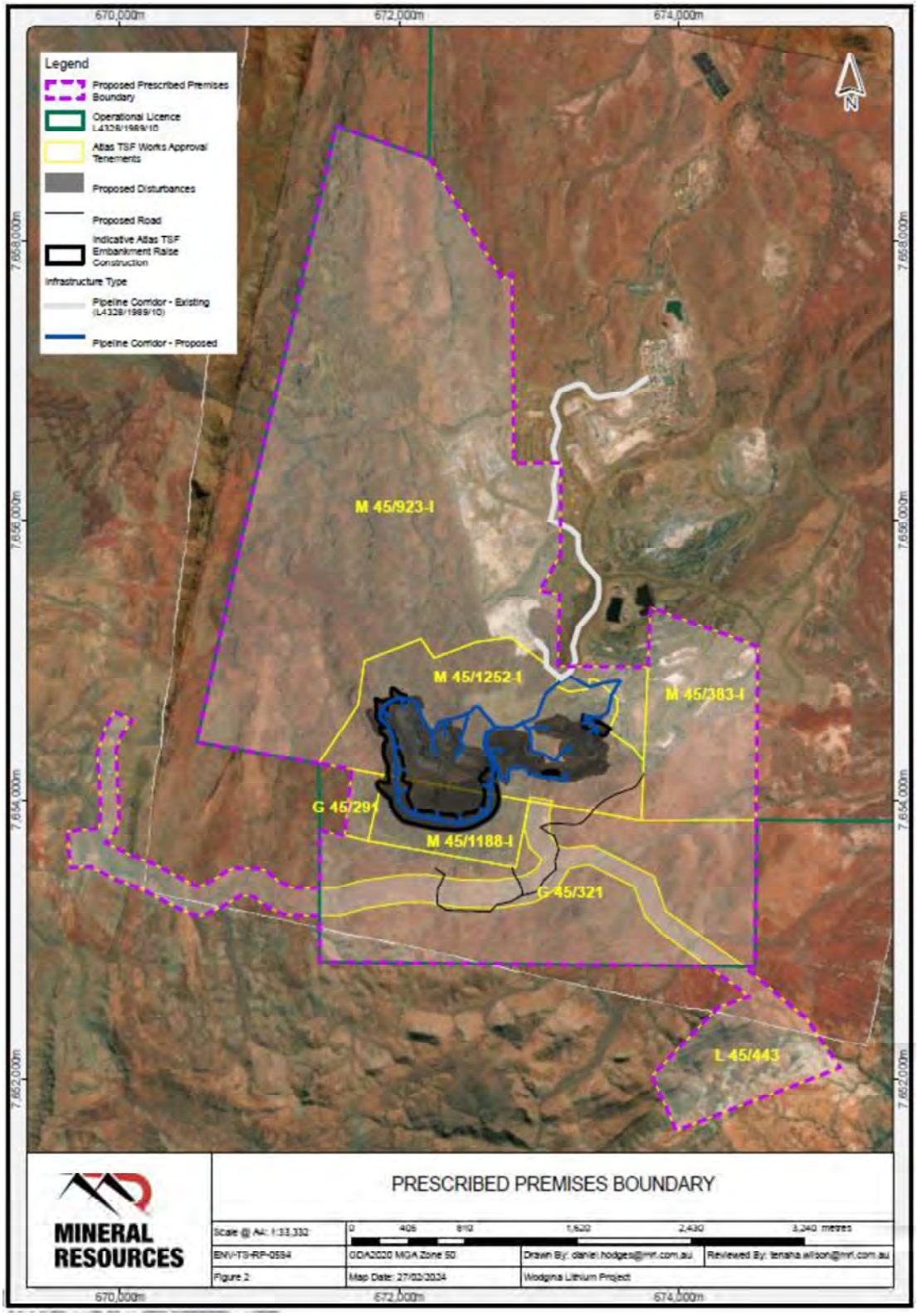

Figure 1: Map of the boundary of the prescribed premises

Infrastructure maps

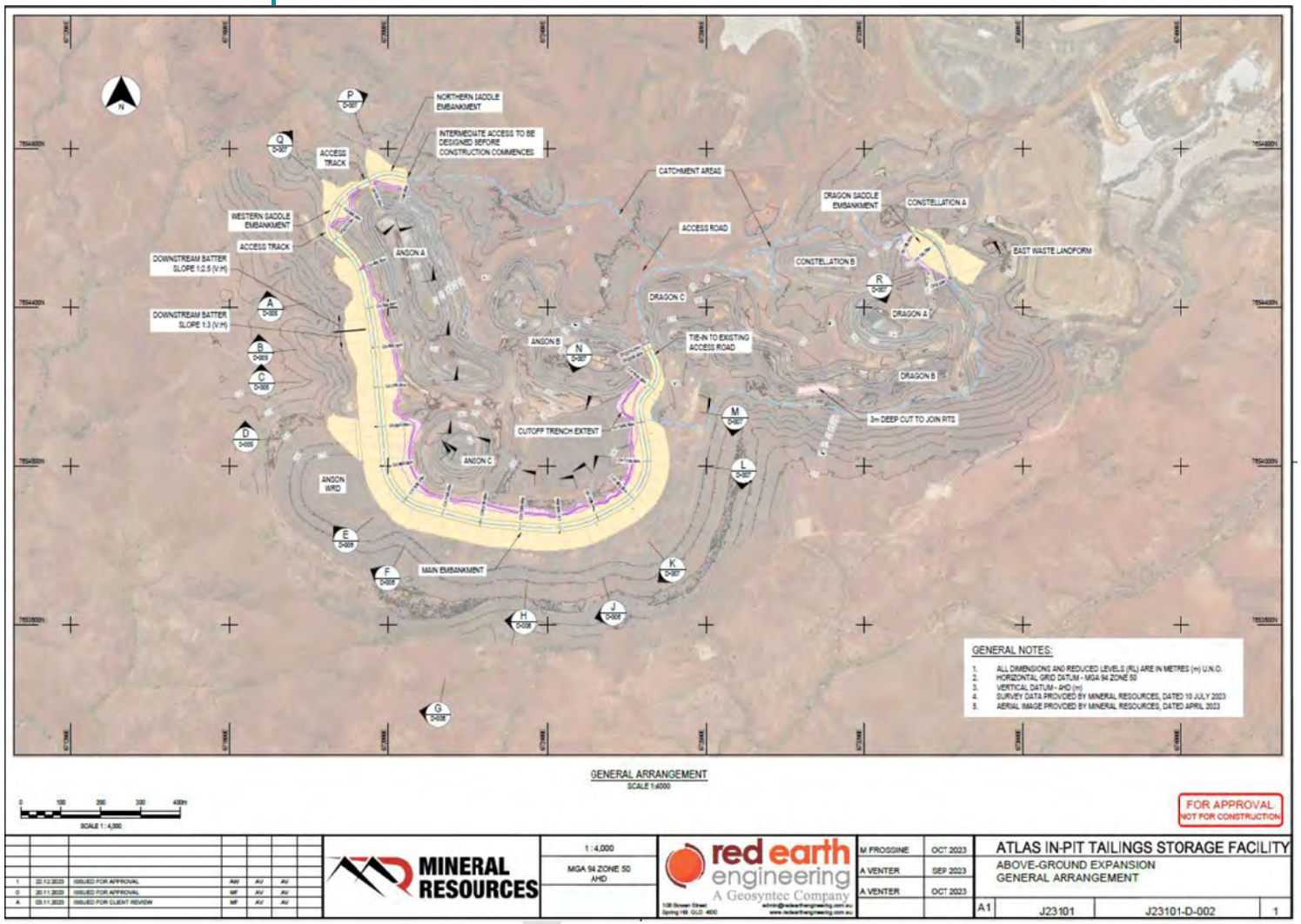

