Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application for Works Approval

Part V Division 3 of the *Environmental Protection Act 1986*

Works Approval Number	W3141/2025/1
Applicant	Talison Lithium Australia Pty Ltd
ACN	139 401 308
File number	APP-0032149
Premises	Talison Lithium Mine Maranup Ford Road GREENBUSHES WA 6254 Legal description Mining tenements M01/3, M01/6, M01/7, M01/8, M01/9 and M1/16 L70/232 and L70/244 and General purpose lease G01/1 and G1/04 As defined by the Premises maps in Schedule 1 and coordinates in Schedule 3
Date of report	28 April 2026
Proposed Decision	Works approval granted

Michael Greenslade

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MANAGER, HEAVY INDUSTRIES

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

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1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, works approval W3141/2025/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents.

The premises relates to the categories and assessed production / design capacity under Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations) which are defined in works approval W3141/2025/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W3141/2025/1.

2.2 Application summary

On 30 October 2025, Talison Lithium Australia Pty Ltd (the applicant) submitted an application for a works approval under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is seeking approval to undertake construction works relating to the ongoing re-mining of tailings storage facility (TSF) 1, and in particular to Zone 5, to an elevation of 257.5 m AHD for a period of approximately 2 years at the Talison Lithium Mine (premises).

Historical approvals:

TSF1 has been in operation since 1970. The original tailings or residue storage facility was sub-divided into three cells. In 2002-03 the design was altered to form a single cell utilising subaerial deposition from peripheral embankments together with a central decant to recover water. TSF1 was used for deposition of mine tailing's material from the mining and processing of pegmatite and tantalum ore, deposited using piped slurry method. The facility is unlined, and the embankments are formed of interlayered rockfill (cobbles or dolerite and waste rock) and earth-fill). TSF1 was utilised until being placed in care and maintenance in 2006.

In April 2020, works approval W6283/2019/1 was granted for amongst other things, the construction of a Tailings Retreatment Plant (TRP) used for the recovery of tantalum and lithium from the tailing's material deposited into TSF1. The operating licence L4247/1991/13 was subsequently amended on 14 December 2022 to authorise the ongoing operation of the TRP (300,000 tonnes per annum), receiving re-mined lithium rich tailings materials from TSF1 for processing. The processing capacity of the TRP was amended in 2023, authorising up to 2mtpa (10mtpa over a five-year period)

This Application:

This application seeks approval to continue re-mining activities within TSF1 (as depicted in Figure 1) to an elevation of 1,257.5 mRL, focusing on tailings within Zone V (as depicted in Figure 2 and Figure 3). The proposal involves recovering approximately 2.1 million tonnes of tailings to depths of up to 10 metres below the pre-mining surface, including material previously used in upstream construction of the eastern embankment. The works are expected to take approximately two years to complete.

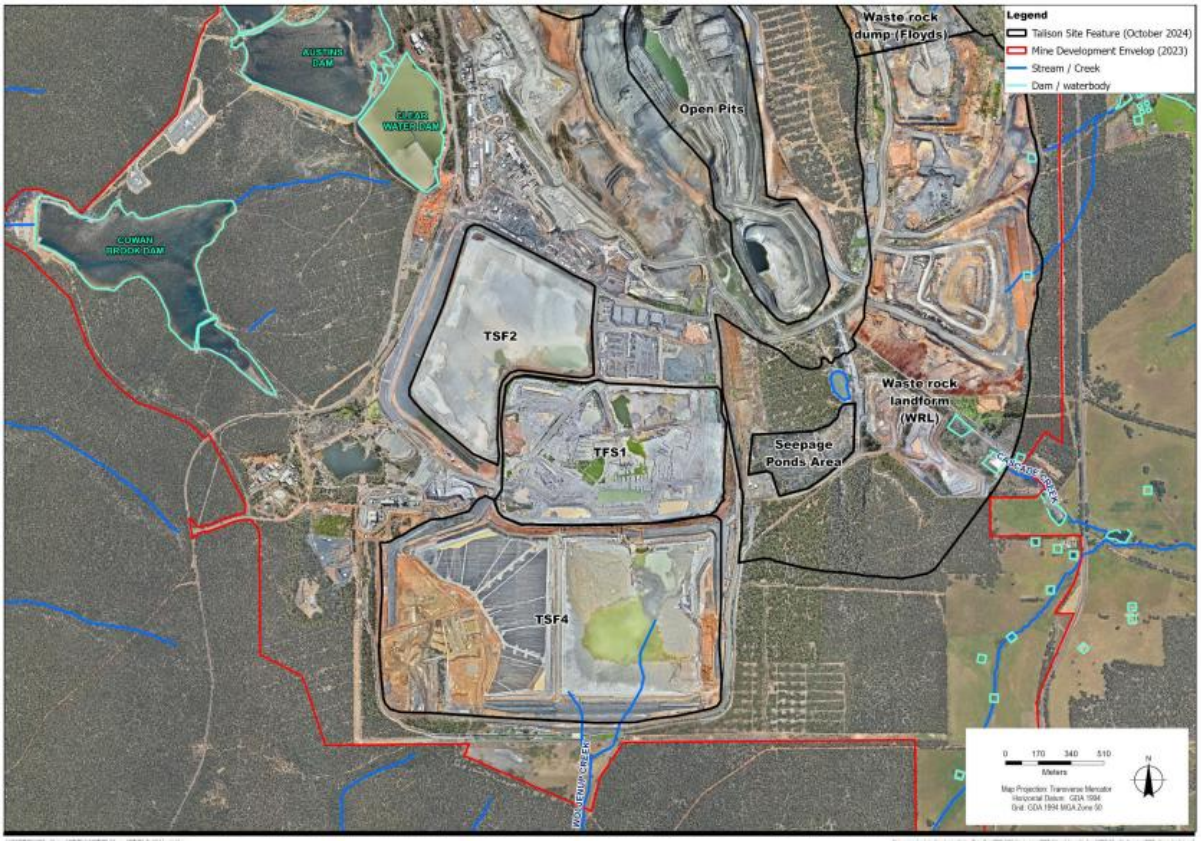

Figure 1: Location of TSF1

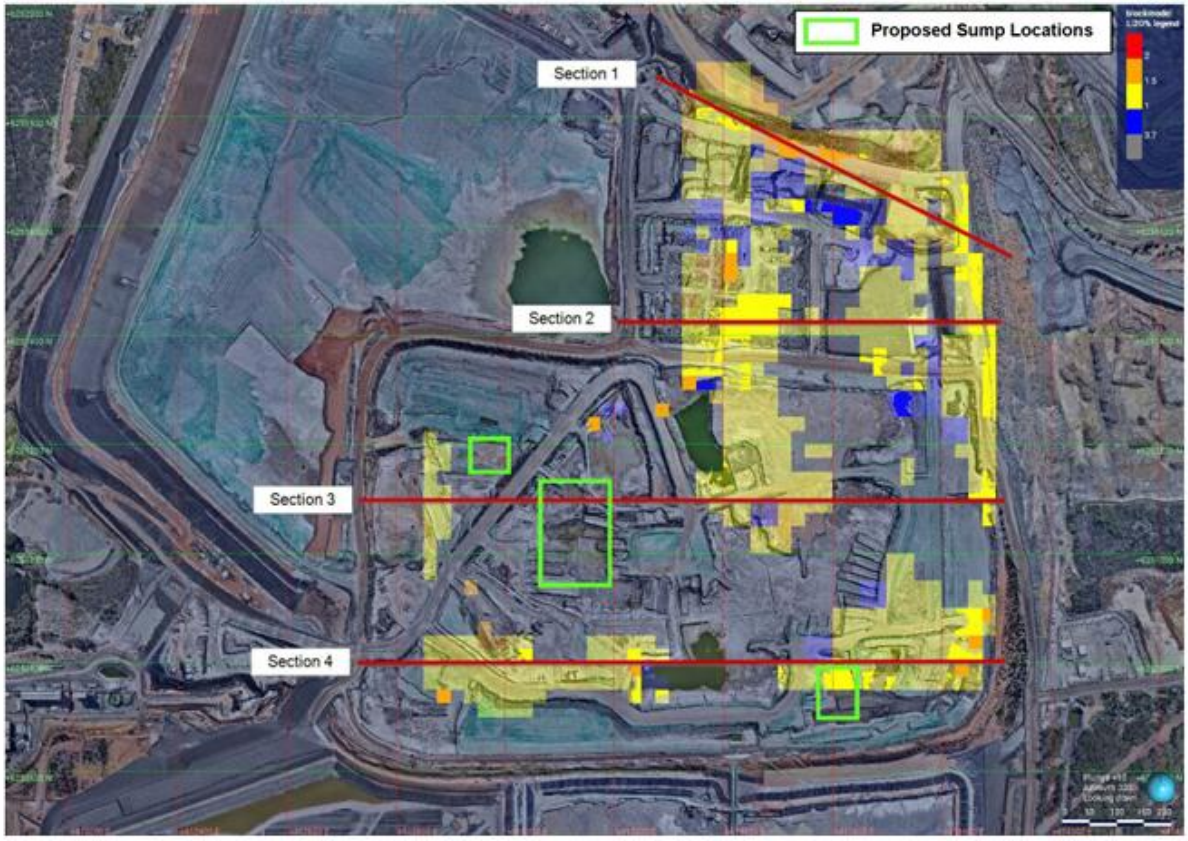

Figure 2: Proposed additional tailings excavation block (Zone 5) and sump locations

