



Licence number	L9335/2022/1
Licence holder	Thunderbird Operations Pty Ltd
ACN	611 351 743
Registered business address	264 Port Drive BROOME WA 6725
DWER file number	DER2022/000219
Duration	14/12/2022 to 13/12/2037
Date of issue	14/12/2022
Date of amendment	14/05/2024
Premises details	Thunderbird Mineral Sands Project Legal description - Mining tenement L04/85, part of L04/86, part of M04/459, part of L04/84, L04/82 and L04/83 WATERBANK WA 6725 as defined by the premises map in Schedule 1 and the coordinates in Schedule 2

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed production capacity
Category 8: Mineral sands mining or processing	25,000,000 tonnes per annum
Category 54: Sewage facility	WWTP 1: 100 m ³ /day WWTP 2: 17.5 m ³ /day
Category 89: Putrescible landfill site	1,100 tonnes per annum

This licence is granted to the licence holder, subject to the attached conditions, on 14 May 2025, by:

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

Licence history

Date	Reference number	Summary of changes
14/12/2022	L9335/2022/1	Licence granted.
23/03/2023	L9335/2022/1	Licence amended to authorise operation of WWTP2.
14/05/2024	L9335/2022/1	<p>Licence amendment to include:</p> <ul style="list-style-type: none"> Processing Plant WCP/CUP 1; TSF, SSP and Process Water Ponds constructed under W6088/2017/1 and associated conditions; Construction requirements from W6088/2017/1 for the WCP/CUP 2; and Increase in the category 8 design capacity from 12,500,000 to 25,000,000 tonnes per annual period to incorporate the two processing plants.

Interpretation

In this licence:

- (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 licence:
 - (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 licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

Licence conditions

The licence holder must ensure that the following conditions are complied with:

Infrastructure and equipment

- The licence holder must ensure that the site infrastructure and equipment listed in Table 1 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 1.

Table 1: Infrastructure and equipment requirements

Site infrastructure and equipment	Operational requirement	Infrastructure location
Active mine pit	<ul style="list-style-type: none"> Base of mine pit to go no deeper than 75 m AHD. Water trucks containing water sufficient to be used for dust suppression available as required. Diversion bunds are to be used to divert surface water flows around active mine areas. Drainage from the mine excavation must be directed into holding sumps and used for dust suppression or ore processing. 	Not shown
Mining Unit Plant Consisting of screening equipment.	<ul style="list-style-type: none"> Remain on the mining excavation floor close to the active mine face. Spray bars are used for dust suppression of dust from the Mining Unit Plant. Ore is slurried within the liquefier chute prior to pumping from the Mining Unit Plant to the wet concentration plant. 	
Processing Plants: WCP/CUP 1 WCP/CUP 2 ¹	<ul style="list-style-type: none"> Maintained and operated in accordance with manufacturer's specifications. WCP/CUP 1 mining rate of 12,500,000 tonnes per annual period. WCP/CUP 1 and WCP/CUP 2 combined mining rate of 25,000,000 tonnes per annual period. Runoff from processing plant area and product stockpiles directed to Containment Ponds. 	<p>WCP/CUP 1 and WCP/CUP 2 at the location shown in Schedule 1, Figure 2 'WCP CUP'</p> <p>As shown in Schedule 1, Figure 2 'Containment Pond/s'</p>
TSF	<ul style="list-style-type: none"> Perimeter embankment crest (RL m AHD) <ul style="list-style-type: none"> Stage 1: 104.0 m – 108.5 m Stage 2: 104.0 m – 113.0 m Stage 3: 107.0 m – 116.0 m Stage 4: 107.0 m – 119.1 m Maintain a minimum freeboard of 500 mm. 	As shown in Schedule 1, Figures 3 and 4

Site infrastructure and equipment	Operational requirement	Infrastructure location
	<ul style="list-style-type: none"> Cyclic tailings deposition up and down the central deposition embankment. Water from the tailings and surface runoff from the TSF directed to the HDPE lined decant sump. Water from the decant sump pumped back to the process water ponds via the thickener for reuse. Perimeter diversion drain to divert rainfall and runoff around the TSF. 	
SSP	<ul style="list-style-type: none"> Maintain a minimum freeboard of 500 mm. HDPE lined Southern Cell. Water from the SSP pumped back to the process water ponds via the thickener for reuse. 	As shown in Schedule 1, Figure 3
Process Water Ponds	<ul style="list-style-type: none"> HDPE lined. Operated with sufficient freeboard to accommodate the volume of excess rainfall run-off resulting from 1:100 AEP, 72-hour flood event. 	As shown in Schedule 1, Figure 2 'Process Water Ponds'
WWTP1 and WWTP2	<ul style="list-style-type: none"> Pump pits transferring sewage to the plants are controlled by pre-set level floats. Each balance tank of WWTP1 and WWTP2 has sufficient capacity to contain peak flows over 12 hours. Flow meters on the WWTP1 and WWTP2 outlets to the irrigation spray fields monitor volumes discharged to irrigation spray fields. Sludge from WWTP1 and WWTP2 is removed annually, or as required and disposed of at a registered waste site by an approved contractor. Visual inspections daily when in operation to check the integrity of the tanks, pipelines, flow meters, alarm system (audible and visual) and stormwater drainage infrastructure. 	As shown in Schedule 1, Figure 2 'WWTP1 and WWTP2'
Irrigation spray fields of WWTP1 and WWTP2	<ul style="list-style-type: none"> The spray field irrigation area includes a 5 m buffer beyond the extent of the sprinklers range. Irrigation via the spray irrigator to be even and spray irrigators operate as per manufacturers specification. The fence around entire perimeter of spray field is maintained. Irrigation must be managed to prevent ponding of effluent on the ground surface of the spray field. Irrigation operations must not occur during significant rainfall events. Irrigation spray field of WWTP1 should not be less than 7.2 hectares in size and irrigation spray field of 	As shown in Schedule 1, Figure 2 'Sprayfield and Sprayfield (WWTP2)'

Site infrastructure and equipment	Operational requirement	Infrastructure location
	<p>WWTP2 should not be less than 0.7 hectares in size.</p> <ul style="list-style-type: none"> Visual inspections daily when in operation to check the integrity of the irrigation system valves, pumps, pipelines and other fittings. 	
Landfill	<ul style="list-style-type: none"> Area of landfill must be no more than 240 m x 340 m. Landfill area is surrounded by a maintained fauna proof fence. Each active cell is no more than 40 m long, 20 m wide and 4 mbgl. Depth of any cell must not exceed 4 mbgl. Each active cell is to be surrounded by a bund 1 m high. A ramp will be made within each active cell to allow access to the floor of the cell. Waste will be deposited in the base of the cell, covered and compacted fortnightly, or prior to additional waste being deposited, whichever is soonest. 	As shown in Schedule 1, Figure 2 'Landfill'
Bioremediation facility	<ul style="list-style-type: none"> A competent HDPE lining is maintained for each cell. The side walls must be maintained at 1 m high. An earthen bund of 0.5 m high must be maintained at the front and rear of the cells. Contaminated material must be treated and retained in the bioremediation facility until the treated material meets Total Recordable Hydrocarbon (TRH) results below the commercial Ecological Investigation Limits, NEPM (Assessment of Site Contamination). If the above limits are not met disposal must be by a licensed Controlled Waste carrier and according to <i>Controlled Waste Regulations 2004</i>. 	As shown in Schedule 1, Figure 2 'Bioremediation Facility' and the layout as shown in Schedule 1, Figure 5

Note 1: Following submission of the compliance report required under condition 17.

2. The licence holder must construct and/or install the infrastructure listed in Table 2, in accordance with;
- the corresponding design and construction requirement / installation requirement; and
 - at the corresponding infrastructure location;
- as set out in Table 2.

Table 2: Design and construction requirements

Infrastructure	Design and construction requirement	Infrastructure location
Construction of WCP/CUP 2		
WCP/CUP 2	WCP must be constructed in accordance with drawings KMP 2000-F-002, KMP 2000-F-003 and KMP 2000-F-004.	As shown by the Process Flow Diagrams in Schedule 1, Figures 6, 7 and 8
	CUP must be constructed in accordance with drawings KMP 2000-F-007, KMP 2000-F-008, KMP 2000-F-009 and KMP 2000-F-010.	As shown by the Process Flow Diagrams in Schedule 1, Figures 9, 10, 11 and 12
Plant water supply system	Must be constructed in accordance with drawings KMP 2000-F-017 and KMP 2000-F-018.	As shown by the Process Flow Diagrams in Schedule 1, Figures 13 and 14
Central Storage and Transfer Pond	Must be lined to achieve a permeability of at least 1×10^{-9} m/s.	Not shown
WCP Process Water Pond		
WCP Settling Ponds		
Return water and tailings pipelines	Must be constructed with: <ul style="list-style-type: none"> (a) secondary containment sufficient to contain any spill for a period equal to the time between routine inspections; or (b) telemetry systems and pressure sensors along pipelines to allow the detection of leaks and failures; and (c) equipped with remotely controlled cut-outs in the event of a pipe failure. 	Not shown

3. The licence holder must operate WCP/CUP 2 and associated infrastructure listed in Table 2 in accordance with the conditions of this licence, following submission of the compliance document required under condition 17.
4. The licence holder must ensure that the waste types specified in Table 3 are only subjected to the corresponding processes, subject to the corresponding process limits and/or specifications.