Figure 2: Atlas TSF general arrangement

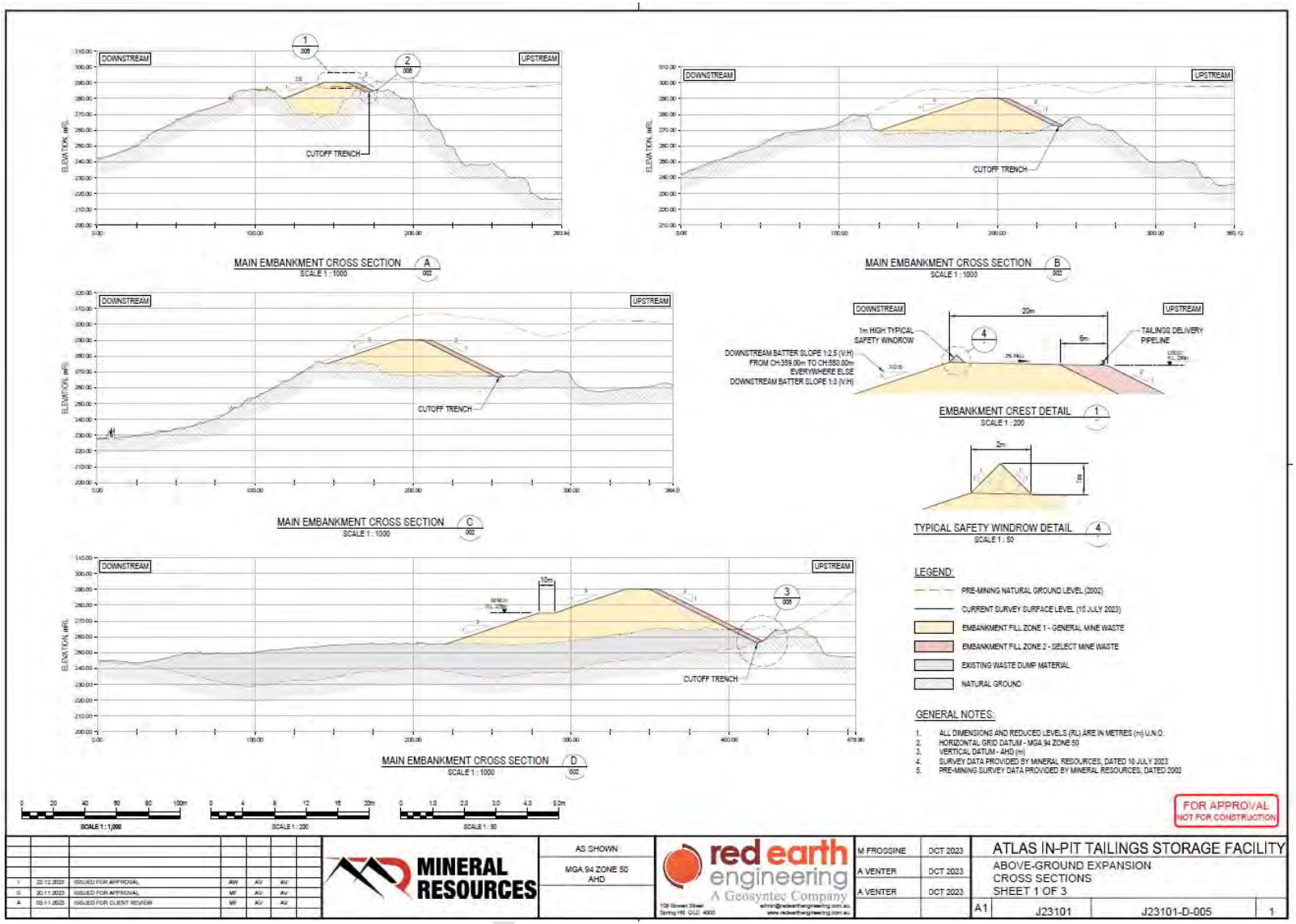

Figure 3: Atlas TSF cross sections