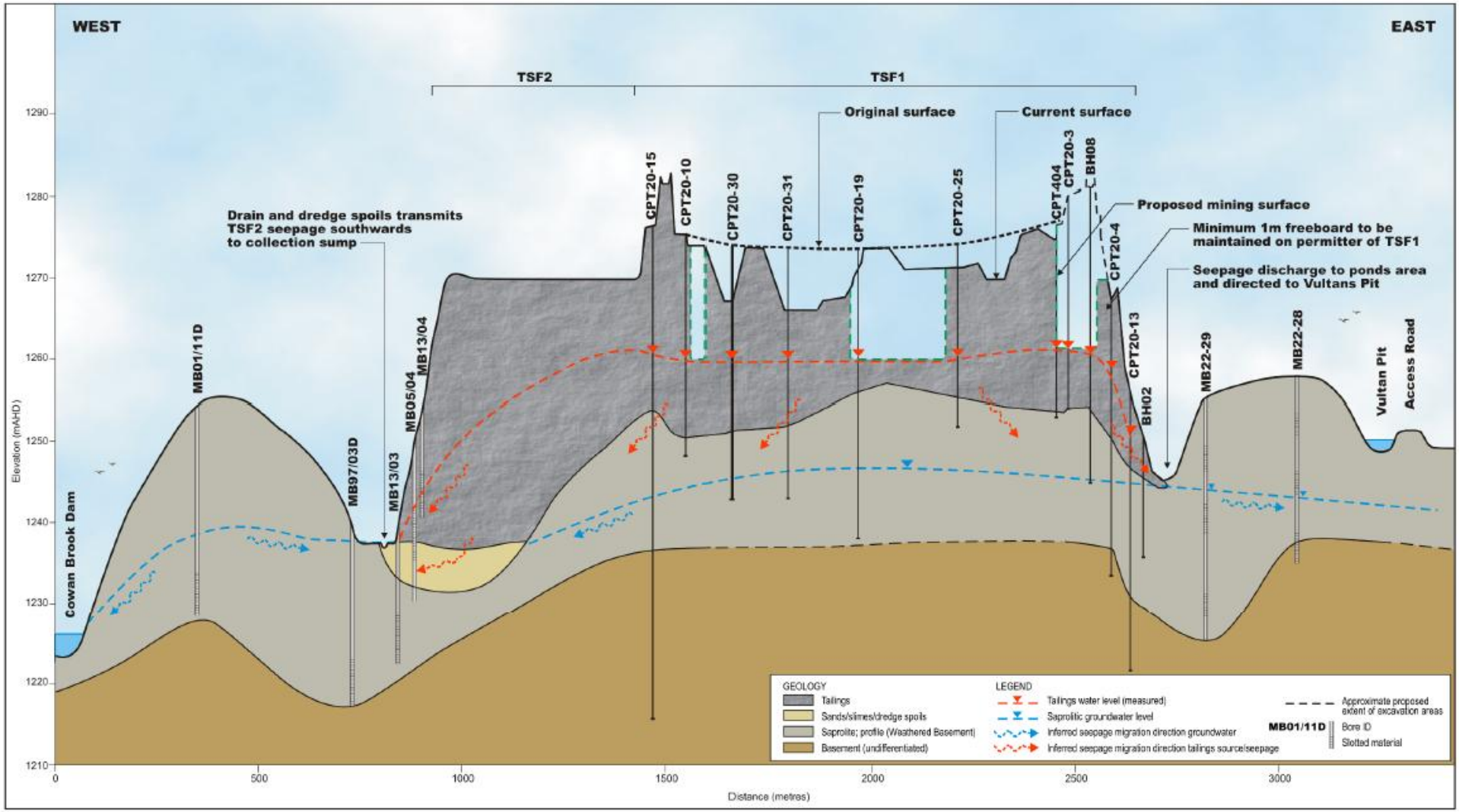

Figure 3: West-East Hydrogeological Cross Section Through TSF1 showing proposed mining surface (as referred to as Zone 5)

Proposed mining of Tailings:

The excavation and processing of tailings comprise the following generalised activities:

- Excavation of overburden and temporary storage of the overburden material within the confines of TSF1.
- Excavation of tailings and ore material and transport to the TRP for processing.
- Collection of internal TSF1 seepage, including groundwater ingress and rainfall runoff, within temporary sumps constructed inside excavation areas and within the TSF1 footprint (as shown in Figure 2).
- Management of sump waters through pumping and recirculation into the Mine Water Circuit (MWC).
- Disposal of processed tailings from the TRP within TSF4 in accordance with approved tailings deposition practices.
- Progressive backfilling of excavations with temporarily stored overburden material.

2.2.1 Tailings and embankment material characterisation

Geotechnical assessment

A geotechnical assessment of TSF1 was completed in 2019 (GHD, 2019) to support re-mining of tailings within TSF1 (W6283/2019/1). A subsequent tailings solids assessment was undertaken in 2022 (GHD, 2022) (submitted to support the construction of TSF4) to allow the comparison of tailings material generated from the Technical Grant Processing Plant (TGP) (spodumene ore processing), Chemical Grade Processing Plant 1 (CGP1) (spodumene ore processing), Chemical Grade Processing Plant 2 (CGP2) (spodumene ore processing); and Tailings Reprocessing Plant (re-processing of historic tailings from TSF1). A summary of the tailings characteristics from these assessments is detailed in Table 1.

Table 1: Tailings Assessment

Assessment	Key Findings
Geotechnical Assessment of TSF1 (GHD 2019)	• Outer embankments constructed from on-site waste rock • Waste rock size ranged from coarse gravel to >1m boulders • Predominantly dolerite or amphibolite; minor granofelsic and low-grade pegmatite.
Tailings moisture and chemistry (GHD 2022)	• Tailings from TGP, CGP1, CGP2 and TSF1 had ~5% moisture. • CGP1, CGP2, TGP samples showed similar salinity and pH. • TSF1 tailings showed different chemistry due to distinct metallurgical processes. This different chemistry is considered to reflect the different metallurgical ore processes, given that spodumene ore is processed at CGP1, CGP2 and TGP and pre-existing tailings are reprocessed at TRP. • CGP1, CGP2, TGP: pH 5–6 (slightly acidic). • TSF1: pH 1–4 (highly acidic). • CGP1, CGP2, TGP: TDS <100 mg/L. • TSF1: TDS up to 10,000 mg/L.

All four tailings samples (CGP1, CGP2, TGP, and TRP) exhibited a moisture content of approximately 5%. Overall, samples from CGP1, CGP2, and TGP display similar salinity and pH characteristics, indicating broadly comparable geochemical behaviour. In contrast, the TRP sample exhibits a distinct chemistry, characterised by an initially acidic and saline leachate. This

difference is interpreted as reflecting variations in metallurgical processing history. Specifically, spodumene ore is currently processed at CGP1, CGP2, and TGP, whereas the TRP facility involves reprocessing of historical tailings, which is likely to influence residual reagent content and leachate chemistry.

The physicochemical results indicate two distinct water quality groupings among the tailings samples. Samples from CGP1, CGP2, and TGP exhibit broadly similar characteristics, with slightly acidic pH values (approximately 5–6) and low salinity, with total dissolved solids (TDS) generally less than ~100 mg/L. These results suggest relatively dilute leachate conditions with limited dissolved salt content.

In contrast, the TRP sample displays a different geochemical signature, characterised by strongly acidic conditions (pH approximately 1–4) and elevated salinity, with TDS concentrations of up to ~10,000 mg/L. This indicates a substantially higher dissolved ion load and a more aggressive chemical environment relative to the other samples.