Table 3: Management of Waste

Facility	Waste type	Process(es)	Process limits and/or specifications
Landfill	Clean fill Inert Waste Type 1 Putrescible wastes Inert Waste Type 2 (not including tyres)	Receipt, handling, and disposal of waste by landfilling	No more than 1,100 tonnes per annual period of all waste types cumulatively shall be disposed of to the Landfill as shown in Schedule 1, Figure 2
WWTP1 WWTP2	Sewage	Biological, physical and chemical treatment	WWTP1: 100 m ³ /day WWTP2: 17.5 m ³ /day
Bioremediation Facility	Hydrocarbon contaminated soils	Treatment and remediation	No more than 625 m ³ per cell

5. The licence holder must ensure that all pipelines containing process water, tailings and decant return water are either:
- (a) equipped with telemetry system and pressure sensors along pipelines to allow the detection of leaks and failures; or
 - (b) equipped with automatic cut-outs in the event of a pipe failure; or
 - (c) provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections.
6. The licence holder must:
- (a) undertake inspections as detailed in Table 4;
 - (b) where any inspection identifies that an appropriate level of environmental protection is not being maintained, take corrective action to mitigate adverse environmental consequences as soon as practicable; and
 - (c) maintain a record of all inspections undertaken.

Table 4: Inspection of infrastructure

Scope of inspection	Type of inspection	Frequency of inspection
Tailings delivery pipelines	Visual integrity	Daily
Return water system pipelines	Visual integrity	
TSF and SSP embankment freeboard	Visual to confirm required freeboard capacity is available	
Process Water Ponds	Visual integrity	

Emissions and discharges

Authorised discharge points for emissions

7. The licence holder must ensure that the emissions specified in Table 5, are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 5: Authorised discharge points

Emission	Discharge point	Discharge point location
Single tailings deposition stream consisting of benign sand and slimes residue with a polymer flocculant added to the tailings pipeline prior to discharge	Tailings Distribution Spigot System consisting of north and south arms	As shown in Schedule 1, Figure 4 'Tailings Distribution Spigot System'
Controlled release of water typically comprising groundwater and decant, tailings liquor in the event of sustained high rainfall	SSP Emergency Spillway to environment	As shown in Schedule 1, Figure 3 'Spillway SSP'
Treated effluent	Sprinklers located within irrigation spray fields 1 and 2	Within the locations shown in Schedule 1, Figure 2 'Sprayfield and Sprayfield (WWTP2)'

Disposal of wastewater via irrigation

8. The licence holder must ensure that treated wastewater is only discharged via irrigation to the specified discharge points in accordance with the concentration limits and loading limits specified in Table 6.

Table 6: Irrigation emission limits

Discharge point	Parameter	Concentration limit	Loading limit
Sprinklers located within irrigation spray fields 1 and 2	Total Nitrogen	20 mg/L	180.0 kg/ha/yr
	Total Phosphorus	2.0 mg/L	20.0 kg/ha/yr
	Biochemical Oxygen Demand	<20 mg/L	-

Monitoring

General

9. The licence holder must ensure that:
- monitoring is undertaken in each monthly period such that there are at least 15 days in between the days on which samples are taken in successive months; and
 - monitoring is undertaken in each quarterly period such that there are at least 45 days in between the days on which samples are taken in successive quarters.

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10. The licence holder must ensure that all monitoring equipment used to comply with conditions of this licence is operated and calibrated in accordance with the manufacturer's specifications.

Discharge point monitoring

11. The licence holder must monitor emissions in accordance with the requirements specified in Table 7 and record the results of all such monitoring.

Table 7: Emissions and discharge monitoring

Monitoring location	Parameter	Unit	Frequency	Averaging period	Sampling Method
WWTP1 and WWTP2	Cumulative volume of treated sewage discharged to spray fields	m ³ /day	Continuous	-	Flow metering device
WWTP1 and WWTP2 Irrigation tank outlets	<i>E.coli</i>	cfu/100 mL	Monthly	Spot sample	AS/NZS 5667.1 AS/NZS 5667.10
	Biochemical Oxygen Demand	mg/L			
	Total Nitrogen				
	Total Phosphorus				
	Total Suspended Solids				
	pH ¹	pH units			

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

Monitoring of inputs and outputs

12. The licence holder must undertake monitoring of the water balance for the TSF each monthly period, and (as a minimum) record the following information:
- site rainfall;
 - evaporation rate;
 - decant water recovery volumes;
 - volume of tailings deposited;
 - tailings solid content (w/w %);
 - volume of water in tailings; and
 - calculated seepage.

Ambient environmental quality monitoring

13. The licence holder must conduct a groundwater monitoring programme in accordance with the requirements specified in Table 8 and record the results of all monitoring activity conducted under the programme.

Table 8: Monitoring of ambient groundwater quality

Monitoring location	Parameter	Unit	Frequency	Averaging period	Method
TSF01 TSF02 TSF03 TSF04 TSF05 TSF06 As shown in Schedule 1, Figure 15	SWL ^{1, 2}	mbgl	Quarterly	Spot sample	AS/NZS 5667.1 AS/NZS 5667.11
	pH ¹	pH units			
	Electrical Conductivity @25°C ¹	µS/cm			
	Redox potential ¹	mV			
	Total Dissolved Solids ¹	mg/L			
	Bicarbonate				
	Calcium				
	Chloride				
	Magnesium				
	Potassium				
	Sodium				
	Sulfate				
	Total Dissolved Solids				
	Aluminium				
	Arsenic				
	Cadmium				
	Chromium (Total Cr and CrVI)				
	Cobalt				
	Copper				
	Iron				
	Mercury				
	Nickel				
	Selenium				
	Thallium				
	Uranium				

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Monitoring location	Parameter	Unit	Frequency	Averaging period	Method
	Zinc				

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

Note 2: SWL to be determined prior to the collection of other samples.

14. The licence holder must record the results of all monitoring activity required by conditions 11 and 13.
15. All sample analysis must be undertaken by laboratories with current accreditation from the National Association of Testing Authorities (NATA) for the relevant parameters, unless otherwise specified in conditions 11 and 13.

Records and reporting

16. The licence holder must record the following information in relation to complaints received by the licence 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 licence holder to investigate or respond to any complaint.
17. The licence holder must within 30 days of each item of infrastructure required by condition 2 being constructed:
 - (a) undertake an audit of their compliance with the requirements of condition 2; and
 - (b) prepare and submit to the CEO an audit report on that compliance.
18. The report required by condition 17, must include as a minimum the following:
 - (a) certification by a suitably qualified professional engineer that the items of infrastructure or component(s) thereof, as specified in condition 2 have been constructed in accordance with the relevant requirements specified in condition 2;
 - (b) 'as constructed' plans for each item of infrastructure or component of infrastructure specified in condition 2;
 - (c) contains photographic evidence of the 'as constructed' infrastructure; and
 - (d) be signed by a person authorised to represent the licence holder and contains the printed name and position of that person.
19. 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 60 days after the end of that annual period an Annual Audit Compliance Report in the approved form.

20. The licence holder must submit to the CEO by no later than 60 days after the end of each annual period, an Annual Environmental Report for that annual period for the conditions listed in Table 9 and which provides information in accordance with the corresponding requirement set out in Table 9.

Table 9: Annual Environmental Report

Condition	Requirement
1	<ul style="list-style-type: none"> Amount of ore processed through each WCP/CUP; and Amount of mineral concentrate produced, in wet tonnes.
4	<ul style="list-style-type: none"> Waste types and volumes disposed at landfill; and Volume of hydrocarbon contaminated soil treated at the bioremediation facility.
11	<p>Summary of the cumulative volume of treated sewage discharged for the purpose of irrigation in tabular form.</p> <p>Water quality results to be provided to the CEO must include, but need not be limited to the following:</p> <ul style="list-style-type: none"> (a) The dates at which monitoring was undertaken for each location; (b) The raw monitoring data for each location, for each parameter in a tabulated form; and (c) Results calculated for the period compared against the limits specified in Table 6.
12	<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"> (a) The data used to undertake the water balance; (b) Details on how the parameters have been calculated / estimated and description of any uncertainties; and (c) An interpretation of the data.
13	<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"> (a) A clear statement of the scope of work carried out; (b) The dates at which monitoring was undertaken for each location; (c) A description of the field methodologies employed; (d) A summary of the field and laboratory quality assurance / quality control (QA/QC) program; (e) The raw monitoring data from each location, for each parameter in a tabulated form; (f) A diagram with aerial image overlay showing all monitoring locations and depicting groundwater level contours, flow direction and hydraulic gradient (relevant site features including discharge points and other potential sources of contamination must also be shown); (g) An interpretive summary and assessment of results against previous monitoring results and against relevant assessment levels for water, as published in the Guideline: Assessment and management of contaminated sites; and (h) Trend graphs to provide a graphical representation of historical results and to support the interpretive summary. <p>Note 1: General guidance on report presentation can be found in the Department's Guideline: Assessment and management of contaminated sites.</p>
16	Complaints summary.