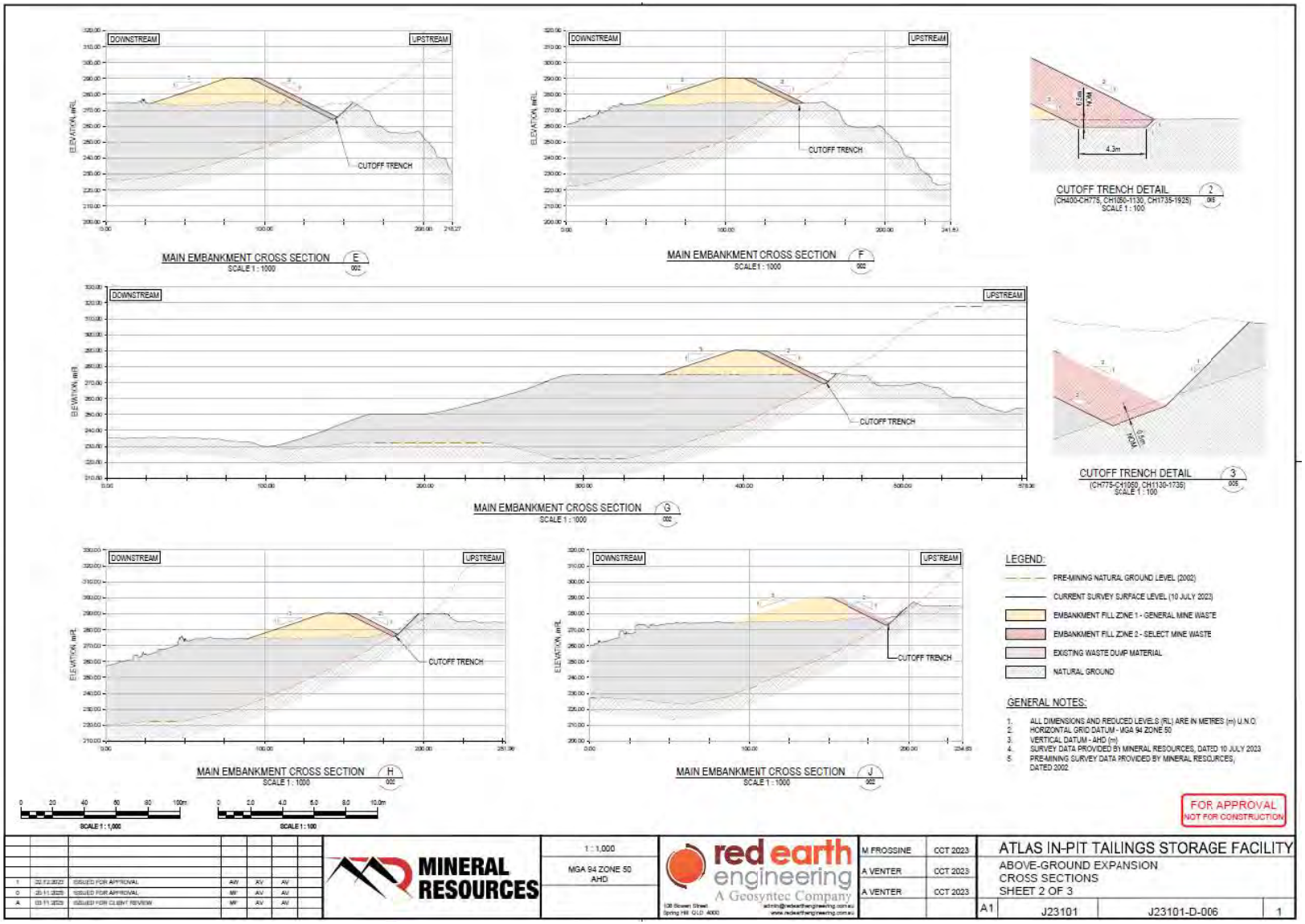

Figure 4: Atlas TSF cross sections

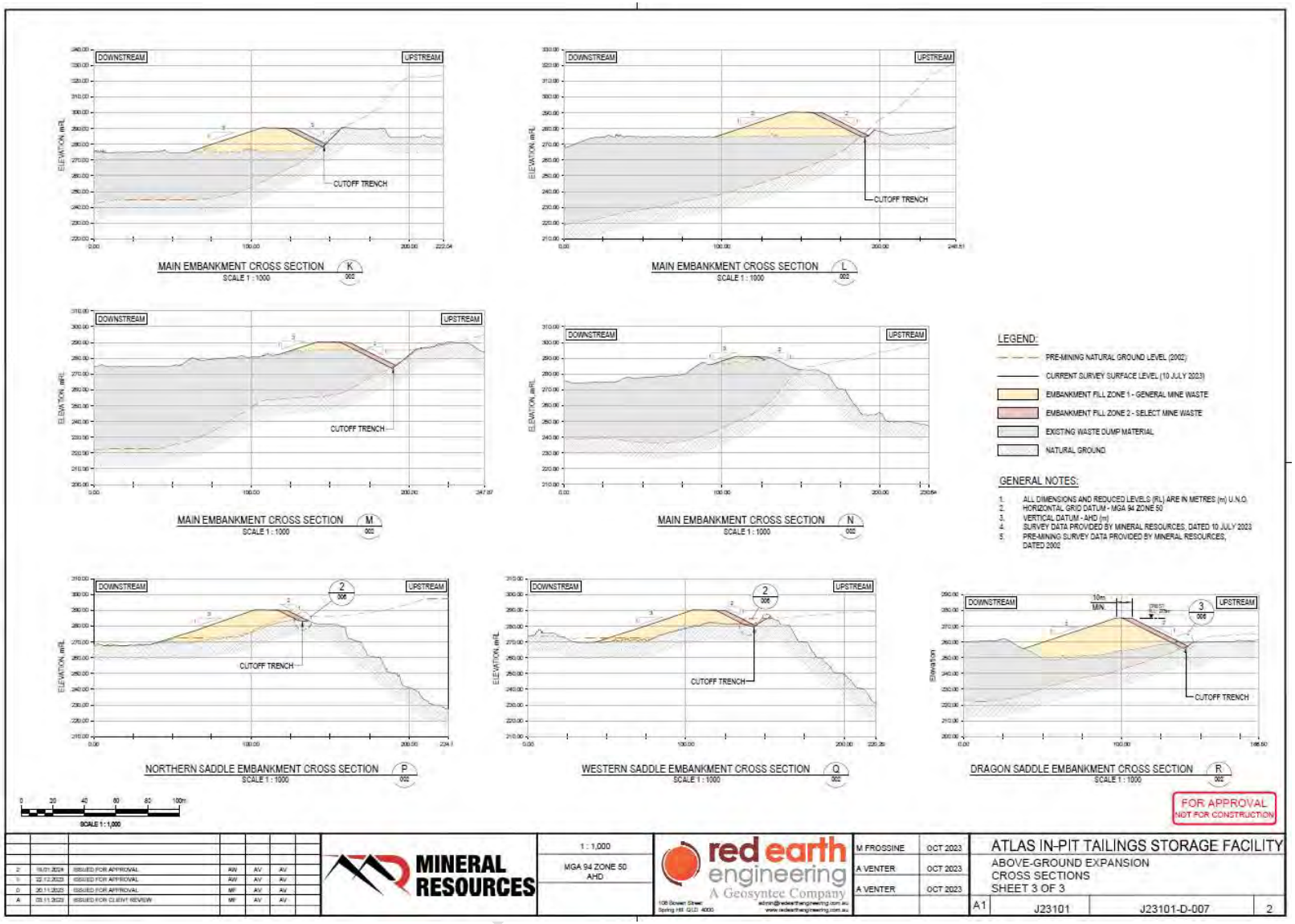

Figure 5: Atlas TSF cross sections