Overall, the results show that CGP1, CGP2, and TGP are chemically comparable, whereas TRP is distinct, reflecting a different leachate chemistry consistent with differences in tailings source and processing history.

Previous TSF1 re-mining assessment:

During the original assessment of the tailings retreatment plant and re-mining of TSF1 (as granted 19 December 2022), the applicant provided an assessment of the tailings from TRP, with an underlying assumption that the tailings from the TRP were expected to have similar geochemical properties to those from the CGP2 (for tailings deposited into TSF2 as assessed in 2022). Table 2 presents the tailings chemistry of TSF1 in comparison to CGP2. Table 3 shows a comparison of the mineralogical contents of the Greenbushes ores and TSF1.

Table 2: Tailings Chemistry of TRP output compared to Chemical Grade Plant 2

	Ta_2O_5	Fe_2O_3	MnO	TiO_2	CaO	SnO_2	K_2O	Al_2O_3	SiO_2	P_2O_5	Na_2O	MgO	Li_2O
TRP	0.005	1.384	0.113	0.085	0.97	0.005	1.915	16.61	71	0.527	3.989	0.412	1.52
CGP2	0.010	1.318	0.048	0.086	0.731	0.013	3.123	14.471	74.206	0.201	3.134	0.522	0.944

Note: All units mg/kg

Table 3: Comparison of Greenbushes ores to that within TSF1

Mineral content %	TG ore	CGP1 ore	CGP2/3/4 ore	TRP/TSF1
%Li_2O	3.8-4.2	2.2-3.0	1.5-2.0	**1.2-1.8**
% Spodumene	50	30-40	20-30	**15-25**
% Quartz	Up to 40	25-35	Up to 40	**15-25**
% Albite	3-7	10-20	10-25	**30-35**
% K-Feldspar	3-10	10-20	15-30	**10-25**
% Phosphates	<0.2	0.5	0.5	**1.0**
% Mica	<0.2	<1	2	**3**
% Waste Hi Fe	1-2	5-10	10-15	**10**

To further support these initial assessments (and the ongoing assumption that the tailings material from TSF1 is comparable to TSF2 tailings material) the applicant conducted a drilling campaign in the northern section of the TSF1 (as indicted in Figure 4). Physical and chemical characteristics (limited to lithium, arsenic and iron) were analysed at various depths as shown in Table 4 (Talison, 2025a).

Table 4: Additional Assessment of Tailings Characteristics within TSF1 (Talison 2025a)

bench	Volume m^3	Density g/cm^3	Mass t	li2o %	fe2o3 %	as2o3 %
1255	0.00	0.00	0.00	—	—	—
1257.5	8,125.00	1.38	11,212.50	1.05	1.74	0.01
1260	48,750.00	1.38	67,275.00	1.10	1.71	0.00
1262.5	171,250.00	1.38	236,325.00	1.10	1.64	0.00
1265	280,000.00	1.38	386,400.00	1.09	1.65	0.00
1267.5	238,750.00	1.38	329,475.00	1.14	1.59	0.00
1270	160,000.00	1.38	220,800.00	1.11	1.57	0.00
1272.5	200,625.00	1.38	276,862.50	1.29	1.45	0.01
1275	113,125.00	1.38	156,112.50	1.43	1.48	0.00
1277.5	163,125.00	1.38	225,112.50	1.55	1.35	0.00
1280	38,125.00	1.38	52,612.50	1.44	1.39	0.00
1282.5	2,500.00	1.38	3,450.00	1.41	1.42	0.00
1285	0.00	0.00	0.00	—	—	—
Total / Average	**1,424,375.00**	**1.38**	**1,965,637.50**	**1.22**	**1.55**	**0.00**

The additional sampling involved two bulk samples, each made up of three samples collected at 1-metre depth increments. The applicant has advised that to date, no elevated readings of arsenic have been identified outside of the known ‘arsenic pit’ area within TSF1.

Figure 4: November 2025 TSF1 Tailings Sampling Plan

The applicant considers that the assessment of tailings from TSF1 (as per Table 4) presents a bench-by-bench material inventory covering elevations from 1255 mRL to 1285 mRL with volumes, mass estimates and oxide concentrations and considers that the dataset represents a large, chemically consistent material body with moderate lithium grades, relatively low iron and arsenic only present at trace levels.

2.2.2 Groundwater and surface water pathways

The surface water flow direction of seepage discharging from the foot of TSF1 is presented in Figure 5. The surface expression of TSF1 seepage occurs at the toe of the TSF1 embankment. There is interception drainage surrounding the perimeter of TSF1 (some of the toe drains have been upgraded / replaced during construction of TSF4). The captured seepage is directed towards collection sumps and pumped back via operational infrastructure into the mine water circuit (MWC). The MWC is a series of onsite water dams that hold process water from a number of sources such as stormwater runoff, tailings decant water return and seepage return. This is currently managed through conditions on licence L4247/1991/13.

The conceptual hydrogeological model and setting of TSF1 is derived from drilling and installation and monitoring of monitoring/investigation bores. A plan of the monitoring bores is shown in Figure 6.

Groundwater flow direction indicates that seepage which migrates into the subsurface beneath the TSF1 facility with the northern flow path and western flow path will discharge and will be captured within Cowan Brook and to the open pit respectively, that is part of the MWC. The southern groundwater flow path extends to areas beneath TSF4 towards Woljenup Creek.

The eastern groundwater flow path is towards Cascade Creek where TSF1 has the potential to discharge as groundwater seepage into the creek.

Groundwater Modelling:

GHD (2023a) developed a three-dimensional numerical groundwater flow and transport model of the mine site to assess the potential impacts to surface water and groundwater of the then-proposed TSF4 (now operational), together with the existing TSF1 and Floyds Waste Rock Landform (WRL). The purpose of the modelling was to determine the fate and transport of CoPCs originating from these facilities within the groundwater system. The modelling was based on site-specific hydraulic testing (slug tests) and attenuation parameters derived from the laboratory testing of the underlying saprolitic clay profile, estimated to be approximately 10 to 20 metres thick.

The permeability testing data of the saprolitic profile beneath the TSF1 derived from cone penetrometer testing (CPT) methods is low at an average of 4×10^{-4} m/day (GHD, 2021) as shown in Figure 7.

Groundwater velocity estimates based on the TSF4 Conceptual Hydrogeological Model (GHD, 2023a) indicate very slow groundwater movement through the geological profile, particularly within the saprolitic clays and bedrock. Estimated velocities are approximately 0.5 m/year in saprolitic clays, up to 3 m/year in the saprock, and 0.02–0.4 m/year in bedrock. These estimates, derived from site-specific hydraulic conductivity testing and groundwater gradients, are considered by the applicant to be applicable to TSF1 due to its immediate proximity and comparable hydrogeological setting.

As per the GHD report, where TSF1 seepage migrates through the saprolitic clay horizon, long groundwater residence times provide substantial opportunity for attenuation of contaminants of potential concern (CoPCs) via adsorption and ion-exchange processes prior to any potential downgradient discharge.

The modelling suggests that (for both current and future expected seepage), the contaminants of primary concern (CoPCs) within the underlying geological saprolitic clay profile will be attenuated within the profile close to the footprint of the facility and the CoPCs will not migrate along with groundwater flow and discharge into the offsite receiving environments.