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- 21.** 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 works conducted in accordance with condition 2 of this licence;
 - (c) any maintenance of infrastructure that is performed in the course of complying with condition 1 of this licence;
 - (d) monitoring programmes undertaken in accordance with conditions 11 and 13 of this licence; and
 - (e) complaints received under condition 16 of this licence.
- 22.** The books specified under condition 21 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 licence holder for the duration of the licence; and
 - (d) be available to be produced to an inspector or the CEO as required.

Definitions

In this licence, the terms in Table 10 have the meanings defined.

Table 10: Definitions

Term	Definition
ACN	Australian Company Number.
AEP	Annual Exceedance Probability.
AHD	Australian Height Datum.
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website).
annual period	a 12-month period commencing from 14 December until 13 December of the immediately following year.
AS/NZS 5667.1	means the most recent version and relevant parts of the Australian Standard AS/NZS 5667.1 <i>Water quality - Sampling - Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples</i> .
AS/NZS 5667.10	means the most recent version and relevant parts of the Australian Standard AS/NZS 5667.10 <i>Water quality - Sampling, Part 10: Guidance on sampling of waste waters</i> .
AS/NZS 5667.11	means the most recent version and relevant parts of the Australian Standard AS/NZS 5667.11 <i>Water Quality – Sampling – Guidance on sampling of groundwaters</i> .
averaging period	means the time over which a limit is measured or a monitoring result is obtained.
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer of the Department. “submit to / notify the CEO” (or similar), means either: Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
cfu/100 mL	means colony-forming units per 100 millilitres.
Clean fill	has the meaning defined in Landfill Definitions.
CUP	Concentrate Upgrade Plant.
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the

Term	Definition
	administration of the EP Act, which includes Part V Division 3.
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.
EP Act	<i>Environmental Protection Act 1986 (WA).</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA).</i>
freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point.
Guideline: Assessment and management of contaminated sites	Guideline: Assessment and management of contaminated sites” means the document titled ‘Guideline - Assessment and management of contaminated sites’ (Department of Water and Environmental Regulation, November 2021), as amended from time to time.
HDPE	high density polyethylene.
Inert Waste Type 1	has the meaning defined in Landfill Definitions.
Inert Waste Type 2	has the meaning defined in Landfill Definitions.
kg/ha/yr	kilogram per hectare per year.
Landfill Definitions	means the document titled “Landfill Waste Classification and Waste Definitions 1996 (as amended 2019)” published by the Chief Executive Officer of the Department of Water and Environmental Regulation as amended from time to time.
licence	refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within.
licence holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
m ³ /day	metres cubed per day.
mbgl	metres below ground level.
m/s	metres per second.
µS/cm	micro Siemens per centimetre.
mg/L	milligrams per litre.
mV	millivolts.
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.
NEPM	means National Environment Protection Measure.

Term	Definition
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this licence.
prescribed premises	has the same meaning given to that term under the EP Act.
professional engineer	means a person who holds a Bachelor of Engineering and has demonstrated experience working in the relevant discipline.
putrescible	means the component of a waste stream that is, or is likely to become, putrid.
spot sample	means a discrete sample representative of the time and place at which the sample is taken.
SSP	Stormwater Storage Pond.
SWL	Standing Water Level.
TSF	Tailings Storage Facility.
waste	has the same meaning given to that term under the EP Act.
WWTP	wastewater treatment plant.
WCP	Wet Concentrator Plant.
w/w	means weight per weight.

END OF CONDITIONS

Schedule 1: Maps

Premises map

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

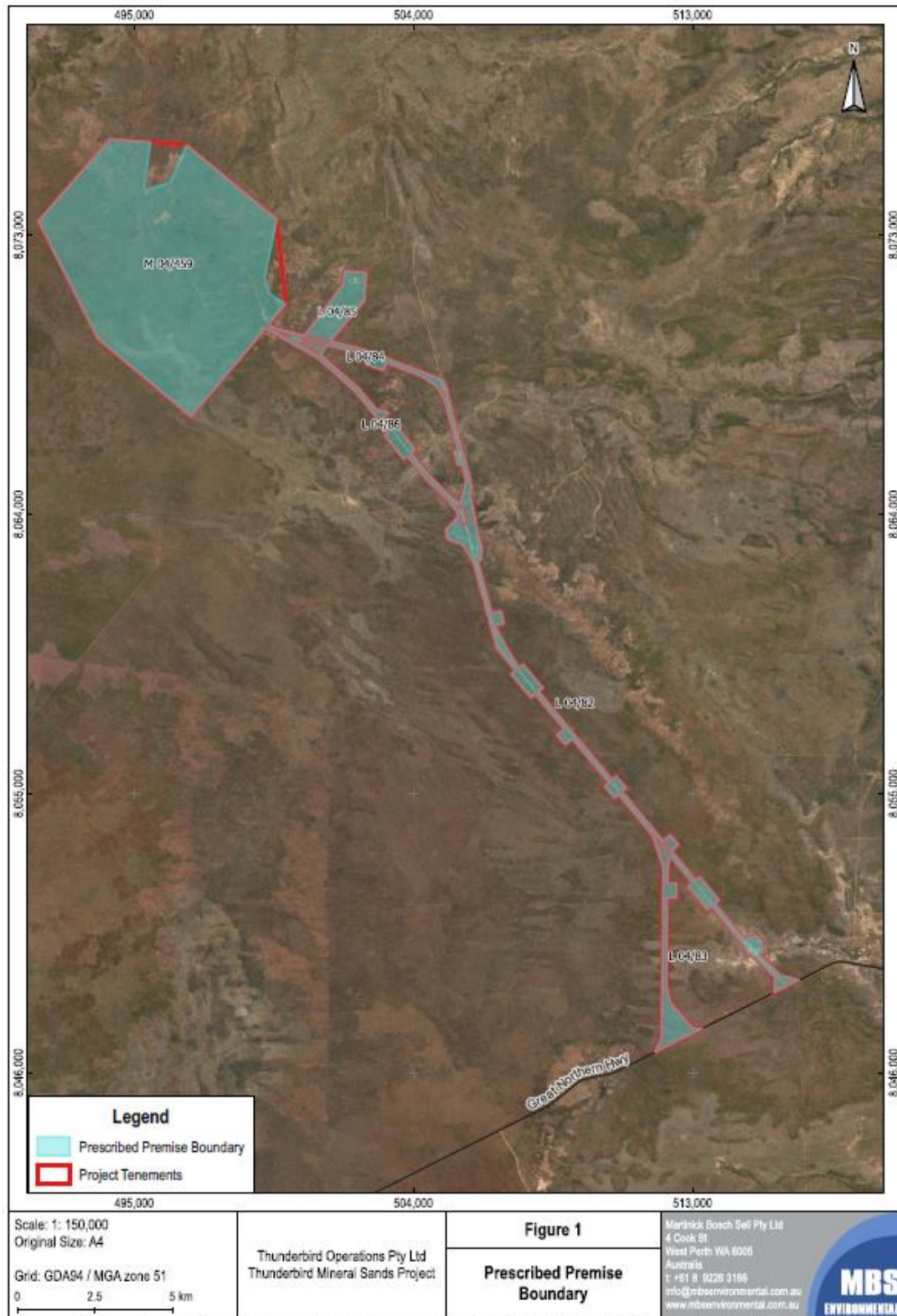


Figure 1: Map of the boundary of the prescribed premises

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Infrastructure and emissions and discharges