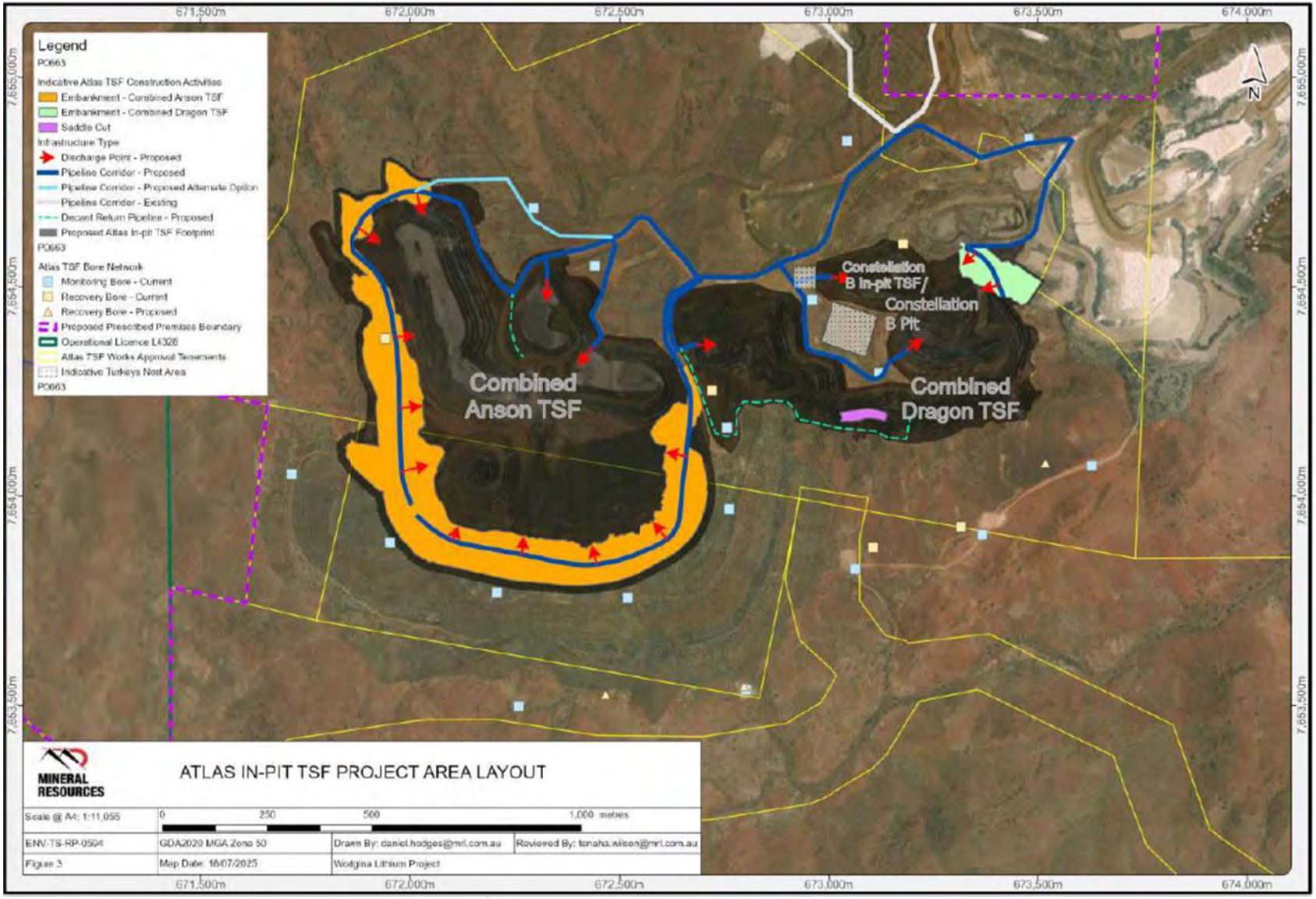

Figure 6: Map of the new pipelines, and indicative tailings discharge and decant water pump points