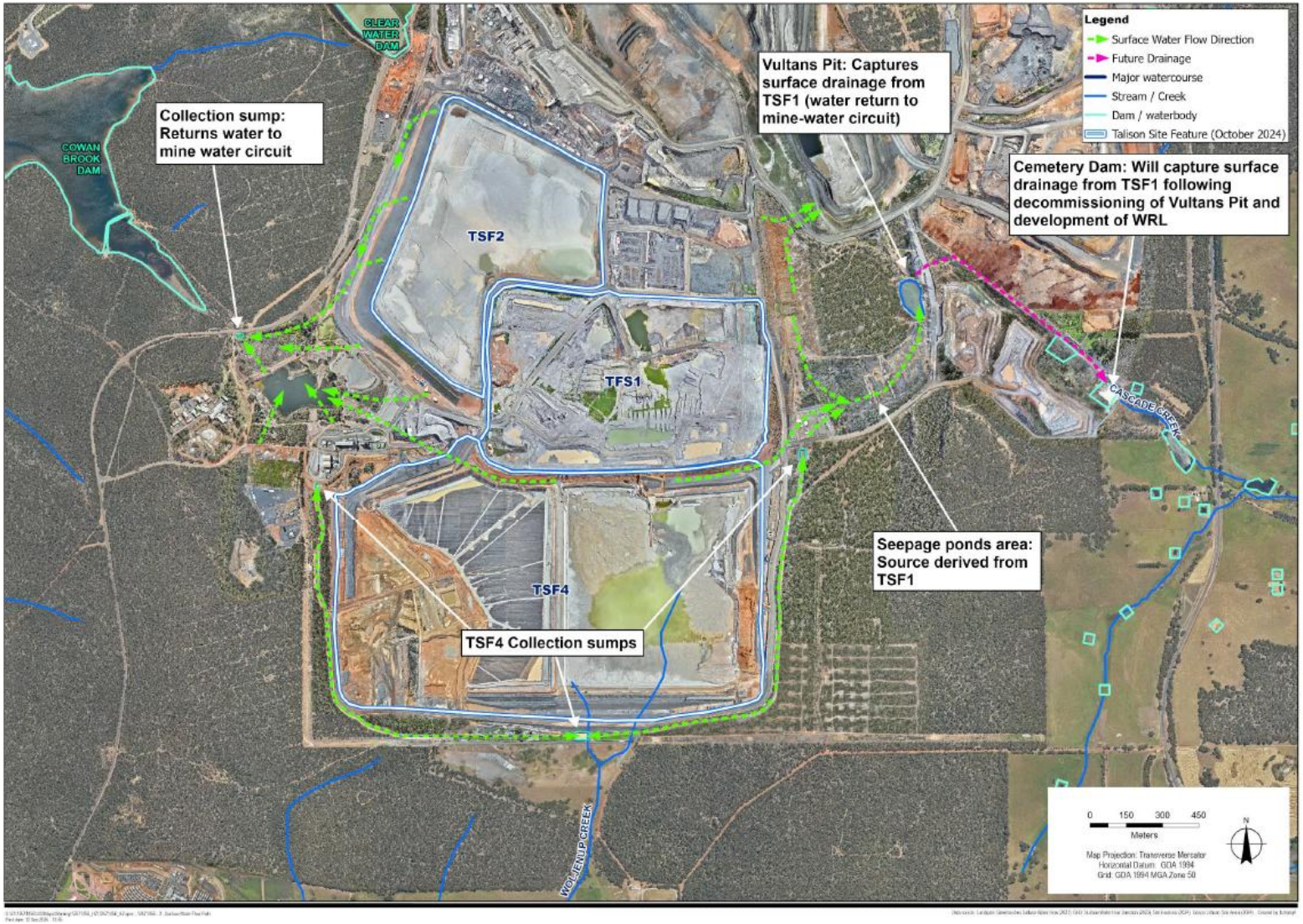

Figure 5: Surface water drainage migration plan (Talison 2025

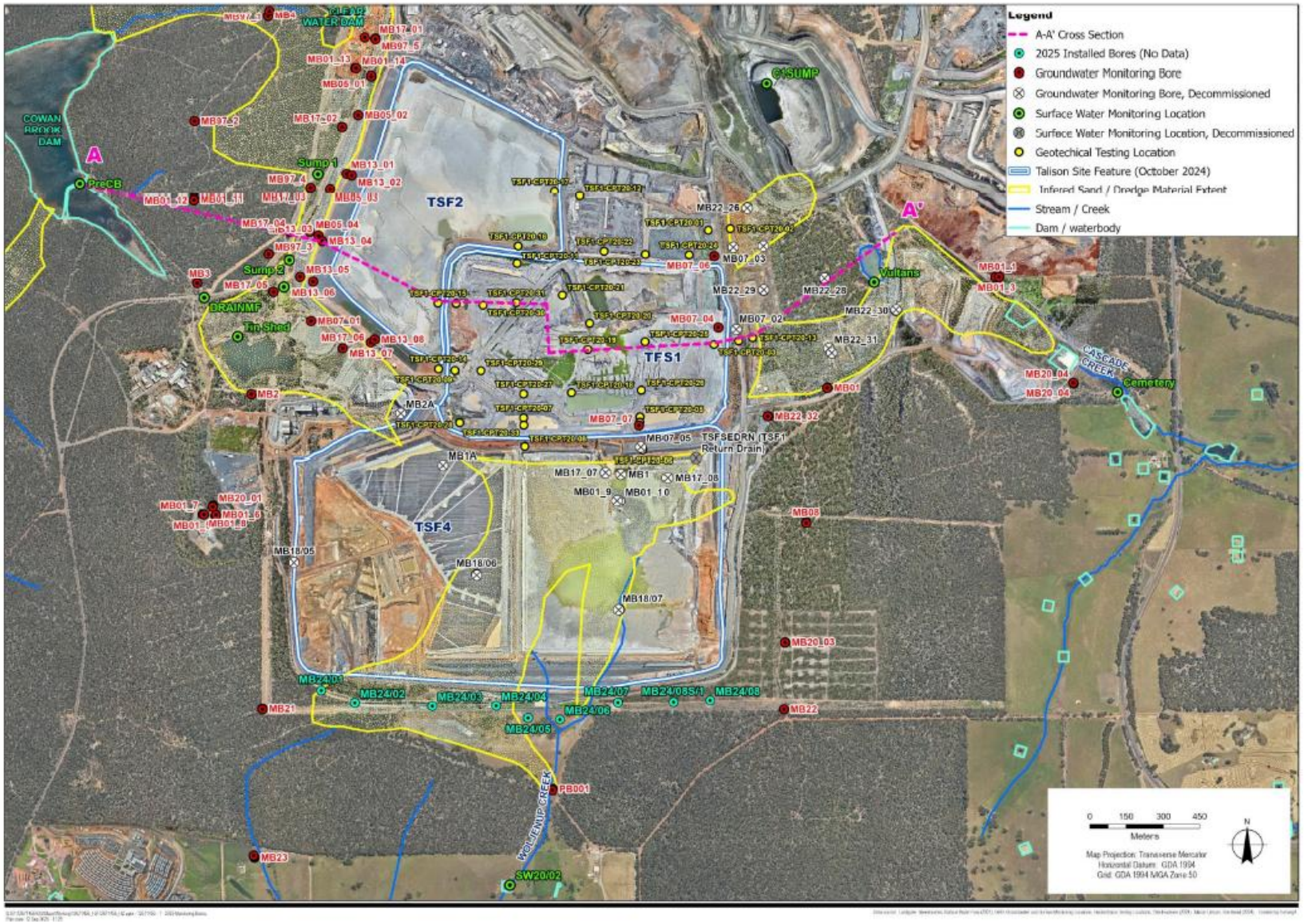

Figure 6: Groundwater and Surface Water Monitoring Plan

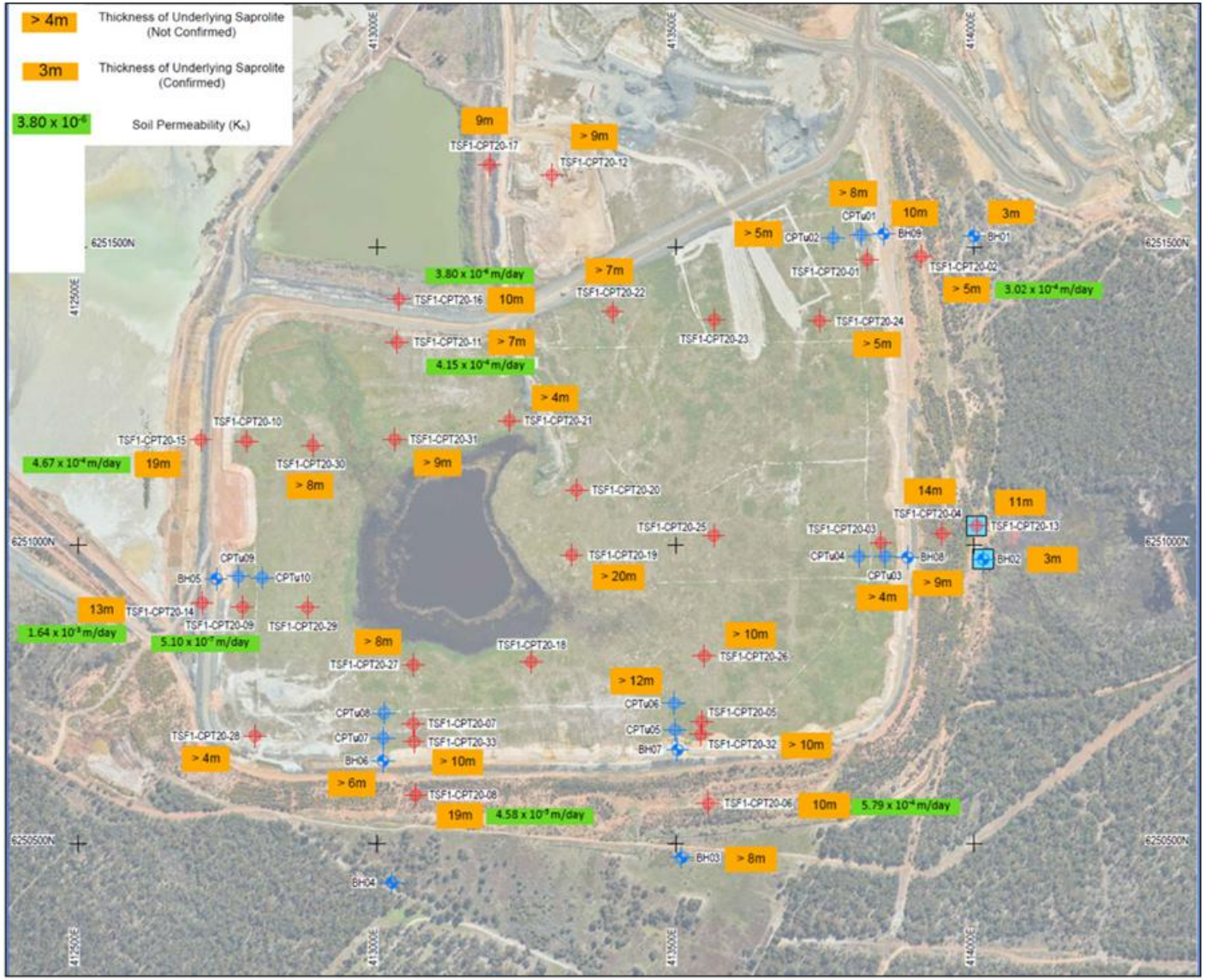

Figure 7: TSF1 Geotechnical Drilling Plan

Source characterisation

From the studies provided in Table 5, the contaminants of potential concern (CoPCs) were identified from a comprehensive list of metals, major-ions and nutrients by applying the following decision rules:

- CoPCs identified at concentrations above the freshwater guidelines;
- Where no guidelines were available, concentrations which were above relevant background surface water concentrations; and or
- Where no guidelines were available and background data insufficient, concentrations which were above the laboratory limits of reporting (LoR).

Table 5: list of studies and data used to characterise seepage for seepage from TSF1 (CoPCs) (Talison 2025)

Study / Investigation	Description
Tailings Decant:	
Decant Analysis Results (Talison, 2018)	Tabulated laboratory results of five decant samples (laboratory certificates unavailable).
Sub-surface Clays Attenuation Capacity Testing (GHD, 2023e)	Collection of clay cores in the footprint of TSF4 for laboratory analysis (attenuation testing). Included laboratory analysis of decant from TSF2 by GHD in 2022 (filtered and unfiltered).
Tailings solids:	
Stage 2 AMD Testing Results (GHD, 2019)	Leach testing of three tailings samples (supplied by Talison) using ASLP and DI leaching methods (single leach).
Tailings Leach Testing (GHD, 2023f)	Short term kinetic leach testing (LEAF) of four samples taken from TSF2 surface by GHD in 2022 from the outlet areas associated with the processing plants CGP1, CGP2, TGP1 and TRP.
Waste Rock:	
Waste Rock Landform Leaching Risk Assessment (GHD, 2022)	Testing of seepage from current waste rock dump (six locations), and leach testing of future waste rock comprising 52 samples of dolerite, amphibolite, granofels, and pegmatite waste (ALSP, LEAF 1313 and 1314)
Tailings seepage:	
Talison monitoring data	Talison monitoring data from TSF1 seepage discharges to surface drains (TSF1 toe drains, vultans pit, Tin Shed dam).

Table 6 compares the contaminants of potential concern (CoPCs) in TSF1 tailings, tailings solids, waste rock leachate and seepage against the site-specific guideline values for various beneficial users aquatic ecosystems (ANZECC/ARMCANZ 2000; updated ANZG 2018), irrigation, livestock (ANZECC/ARMCANZ), potable and non-potable use (NHMRC and ANZG / NHMRCC) (GHD, 2023d). The key exceedances for tailings are observed for metals including aluminium, antimony, arsenic, lithium and rubidium. Waste rock generally shows lower concentrations but still exhibits exceedances in site specific guidelines.