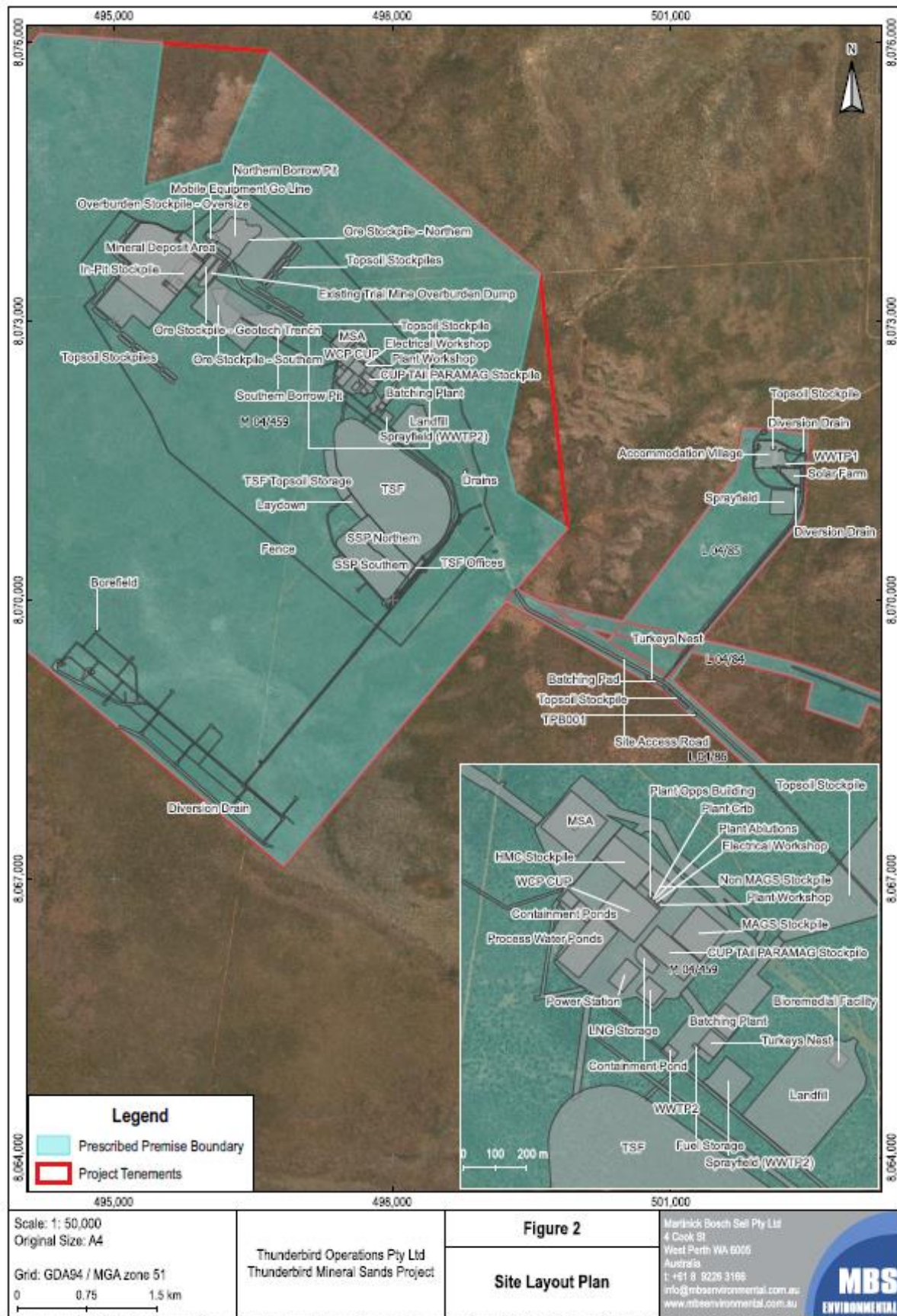


Figure 2: Site Layout plan

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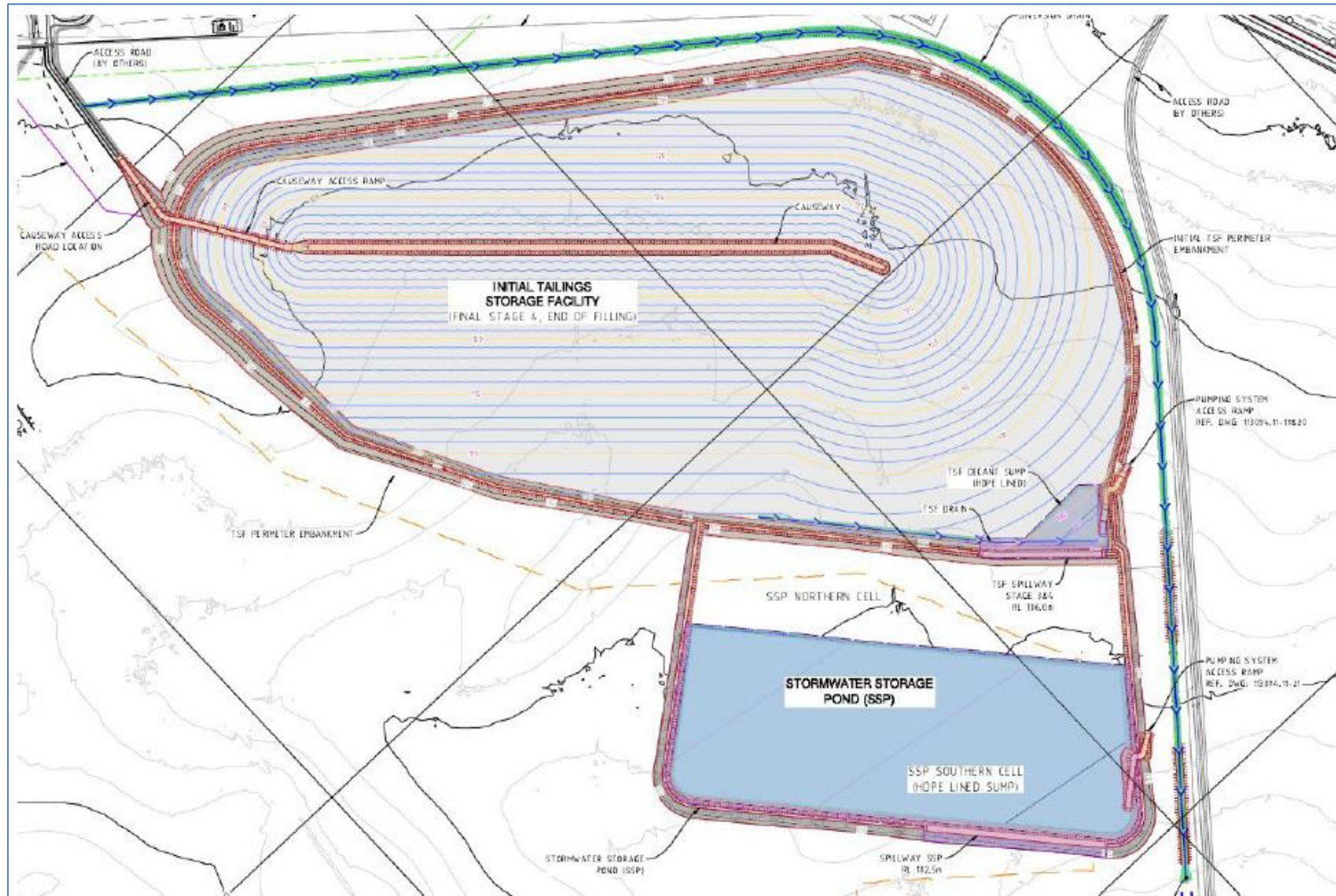