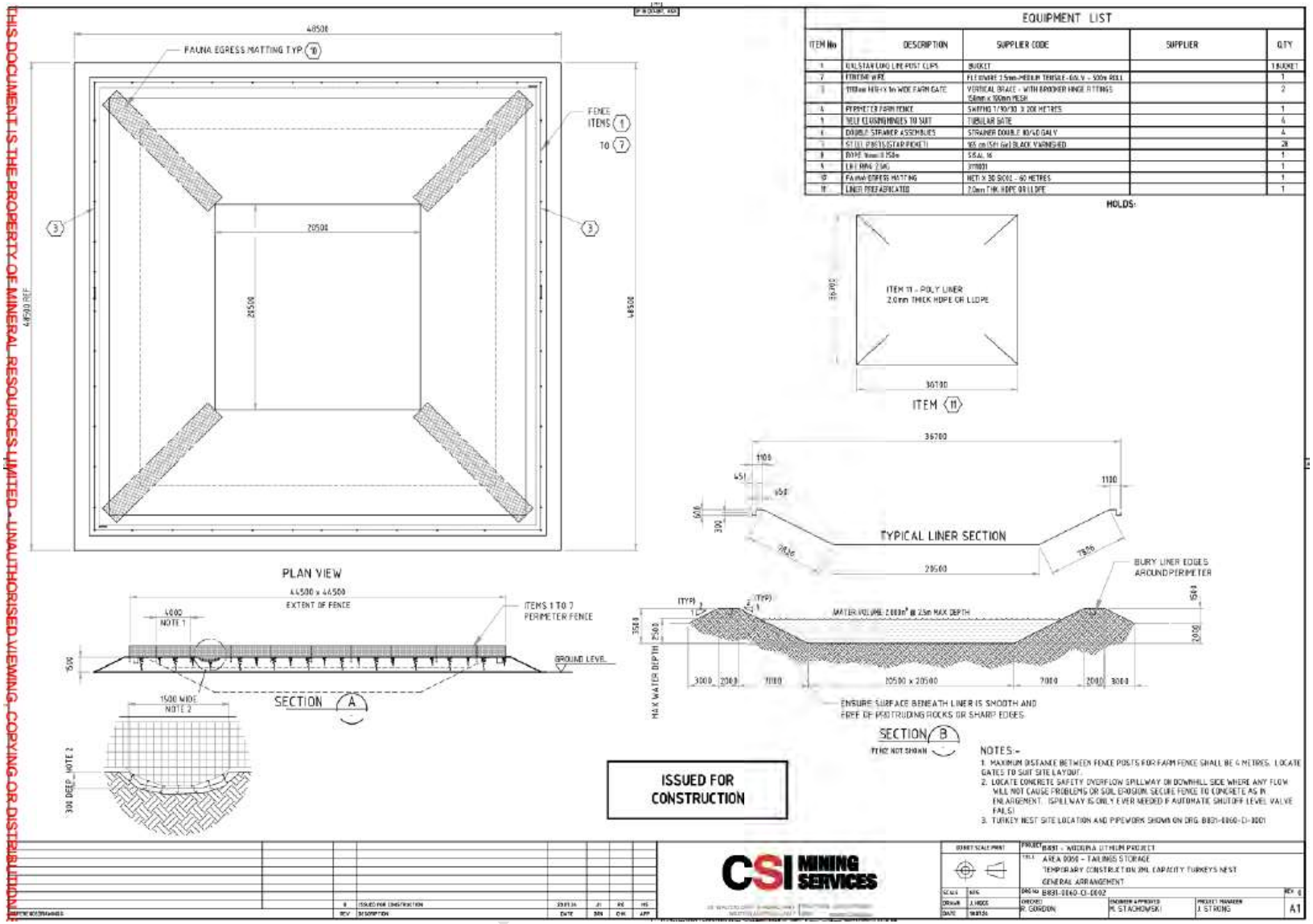

Figure 7: Turkeys Nest design

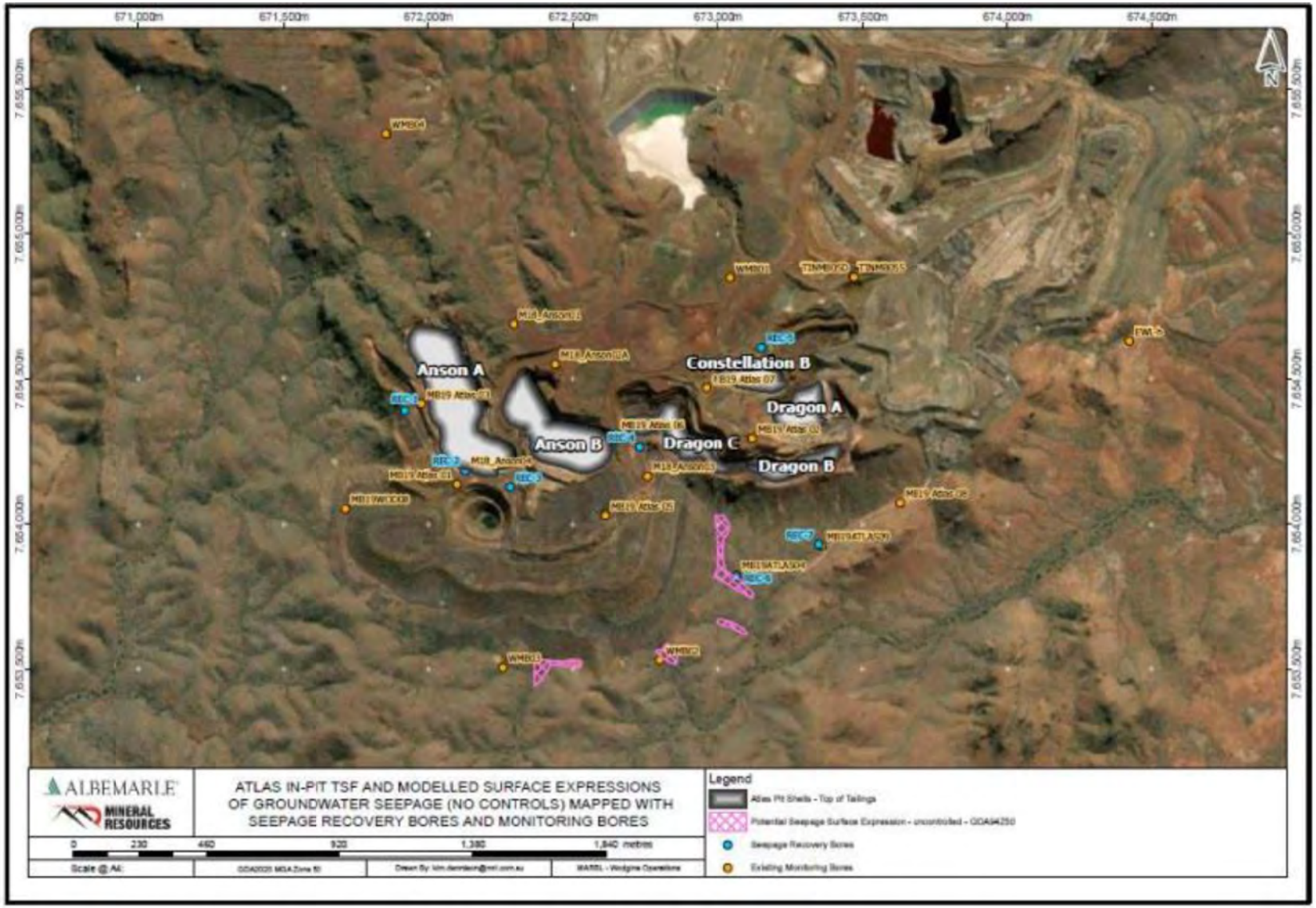

Figure 8: Atlas in-pit TSF