Overall, the results confirm that uncontrolled seepage or contact with water from tailings and waste rock originating from TSF1 represents a material risk to surface water and groundwater quality.

Table 6: TSF1 source characterisation - CoPC concentrations

Table 2: List of CoPC Concentrations from tailings and waste-rock testing and site specific guidelines

CoPC (mg/L)	TSF1 Tailings Source Concentrations					Waste Rock Source Concentrations		Site Specific Guidelines (GHD, 2023d)				
	Decant 2018 [2]	Decant 2022 (Total) [3]	Decant 2022 (Filtered) [4]	Talings Solids Leach (ALSP) [5]	Talings Solids Leach (LEAF 1314) [6]	Seepage Testing (Total) [7]	Leach Testing (LEAF 1314) [8]	Agricultural Use - Livestock	Agricultural Use - Irrigation	Aquatic Environment	Potable Use - Drinking water	Non-Potable Use - Recreation
Aluminum	0.036	**17.9**	0.0028	**0.90**	**0.13**	NU	NU	5	5	0.055	0.2	4
Antimony	0.02	**0.039**	**0.0276**	**0.004**	**0.014**	0.0009	**0.0047**	*0.15*	*NR*	*0.09*	*0.003*	*0.06*
Arsenic	**0.082**	**0.293**	**0.034**	**0.056**	**0.13**	0.002	**0.05**	*0.5*	*0.1*	*0.013 (As AS V) 0.024 (As AS III)*	*0.01*	*0.2*
Cadmium	<0.0001	**0.0008**	0.00014	<0.0001	<0.001	0.0001	<0.0005	*0.01*	*0.01*	*0.0003*	*0.002*	*0.04*
Cesium	**0.0932**	**0.401**	**0.084**	**0.012**	0.004	0.01	<0.001	*2.0*	*NR*	*0.5*	*0.07*	*1.4*
Chromium (III+VI)	**0.002**	**0.034**	0.00028	<0.001	<0.01	0.0002	**0.0037**	*1*	*0.1*	*0.14 (as Cr III) 0.001(as Cr VI)*	*0.05 (as Cr III)*	*1.0*
Copper	**0.0015**	**0.023**	0.0013	<0.001	<0.01	0.0006	**0.002**	*0.5*	*0.2*	*0.0014*	*2*	*40*
Fluoride	0.58	0.9	1.03	<0.1	<0.1	<0.01	NU	*2*	*1*	*1.3*	*1.5*	*30*
Lithium	**9.664**	**15.8**	**14.6**	**0.18**	**0.02**	**0.52**	**0.009**	*0.82*	*2.5*	*2.0*	*0.007*	*0.14*
Manganese	**0.312**	**1.58**	**0.93**	0.017	0.004	0.13	0.0015	*10*	*0.2*	*1.9*	*0.5*	*10*
Molybdenum	0.0034	0.016	0.0148	<0.001	NU	<0.0001	0.0007	*0.15*	*0.01*	*0.034*	*0.05*	*1.0*
Nickel	0.003	**0.025**	0.0055	<0.001	<0.001	0.013	0.00056	*1*	*0.2*	*0.05*	*0.02*	*0.4*
Rubidium	**0.43**	**1.31**	**0.567**	**0.39**	**0.013**	**0.06**	0.009	*0.26*	*NR*	*0.017*	*0.014*	*0.28*
Thallium	NU	**0.007**	**0.00041**	NU	<0.01	**0.00008**	**0.0003**	*0.13*	*NR*	*0.00003*	*0.00004*	*0.0008*
Uranium	**0.0056**	**0.031**	**0.0191**	<0.001	<0.001	**0.0004**	0.00005	*0.2*	*0.01*	*0.0005*	*0.017*	*0.34*
Vanadium	<0.01	**0.01**	0.00011	<0.01	<0.01	0.0004	**0.0031**	*0.1*	*0.1*	*0.0006*	*0.0002*	*0.004*
Zinc	<0.005	0.017	**0.098**	<0.005	<0.1	0.008	0.001	*20*	*2*	*0.036*	*3*	*60*
Nitrate	NU	0.54	NU	0.005	NU	**2.67**	NU	*90*	*NR*	*2.4*	*50*	*NR*
Sulfate	NU	231	226	1.1	<10	**427**	0.9	*1000*	*NR*	*429*	*250*	*NR*

Key:

NU	Analysis not undertaken.
NR	Guideline not required.
Green	Does not exceed guidelines.
Red	Exceeds guidelines.
Orange	Uncertain.
Bold/underline	Concentrations exceed guidelines.
Site specific guidelines	Review of DWER/ANZECC published guidelines and derivation where appropriate (NEPM methodology) (GHD, 2023d).