Figure 3: TSF and SSP infrastructure

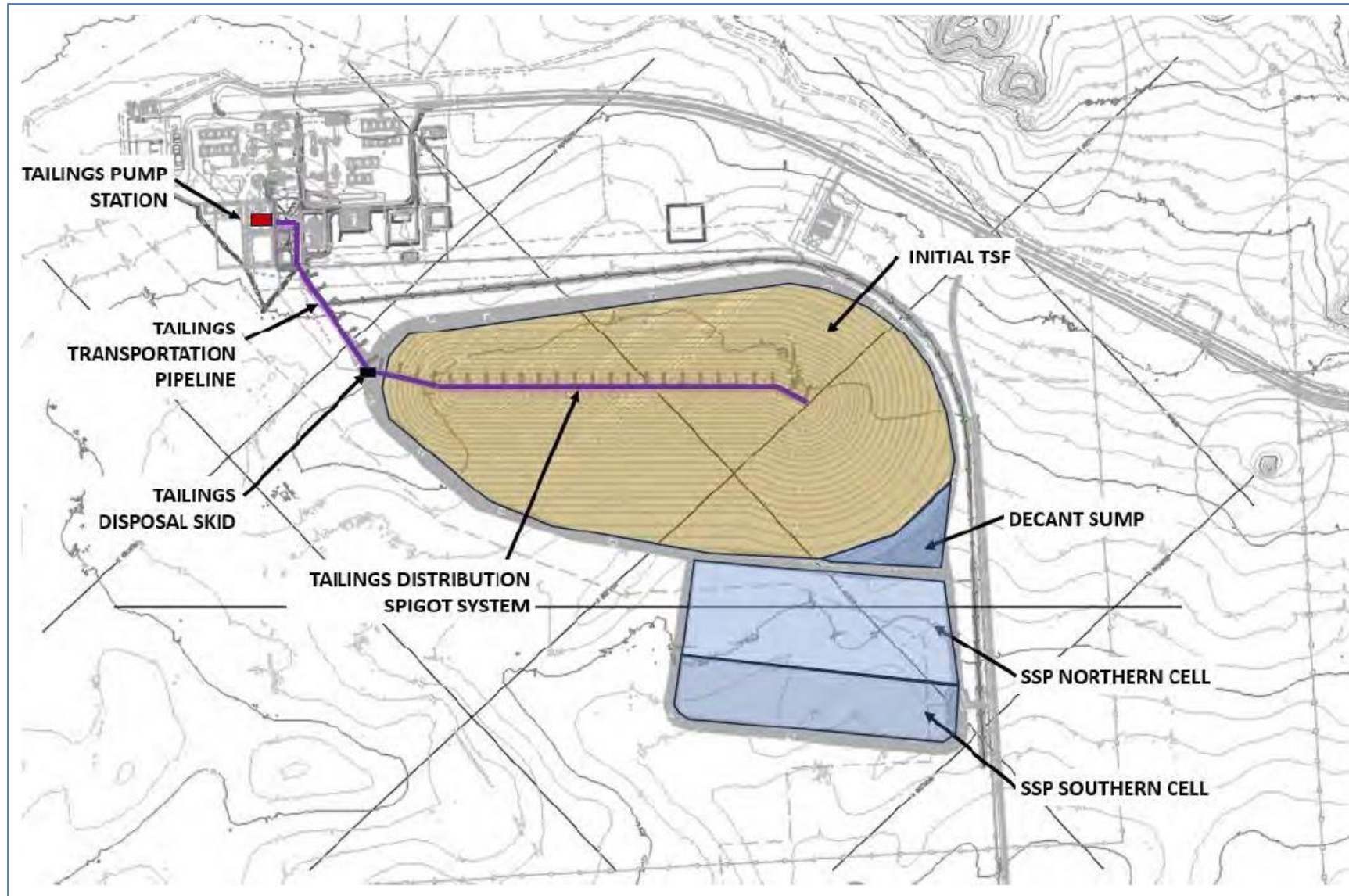


Figure 4: TSF infrastructure

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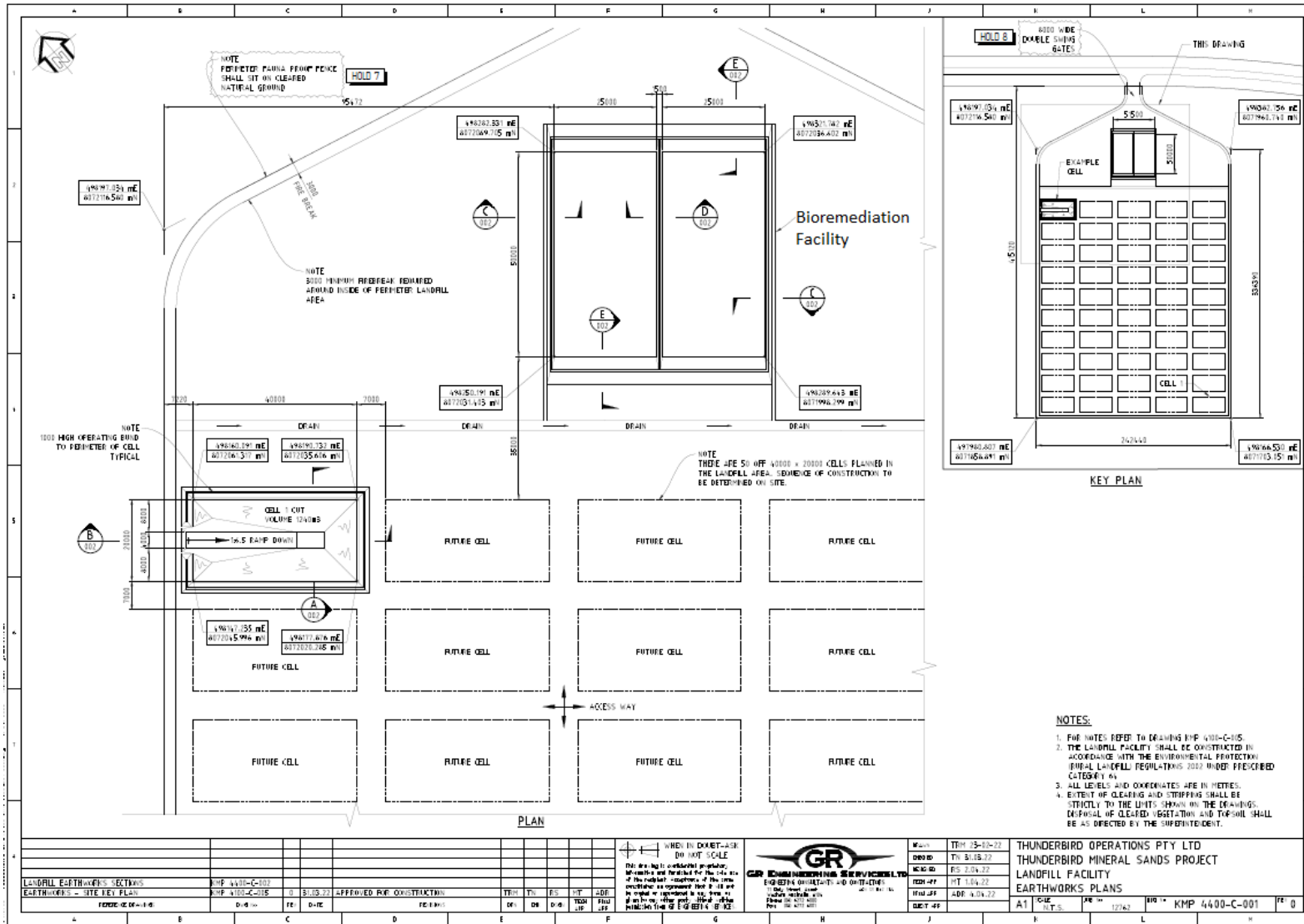


Figure 5: Bioremediation facility layout

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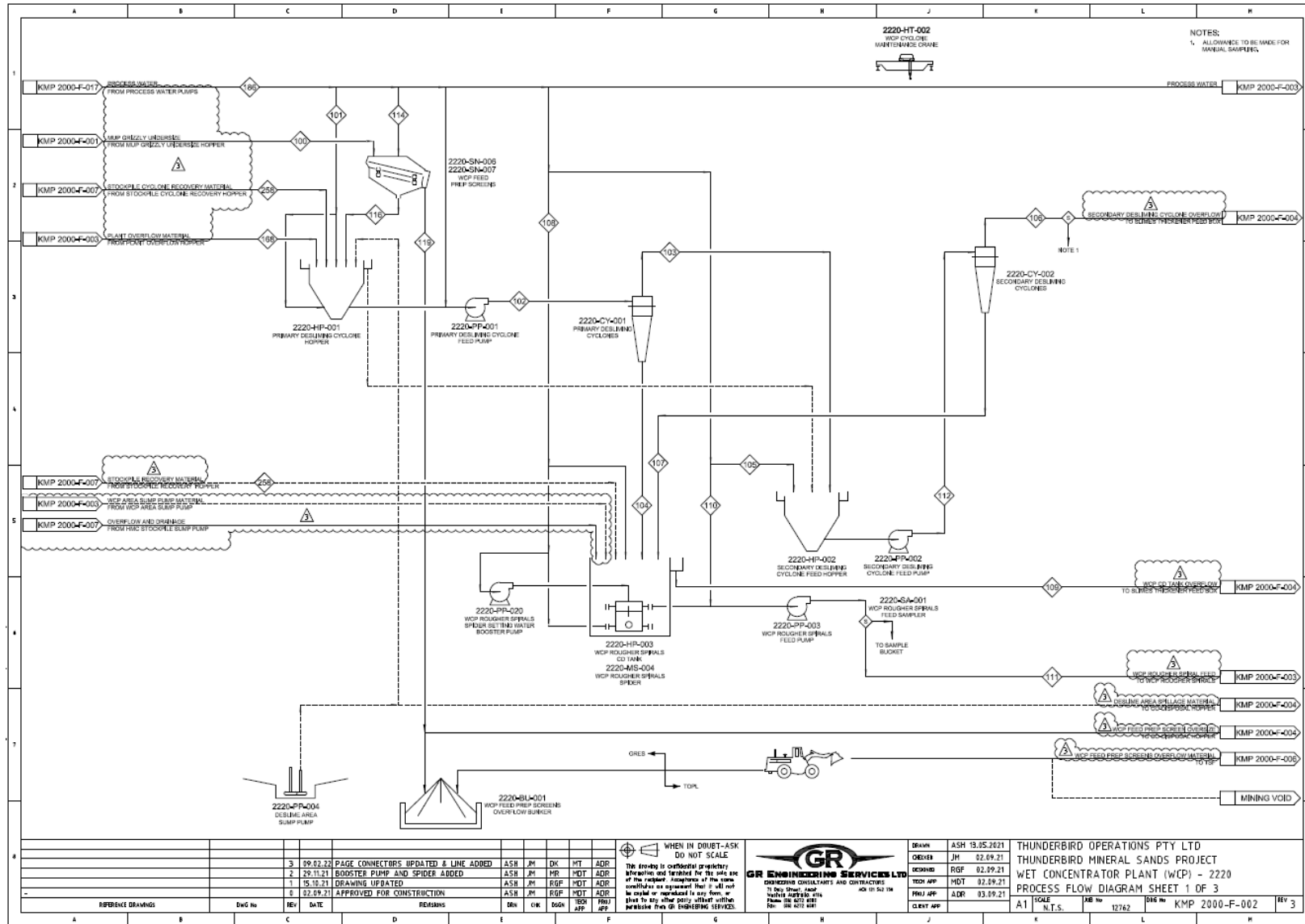