Groundwater monitoring and seepage recovery bore network maps

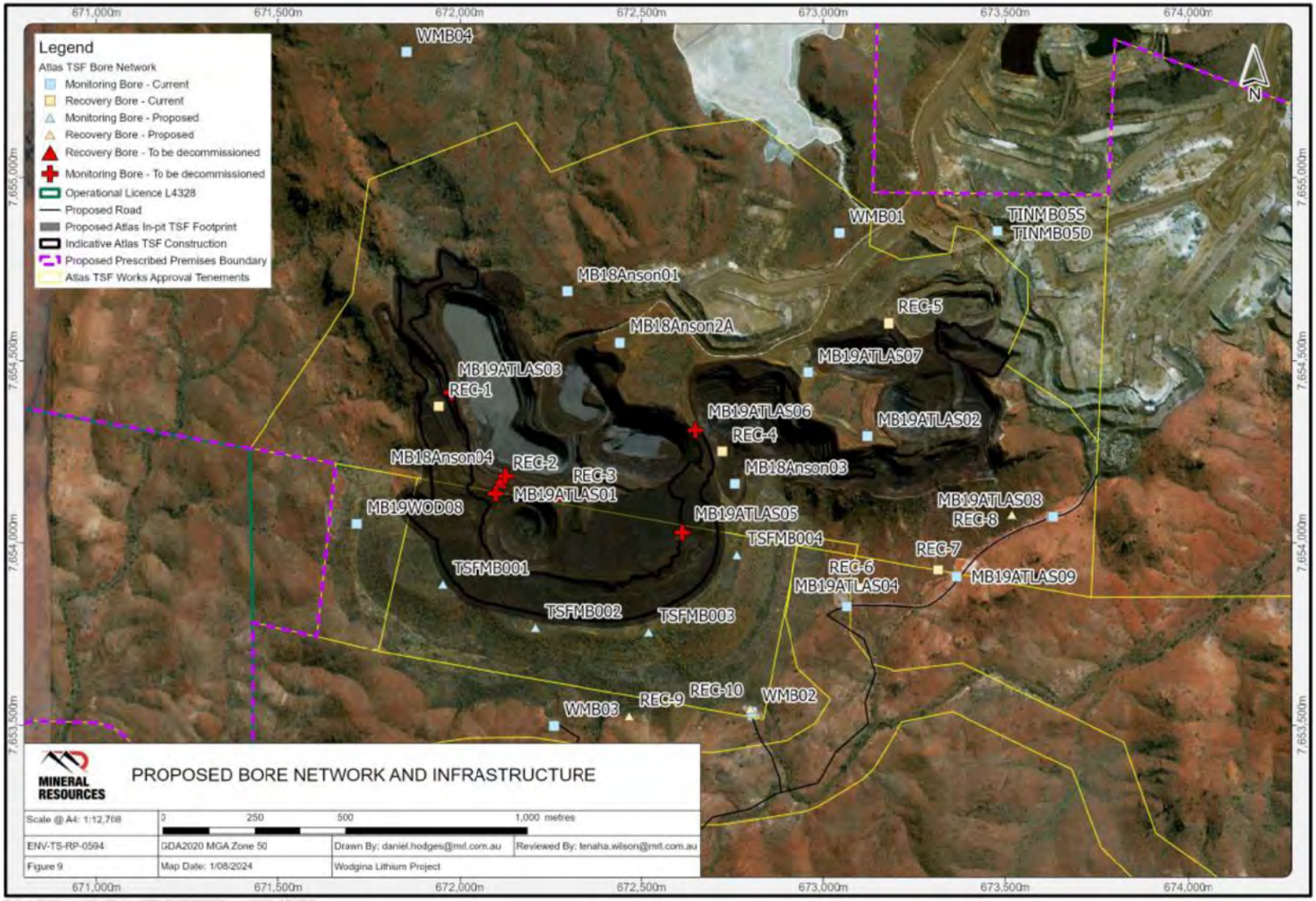