2.3 Hydrogeological Technical Advice

The departments Contaminated Sites Branch (CSB) reviewed the proposal for ongoing re-mining activities within TSF1 and provided the following comments.

TSF1 tailings material within Zone V and associated risks:

- From the information provided within the application, there is limited information to determine, with a high level of confidence whether the tailings material from TSF1 and TSF2 are geochemically comparable, and to improve certainty, additional sampling from both TSFs would be useful. One suggested method for sampling follows the US Geological Survey's procedure as cited by Parbhakar-Fox and Dominy (2017), and specifies a process for obtaining suitable composite samples from each TSF is outlined by the following sequence:
    1. Divide mine-waste dump into at least 30 cells of roughly equal area
    2. Collect a surficial sample from each cell (multiple samples from each cell if possible and a total weight of at least 100g)
    3. Combine cell samples into a mine-dump composite sample
    4. Dry sieve the mine-dump composite sample to <2 mm (final composite samples should weigh at least 1000g after sieving)
- An incomplete understanding of TSF1 material variability increases the risk of underestimating metal or metalloid concentrations and differing leachability. This has the potential to impact processing of this material within the retreatment process plant and during disposal of the material to TSF4. These risks include an increased risk of leachability, which may impact surface water and groundwater of downstream users.

Potential role of clays in retarding the movement of contaminants:

- A number of investigations were undertaken by the applicant to assess the potential for attenuation of contaminants leached from TSF1 within the saprolite profile including laboratory testing, CPT-based hydraulic conductivity measurements and groundwater modelling. These studies concluded that the contaminant migration would be highly attenuated and groundwater travel times could be approximately 500 years. This assessment however, is considered to underestimate the potential for contaminant transport through the saprolite and into groundwater, as in particular, the investigations did not seem to adequately account for kaolinite being the dominant clay mineral present. Kaolinite has low sorption capacity for lithium and there remains the possibility that clay minerals in the vicinity of the active weathering front near the base of the saprolite profile would already been saturated with lithium and would have no further capacity to absorb this cation.
- Reported hydraulic conductivity values for saprolite and bedrock are considered very low relative to regional measurements. The CPT probe used for measuring the hydraulic conductivity of saprolite materials is also not considered ideal due to the compaction and smearing of clays that is likely to take place when the probe is pushed through to the regolith materials. Further, the small scale of these measurements means that preferred flow paths of water through saprolite, such as through the empty root channels formed by Jarrah roots (*Eucalyptus marginata*) are important features for allowing the movement of water through saprolite profile in the region.
- In general, while the GHD report (GHD, 2025) does not indicate significant existing groundwater contamination, current data does not establish the future risk under ongoing operations.

Additional comments/ recommendations:

- The saprolite profile beneath TSF1 is likely to be heterogenous, and groundwater inflow to the excavation may be higher in winter than previously estimated. As a result, pumping and managing potentially contaminated water from the excavation may be required during the re-mining of TSF1. A clear plan for the storage and management of this water will be necessary for the re-mining proposal; and
- Tungsten commonly occurs in lithium-tantalum pegmatites, and can leach under circum-neutral pH conditions, and may bioaccumulate in flora and fauna, therefore it would be useful to include this in the groundwater monitoring suite. A full suite of major ions (sodium, potassium, calcium, magnesium, chloride and bicarbonate and sulfate) if added to the groundwater monitoring program would be useful to detect early changes in groundwater chemistry that may indicate contamination. The absence of a comprehensive major ion suite limits the early detection of changes in groundwater chemistry.

2.4 Part IV of the EP Act

In June 2018 the applicant referred the proposal for expansion activities at the existing premises to the Environmental Protection Authority (EPA). The proposal included the development and operation of additional infrastructure, including the tailings retreatment plant, for which Ministerial Statement (MS 1111) which was granted 19 August 2019.

The EPA report 1635 identified the following key environmental factors relevant to the proposal:

- Flora, Vegetation and Terrestrial Fauna: direct loss of up to 350 ha of native vegetation and priority species as well as potential indirect impacts to vegetation and flora (habitat for matters of national environmental significance). This requires:
    - a Conservation Significant Terrestrial Fauna Management Plan.
- Terrestrial Environmental Quality: impacts from potential contamination of soil from tailings and waste storage.
- Inland Waters: potential impacts to surface and groundwater quality through mining operations.
- Air Quality: potential impacts from dust emissions and changes to air quality.
    - Requires a Dust Management Plan and detailed assessment by DWER (Part V of EP Act)
- Social Surroundings: potential impacts from changes to visual amenity, vibration levels and noise. This requires:
    - Visual amenity requires management plan (MS 1111).
    - Noise impacts of human receptors requires a Noise Management Plan to meet specified limits set out in current Regulation 17 approval.

MS 1111 sets out following conditions relevant to this works approval:

- Preparation and implementation of a Conservation Significant Terrestrial Fauna Management Plan to avoid and minimise direct or indirect impacts during ground disturbing and all phases of mining activities
- Preparation and implementation of a Visual Impact Management and Rehabilitation Plan to minimise visual impacts (including light spill)
- Preparation and implementation of a Disease Hygiene Management Plan to minimize impacts to flora and vegetation, including from marri canker and dieback;

Requirements of MS 1111 are not re-assessed in this decision report and are not duplicated as conditions in the works approval.

2.5 Section 38 of the EP Act

In April 2025, the applicant referred the *Greenbushes Lithium Mine: Waste Rock Landforms, Salt Water Gully Dam and additional clearing for Infrastructure proposal* under s. 38 of the EP Act. The referral, amongst other things includes an assessment of the eastern catchment hydrology within and surrounding the premises including cascade creek and a proposed groundwater monitoring program is being developed with consideration of this updated hydrological assessment.

The applicant proposes to install new groundwater monitoring wells during geotechnical investigations associated with the referral, including three groundwater monitoring wells that are considered by the applicant to monitor for potential impacts to Cascade Creek, and of relevance for this works approval, monitoring of potential seepage from TSF1. The proposed locations of the three monitoring bores- 25-08, 25-10 and 25-14 are shown in Figure 5.

Nested bores are proposed at each location (shallow, intermediate and deep) and would be installed in accordance with the standard methodology for groundwater monitoring.