Figure 6: WCP Process Flow Diagram

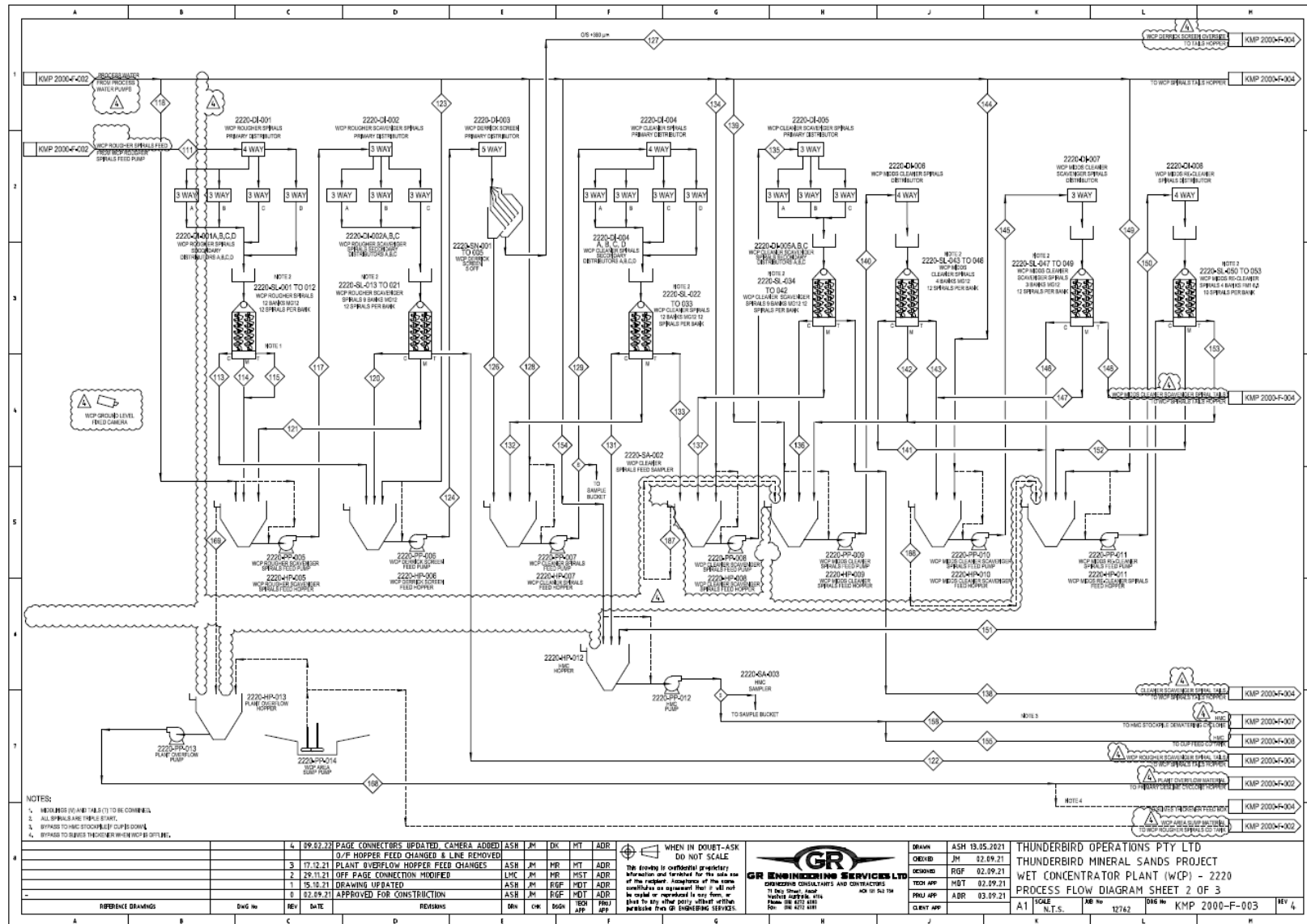


Figure 7: WCP Process Flow Diagram

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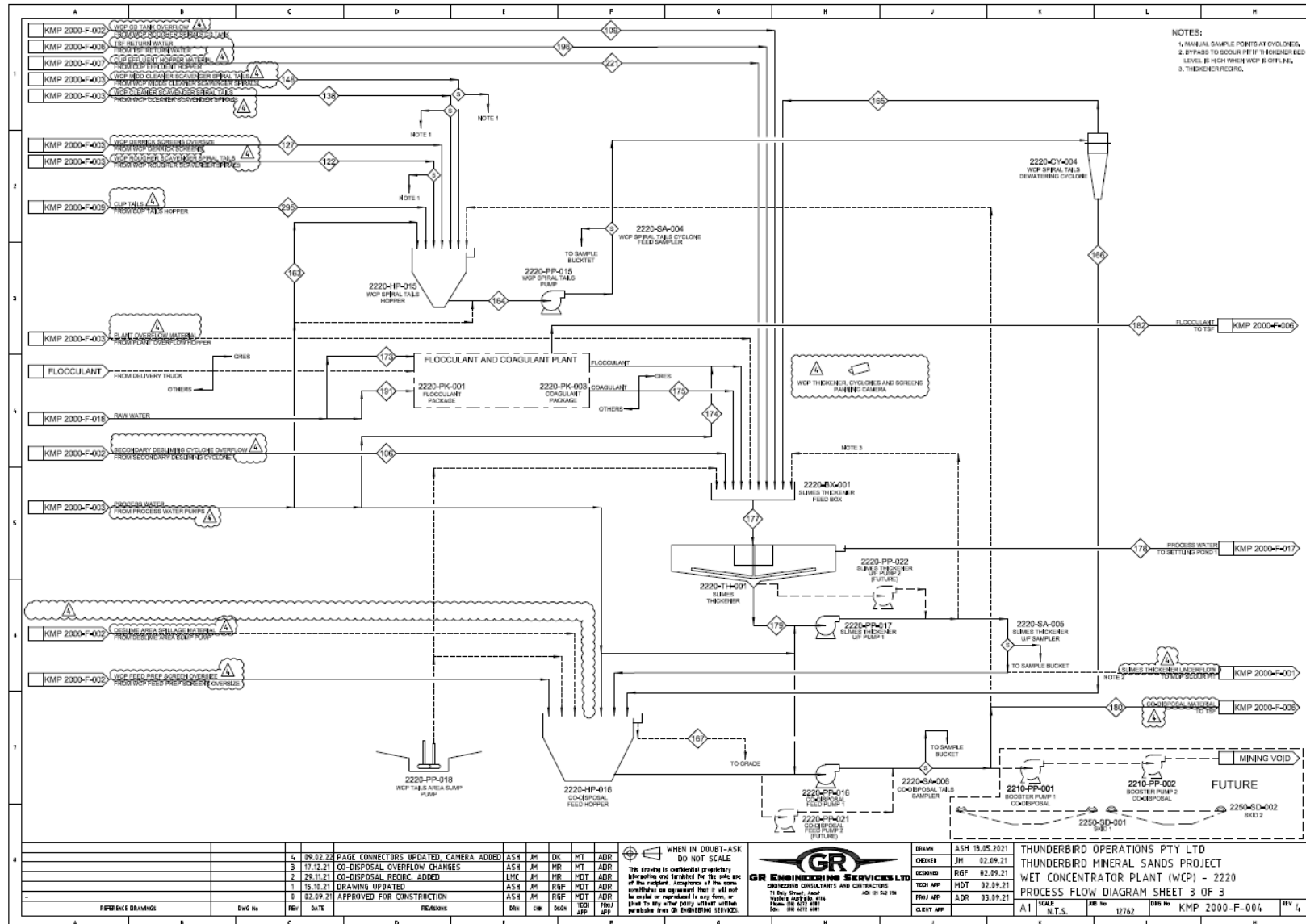