Figure 9: Location of proposed and existing groundwater monitoring bores

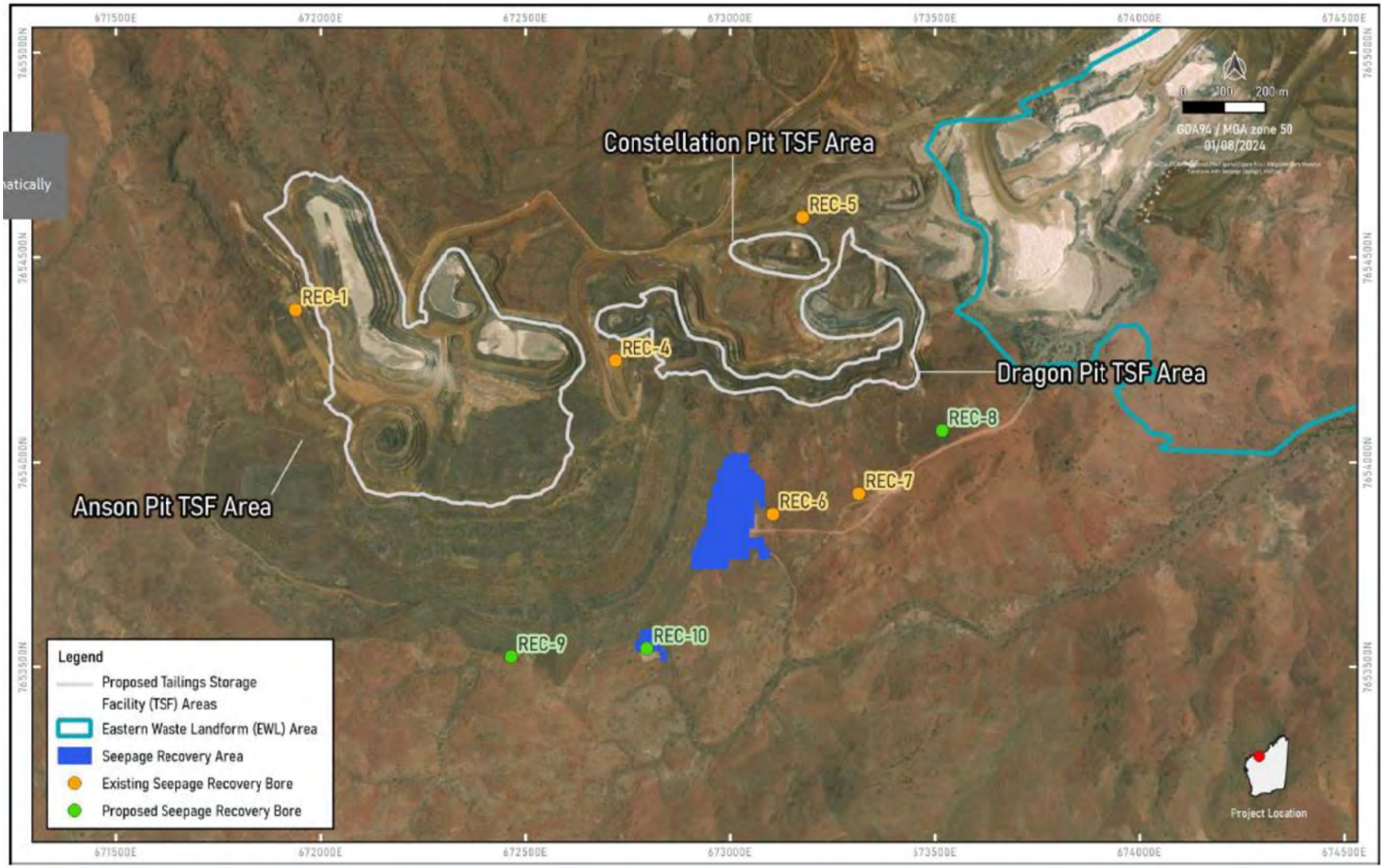

Figure 10: Location of seepage recovery bores