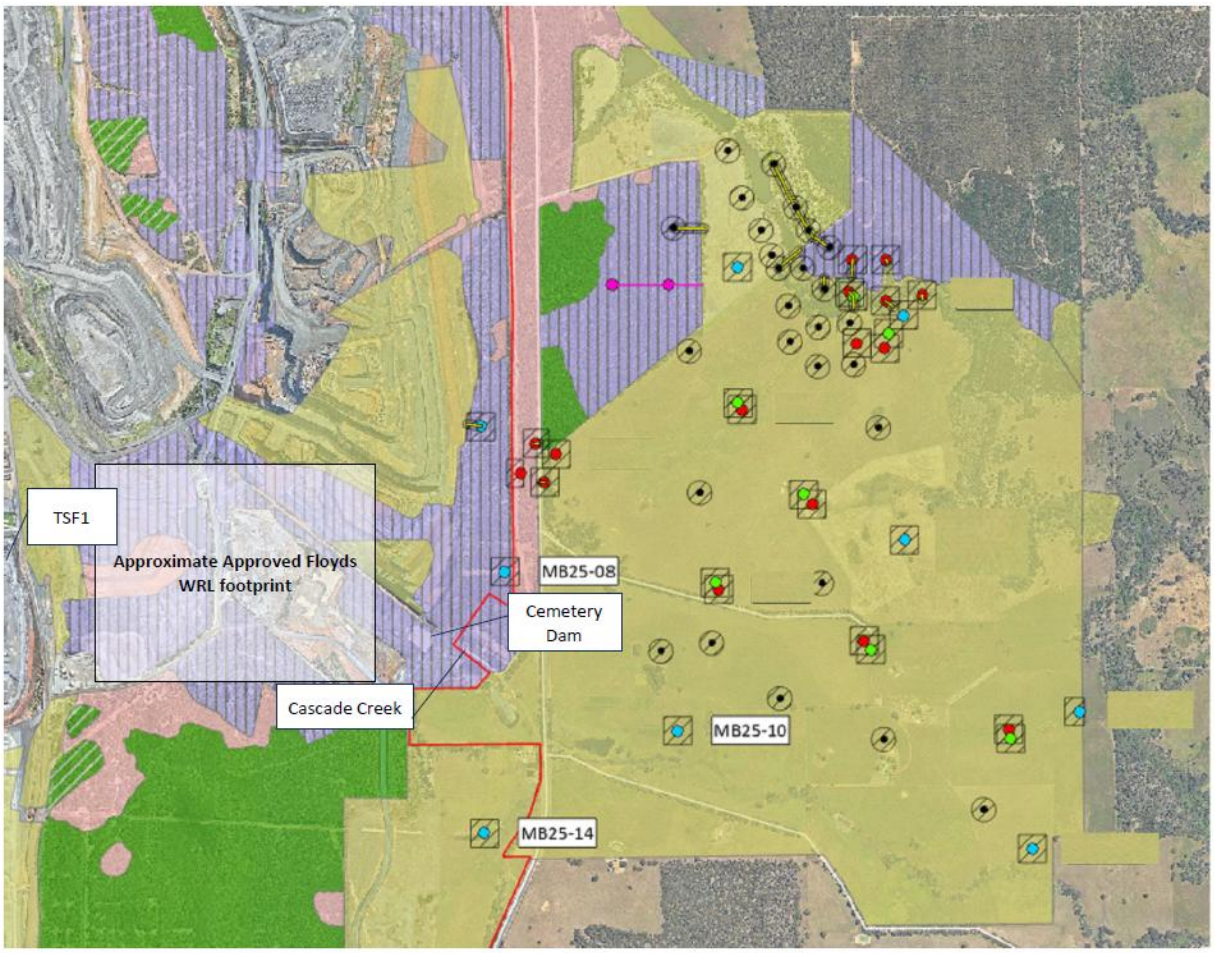

Figure 5: Proposed additional monitoring bores (Talison 2025a)

2.6 Noise Regulations

The premises is currently authorised under the Environmental Protection (Talison Lithium Australia Greenbushes Operation Noise Emissions) Approval 2015 to exceed or vary from the assigned noise levels in the Environmental Protection (Noise) Regulations 1997 (EP (Noise) Regulations). The department's Environmental Noise Branch (ENB) has confirmed that a renewal for this approval, which is set to expire on 27 February 2025, has been received and is under review. As per clause 5(2) of the current Regulation 17, if a further approval is applied for within 1 year prior to the expiry, then the approval continues to operate until the Minister grants or refuses to grant, the further approval.

The applicant has not proposed any amendments to the associated noise-monitoring program, and as this application relates to the continued re-mining of TSF1, no additional noise sources or changes to existing noise emissions are proposed or expected.

2.7 *Mining Act 1978*

The Department of Mines, Petroleum and Exploration (DMPE) granted approval for the extraction of tailings of TSF1 on 25 February 2022 under Registration (Reg ID) 102901. This approval authorises the reclamation of up to 10Mt of tailings to a depth of 7m below the pre-mining tailings surface, with a 20m buffer from the embankments or maintenance of a 1.5 Factor of Safety.

The continuation of re-mining of TSF1 (as related to this application) has been submitted to DMPE under Reg ID 500845 and is currently under assessment.

Key finding: The delegated officer notes that it remains the responsibility of the applicant to ensure that all necessary approvals are obtained prior to the commencement of works under this works approval.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this decision report are detailed in Table 7 below. Table 7 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 7: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Remining activities including construction of new internal collection sumps for TSF1, excavation of tailings from TSF	Air / windborne pathway	No new controls proposed, noting that dust emissions are regulated under the existing licence. <u>Existing licence conditions:</u> • Condition 2 TSF1: dust management for TSF1 including - utilise water carts to wet down dust-generating surfaces • Condition 13 TSF1: Use of water carts within tailings excavation area to wet down dust generating surfaces, dust suppressants and reduce speed. • Condition 13: Dust management controls for TRP including must be fitted with a spray system to avoid dust lift off. Dust suppressant to be applied to non-active ROM. • Condition 17: Proactive dust management using dust extraction equipment, managing visible dust, utilising weather forecasting tools to inform work activities. • Condition 37, 32, 37,38, 45 and 46 – dust monitoring and management • Implementation of the Trigger Action Response Plan (TARP)
Noise			Implementation of a Noise Management Plan required by Regulation 17 exemption under the *EP (Noise) Regulations 1997*
Operation			
Dust	Remining activities	Air / windborne pathway	No new controls proposed, noting that dust emission are regulated under the existing licence. <u>Existing licence conditions:</u> • Condition 2 TSF1: dust management for TSF1 including - utilise water cart to wet down dust-generating surfaces • Condition 13 TSF1: Use of water carts within tailings excavation area to wet down dust generating surfaces, dust suppressants and reduce speed. • Condition 13: Dust management controls for TRP including must be fitted with a spray system to avoid dust lift off. Dust suppressant to be applied to non-active ROM. • Condition 17: Proactive dust management using dust extraction equipment, managing visible dust, utilising weather forecasting tools to

Emission	Sources	Potential pathways	Proposed controls
			inform work activities. • Condition 37, 32, 37,38, 45 and 46 – dust monitoring and management • Implementation of the Trigger Action Response Plan (TARP)
Contaminated stormwater runoff from TSF1	Remining activities	Surface water pathways	• Remove source of potential stormwater impacts (historical tailings) from unlined TSF1, re-process and deposit tailings into bituminous-geomembrane lined TSF4 • Maintain TSF1 freeboard in accordance with L4247/1991/13 • All rainfall and runoff from TSF1 collected in internal sumps then pumped into TSF4 or TSF2 decant pond for re-use within the MWC
Contaminated seepage from TSF1	Remining activities	Seepage through embankments	• Remove source of potential seepage impacts (historical tailings) from unlined TSF1 re-process and deposit tailings into bituminous geomembrane lined TSF4. • Water recovered from TSF1 during remining will be captured within internal collection sumps and transferred to TSF2 or TSF4 decant ponds from where it will be pumped to CWD for re-use within the MWC. • Southern groundwater flow path that extends beneath TSF4 towards Woljenup Creek will be monitored and managed as part of TSF4 operations. Southern groundwater flow paths towards Woljenup Creek are currently monitored in accordance with the TSF4 Seepage Management Plan (GHD, 2024). • Monitoring program to be developed to determine the potential impacts to Cascade Creek • Three proposed additional groundwater monitoring bores 25-08, 25-10 and 25-14 are included to monitor the potential impacts of discharge into Cascade Creek. • Maintain a 20m buffer from embankments.
Tailings or process water	Remining activities	Pipeline leak / failure resulting in direct discharge to land	No additional controls proposed.
Tailings	Deposition of tailings (re-processed from TSF1) to TSF4	Seepage through the base of TSF	Proposed to be managed via existing licence conditions.

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the delegated officer has excluded the applicant's employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 8 and Figure 6 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental Siting* (DWER 2020)).

Table 8: Sensitive human & environmental receptors and distance from prescribed activity

Human receptors	**Distance from activity / prescribed premises**
Residential dwellings	Greenbushes townsite • Approximately 2.5 km north of the TSF1 • Approximately 3.2km northeast of TSF4 Lot 11888 on Plan 162545 • Approximately 1.9 km south and east of TSF1
Downstream surface water and groundwater users	Whilst the groundwater underlying the site is not recognised as a strategic resource area (not listed as a proclaimed area) there are a number of residential surface and groundwater users surrounding the site. The results of a water survey carried out by the applicant in 2021 indicates that downstream users access surface water from Norilup Brook, Hester Brook and Woljenup Creek for purposes including drinking water, domestic uses such as showering, laundry, water for gardens, recreational activities
Greenbushes Primary School	Approximately 2.6 km north of TSF1
Environmental receptors	**Distance from activity / prescribed premises**
Surface water receptors – Woljenup Creek, Blackwood River and associated tributaries.	Woljenup creek 1 km southeast of TSF1 600 m south of TSF4 and additional further downstream of TSF4 Woljenup creek tributaries running through TSF4 footprint. Woljenup creek immediately downstream of TSF4
Minor creek (tributary of Spring Creek and Blackwood River	1 km southeast of TSF1
Groundwater	Shallow aquifers underlying the premises.
Cowan Brook, Norilup Dam and Norilup Brook (water quality and ecology)	At the western edge of the premises boundary (offsite). Seepage from Cowan Brook Dam flows into Cowan Brook and into Norilup dam.
Nearby native vegetation	100m east of TSF1
DBCA Legislated Tenure Greenbushes State Forest	Surrounding the premises These receptors have been addressed in the EPA report and is regulated under Part IV and are therefore not considered further
Hestor State Forest	

Threatened/priority flora and fauna	assessed in this risk assessment.
Cultural receptors	**Distance from activity / prescribed premises**
Aboriginal Heritage Site – Blackwood River and Woljenup Creek listed under *Aboriginal Heritage Act 1972.*	Woljenup creek tributaries approximately 720 m south of TSF1. Woljenup creek approximately 1.2km south of TSF1. Woljenup creek tributaries running through TSF4 footprint. Woljenup creek immediately downstream of TSF4.