Figure 8: WCP Process Flow Diagram

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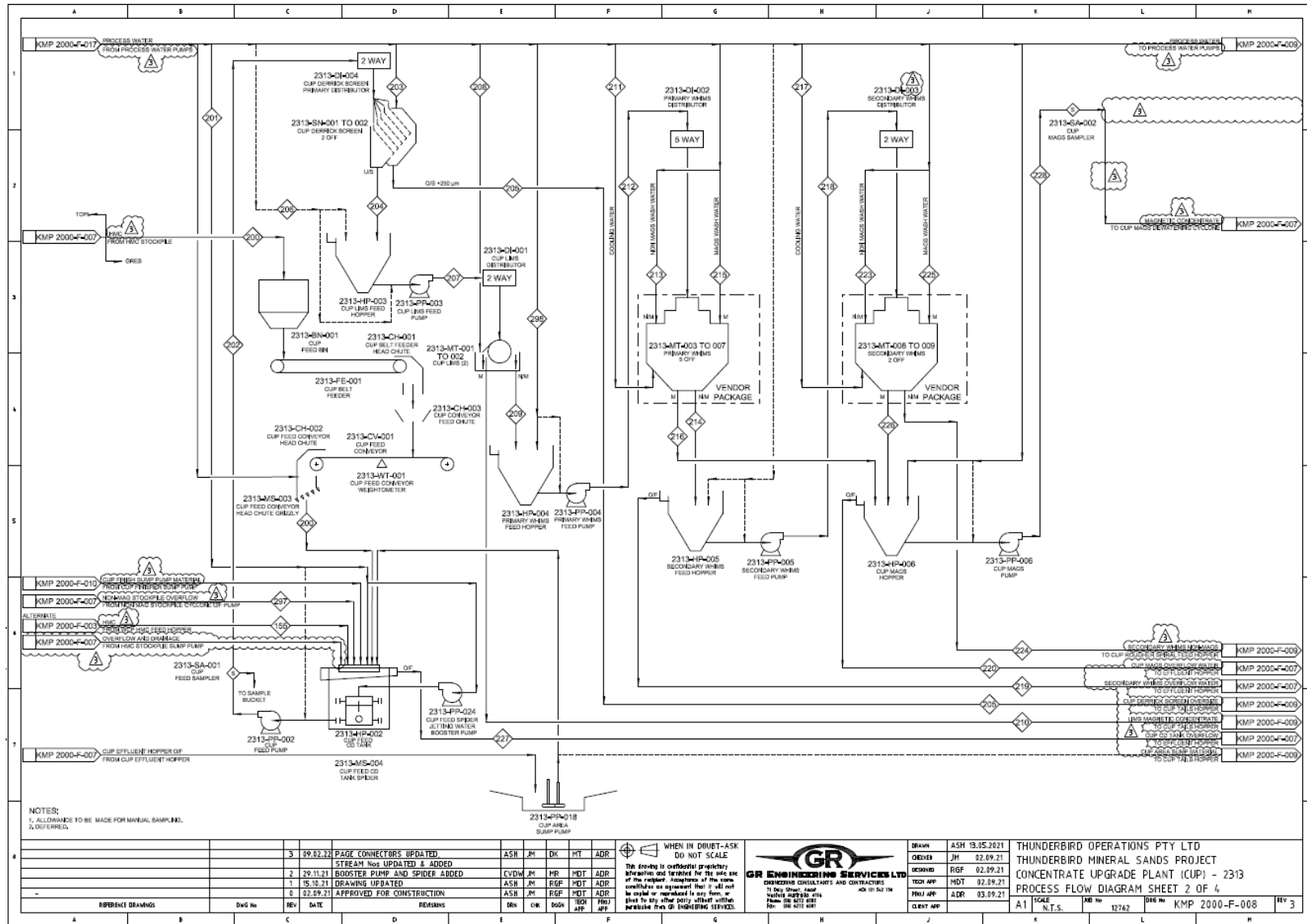


Figure 10: CUP Process Flow Diagram

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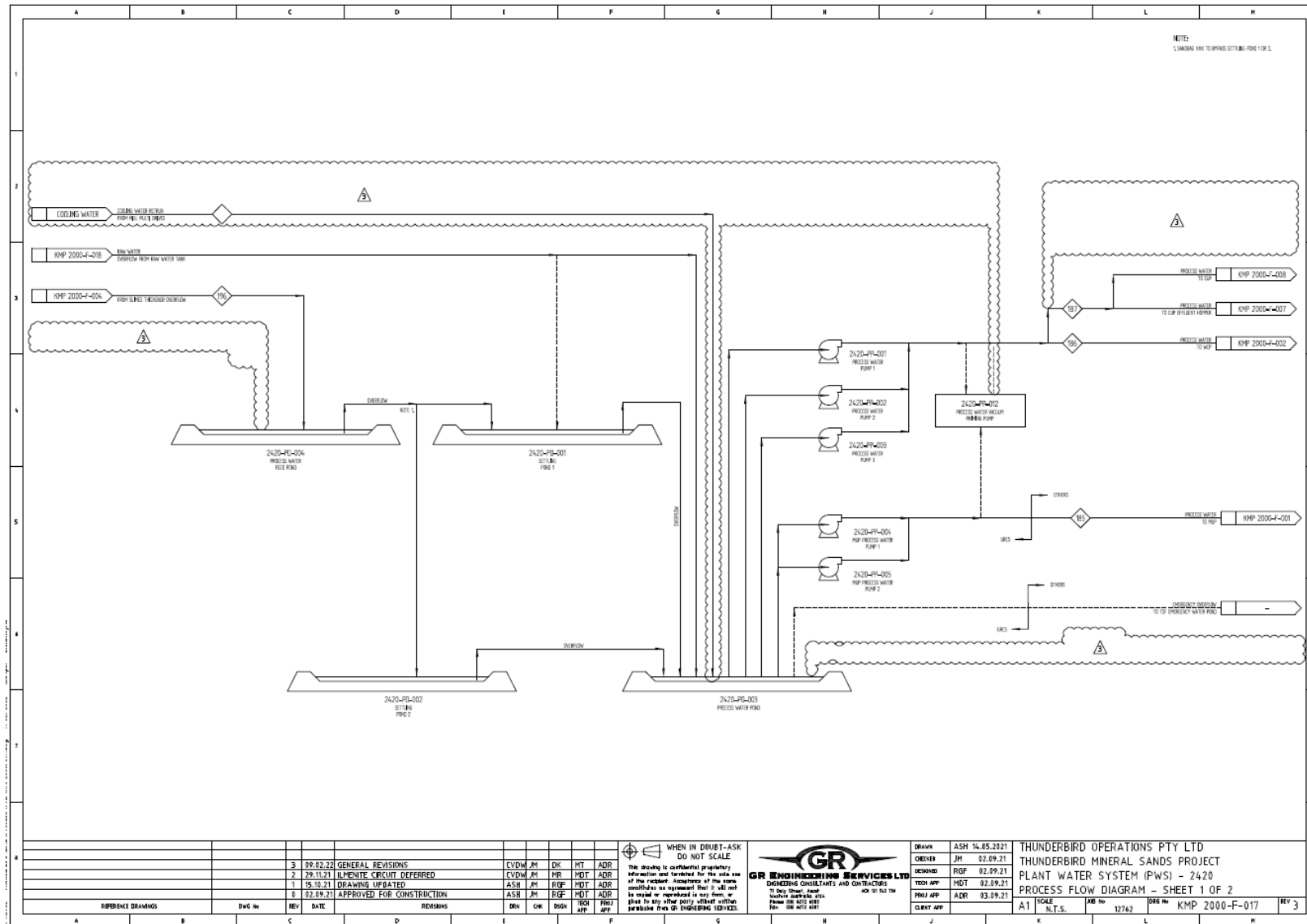


Figure 13: Plant Water System Process Flow Diagram

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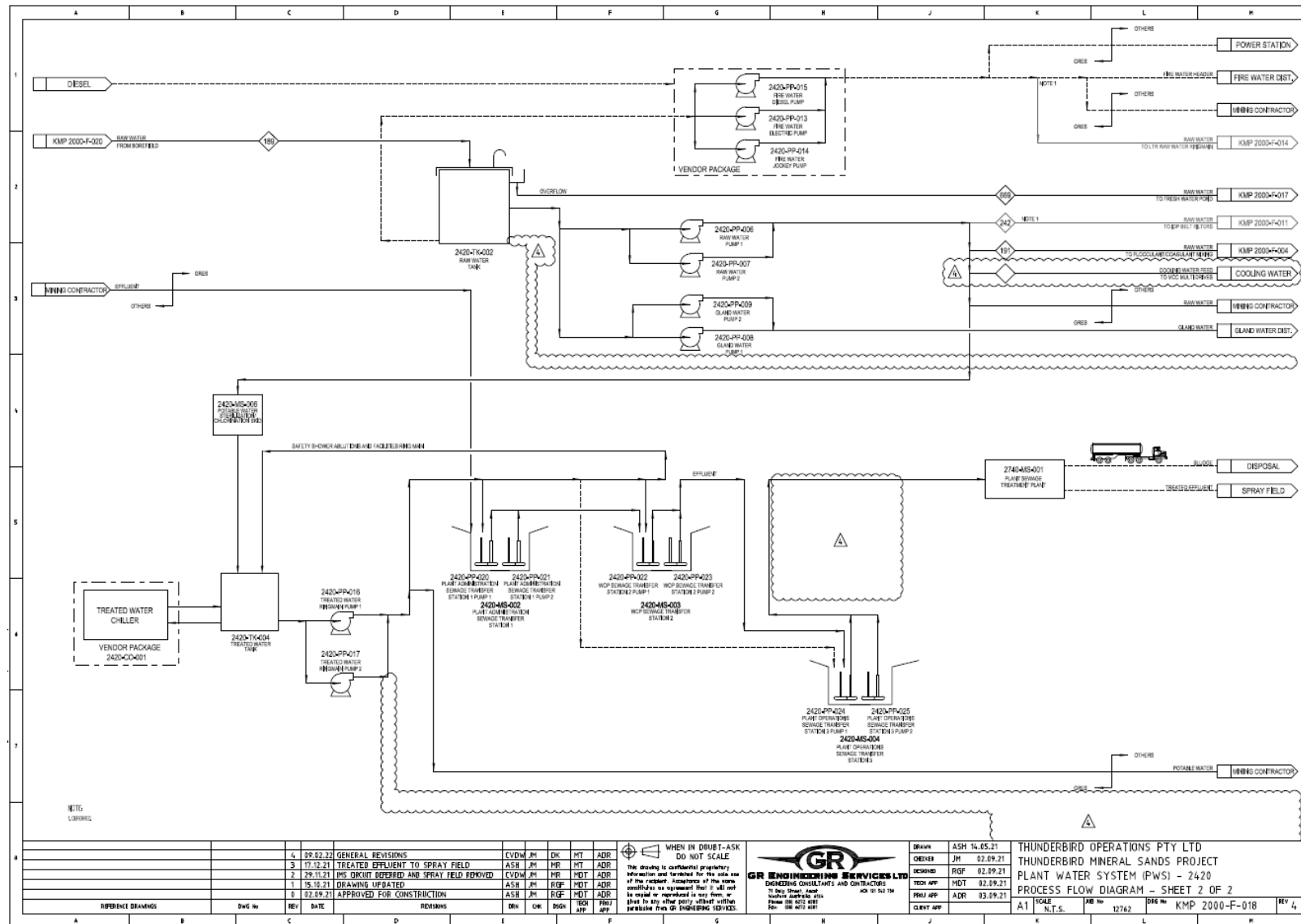