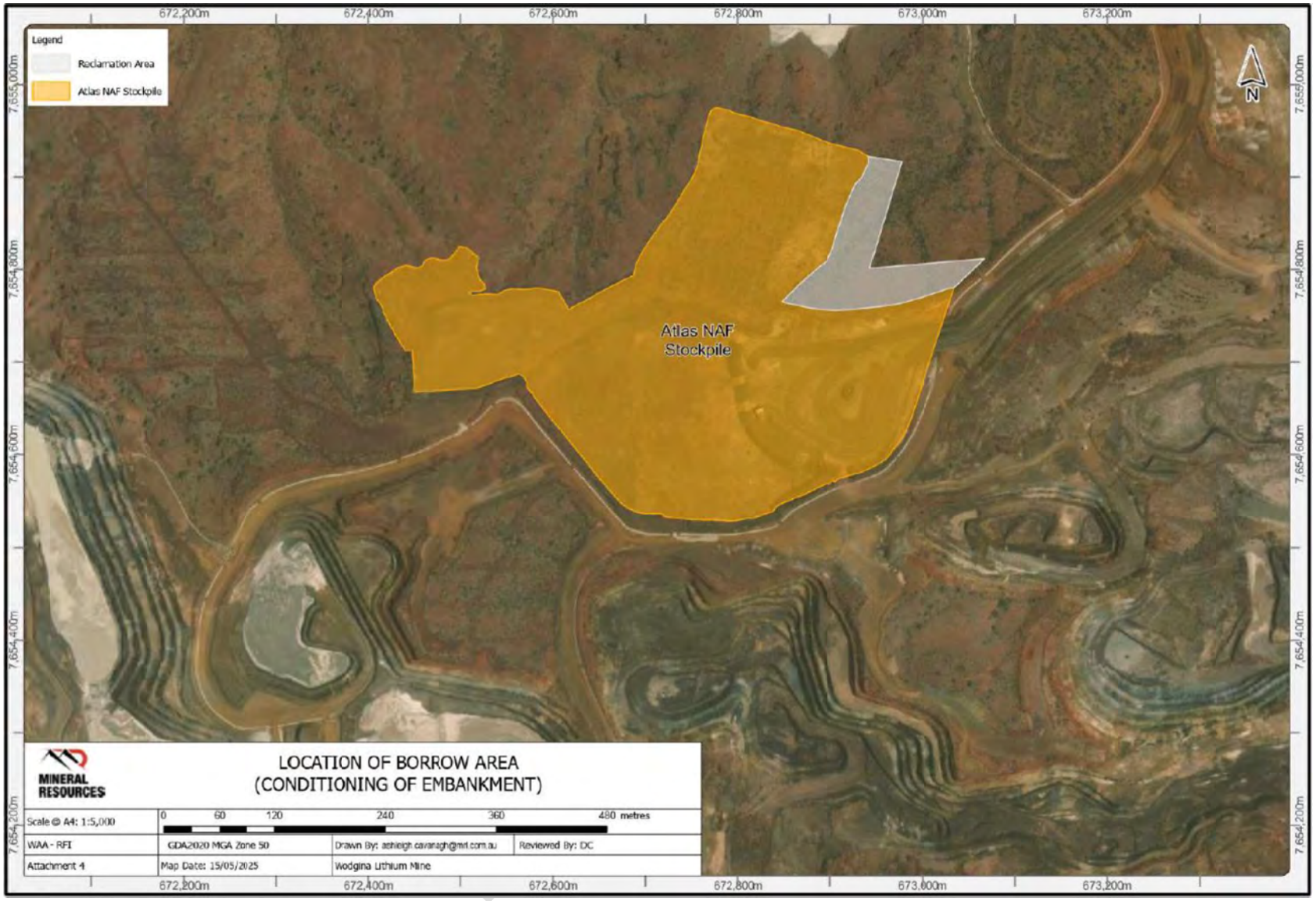

Figure 11: Atlas NAF stockpile (borrow area) and material conditioning location