Figure 14: Plant Water System Process Flow Diagram

L9335/2022/1 (date of latest update: 14/05/2024)

Monitoring

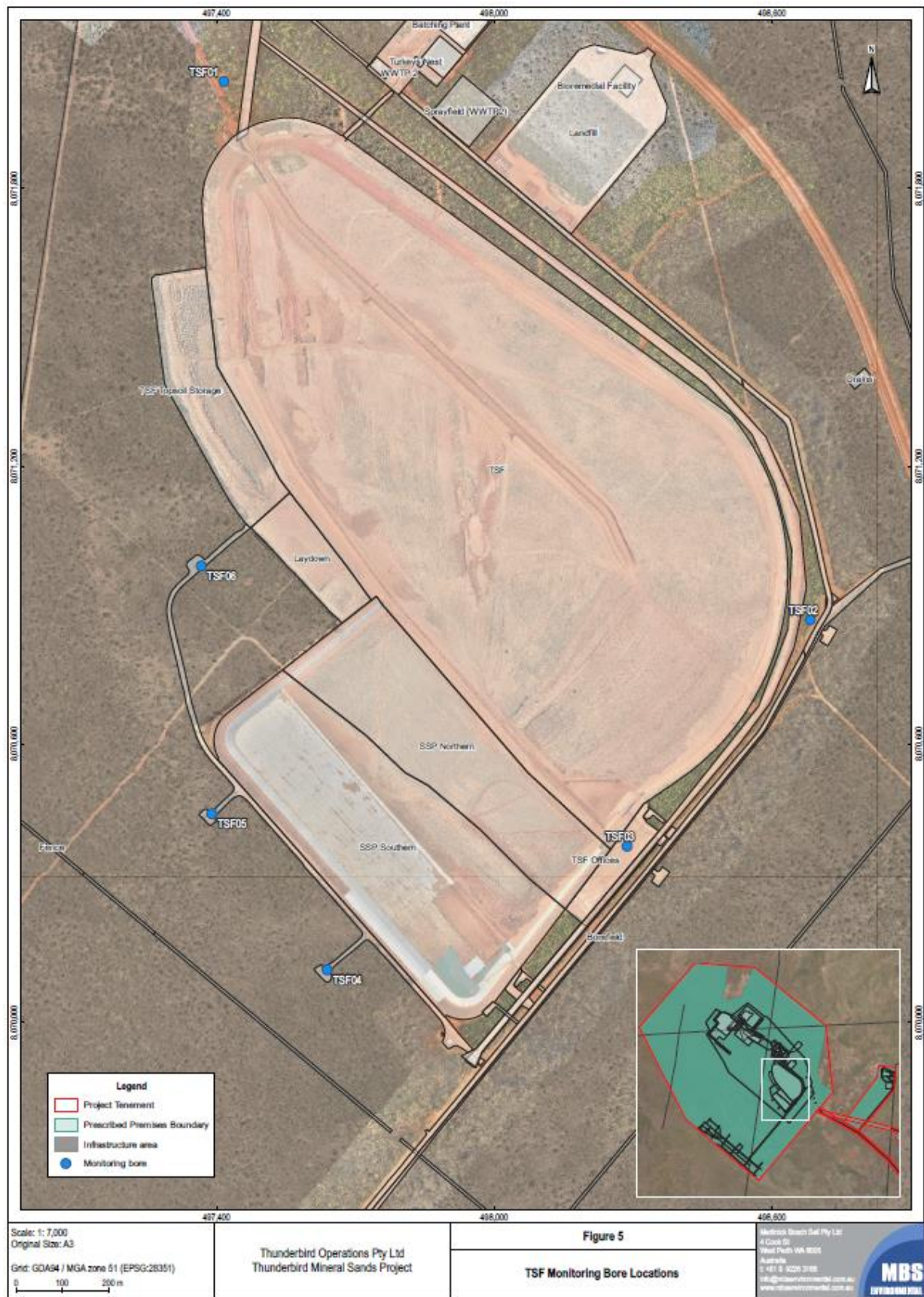


Figure 15: TSF and SSP layout and location of groundwater monitoring bores

Schedule 2: Premises boundary

The corners of the premises boundary are the coordinates listed in Table 11.

Table 11: Premises boundary coordinates (GDA94)

M04/459		
Easting	Northing	Zone
499220.451	8069978.937	51
499221.644	8069980.357	
499221.469	8069980.45	
499221.451	8069980.488	
496830.05	8067135.029	
495316.025	8074443.065	
496156.524	8074704.09	
499207.899	8071633.137	
499327.971	8071147.632	
499885.003	8070770.029	
499336.715	8070117.637	
499336.778	8070117.642	

L04/84		
Easting	Northing	Zone
501669.861	8069496.857	51
502293.331	8069340.007	
502667.951	8069218.807	
504339.001	8068574.127	
504956.351	8068332.767	
504905.641	8068050.937	
505072.501	8068085.137	
503030.231	8068632.717	
502519.681	8069108.817	
502274.831	8069190.217	
505000.811	8067665.287	
504297.151	8068429.287	
503132.041	8068876.757	
503030.231	8068632.717	
500083.975	8069702.608	

L04/83		
Easting	Northing	Zone
512320.691	8053152.097	51
512279.963	8052966.626	
512198.001	8052593.367	
512193.431	8052107.147	
512479.121	8051627.977	
512188.931	8051627.977	
512183.601	8051061.557	
512161.691	8048819.657	
512287.241	8048251.287	
513016.861	8047434.128	

L04/85		
Easting	Northing	Zone
501705.727	8071391.593	51
501322.977	8069577.624	
501321.919	8069576.124	

L04/86		
Easting	Northing	Zone
505408.711	8064077.757	51
503675.541	8065767.617	
503057.141	8066553.487	
503177.611	8066648.287	
502124.581	8067952.977	
499601.891	8069776.707	
501013.205	8069138.298	
502224.371	8068065.487	
502838.061	8067348.997	
503100.101	8067330.147	
503031.991	8067107.747	
503312.561	8066754.477	
503450.071	8066862.677	
503934.481	8065971.397	
504493.411	8065267.627	
505194.241	8064571.947	
505492.985	8064346.815	

L04/82		
Easting	Northing	Zone
510616.221	8054959.387	51
509118.681	8056755.117	
507921.411	8058190.777	
505599.771	8062998.727	
505133.031	8067755.117	
505444.891	8066569.977	
505571.231	8066100.557	
505698.781	8065636.177	
505837.471	8065130.947	
505878.071	8064846.767	
505850.831	8064558.237	
506066.581	8063437.097	
506216.681	8062934.027	
506188.061	8062549.497	
506086.991	8062438.957	
506523.771	8060807.217	
506921.201	8060478.827	
506633.381	8060400.917	
506955.971	8059786.177	
507395.951	8059054.237	
508171.061	8058398.047	
508036.321	8058286.177	
510407.581	8055442.007	
510864.771	8055178.507	
510727.881	8055057.827	
512047.574	8053474.94	
512549.201	8053340.157	
512320.691	8053152.097	
513093.011	8052218.407	
513860.001	8051555.467	
513730.391	8051447.847	
513993.101	8051130.247	
514650.761	8050322.218	
515219.561	8050280.288	
515298.051	8049975.998	
515183.011	8049782.458	
515823.251	8049144.827	
515047.531	8049679.227	
513615.431	8051352.407	
505492.985	8064346.815	
505551.741	8065602.817	
505000.811	8067665.287	