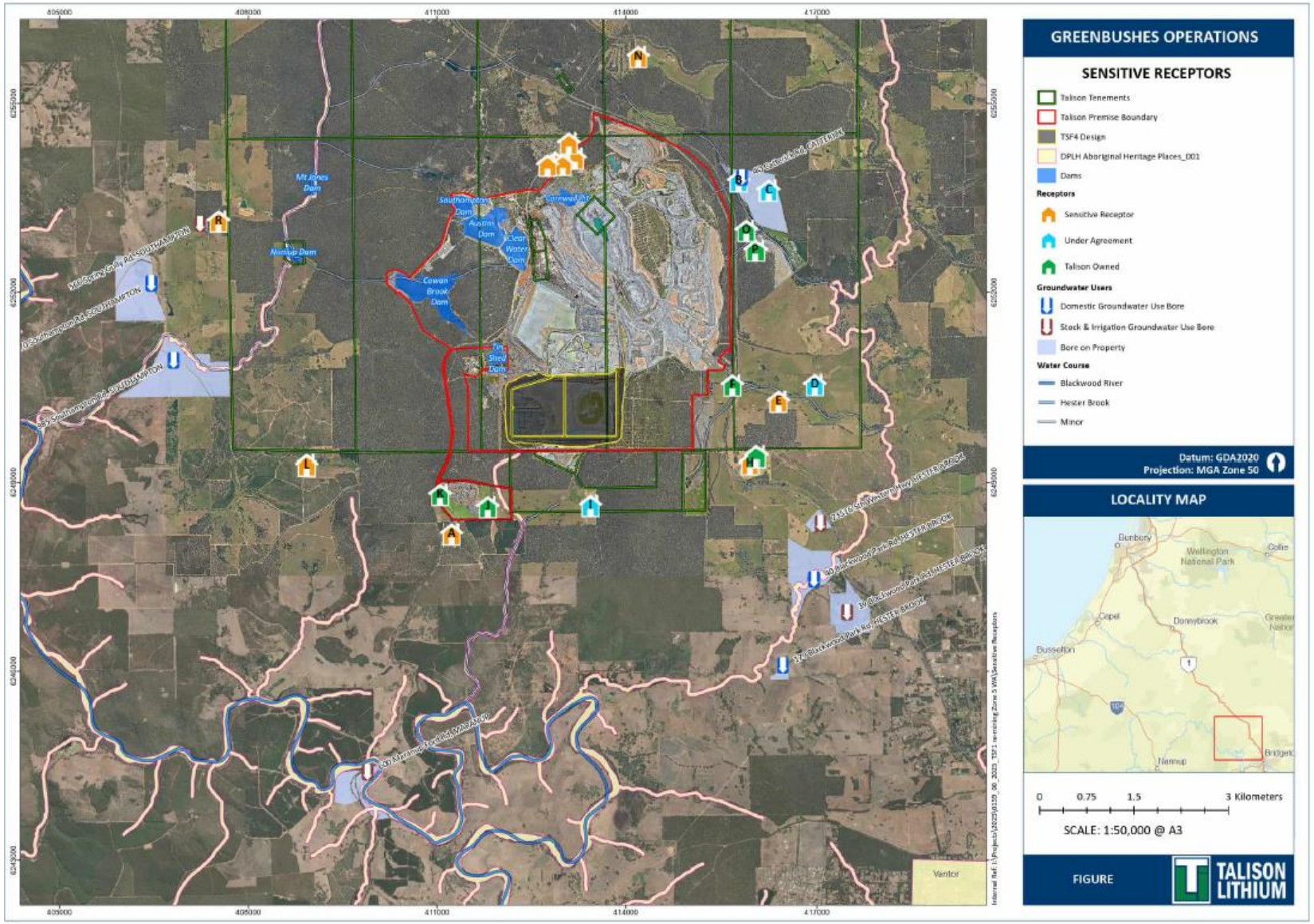

Figure 6: Greenbushes operations sensitive receptors

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 9.

Works approval W3141/2025/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 9 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

Table 9: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation

Risk Event					Risk rating C = consequence L = likelihood	Applicant controls sufficient?	Conditions of works approval	Reasoning and/or justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Construction								
Construction of new sumps for TSF1	Dust	Air/windborne pathway causing adverse impacts to health and amenity	Greenbushes town and nearby sensitive receptors.	Refer to 3.1.1	C = Minor L = Unlikely **Medium Risk**	Y	N/A	The delegated officer notes that the existing licence (L4247/1991/13) includes a range of dust control requirements for both the re-mining and reprocessing activities within the TSF1. The delegated officer considers that these controls are suitable to manage the short term and discrete periods of construction associated the additional internal collection sumps within the TSF1 footprint where due may be generated. No further controls are required.
	Noise			Refer to 3.1.1	C = Minor L = Unlikely **Medium Risk**	Y	N/A	The delegated officer notes that the existing Regulation 17 approval manages the risks associated with noise emissions at the premises. Due to the short term and discrete nature of the construction activity, no further controls are considered necessary.
Operation (including time limited operations)								
Remining activities within TSF1 to Zone 5: - earthmoving activities	Dust	Air/windborne pathway causing adverse impacts to health and amenity	Greenbushes town and nearby sensitive receptors.	Refer to 3.1.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 8	The delegated officer notes that the re-mining of TSF1 is an activity authorised by the existing licence and the current proposal seeks only to extend area and depth within TSF1 of the re-mining activities. While the continued re-mining of up to 2 Mt of material has the potential to generate fugitive dust emissions, the proposal does not involve an increase in material throughput to the Tailings Retreatment Plant. The nearest residential receptor is located 1.9 km to the south-east of the TSF1. The delegated officer has considered the existing dust management and controls measures in the licence (L4247/1991/13) and considers that the potential dust impacts can be adequately managed and are unlikely to result in unacceptable impacts to amenity or human health. No additional regulatory controls are considered necessary, noting that the existing controls on the licence will apply to this activity.
Remining activities within TSF1 to Zone 5: - Collection of potentially contaminated stormwater	Contaminated stormwater runoff from TSF1	Surface water pathways (TSF1 toe of embankment)	Woljenup Creek and Cascade Creek Potential impacts to downstream residential groundwater and surface water users.	Refer to 3.1.1	C = Moderate L = Unlikely **Medium Risk**	Y	Conditions 1, 4, 10, 11 and 12	The delegated officer considers that potentially contaminated stormwater and/or other surface water captured within TSF1 will require ongoing management as part of the ongoing re-mining activities. The delegated officer has included the applicant's proposed controls to ensure that water management is managed through the use of temporary internal collection sumps and requires that potentially contaminated stormwater, rainfall runoff, and groundwater ingress be captured within these internal collection sumps and pumped to the Mine Water Circuit and/or through the TSF2 or TSF4 decant ponds.
Remining activities within TSF1 to Zone 5: - Groundwater interception	Groundwater incursion	Seepage through base and embankments to groundwater, impacting groundwater and surface water quality			C = Moderate L = Unlikely **Medium Risk**	Y	Condition 10	The delegated officer notes the potential for higher rates of shallow groundwater inflow to the excavation area during winter than estimated from field investigations and considers that pumping of potentially contaminated water may be required during the ongoing re-mining activities within TSF1, particularly at depth. The delegated officer has included the applicant's proposed controls to ensure that water management is managed through the use of temporary internal collection sumps and requires that potentially contaminated stormwater, rainfall runoff, and groundwater ingress be captured within these internal collection sumps and pumped to the Mine Water Circuit and/or through the TSF2 or TSF4 decant ponds.
Remining activities within TSF1 to Zone 5: - Seepage from tailings material - Decant water	Contaminated seepage from TSF1	Seepage through base and embankments to groundwater, impacting groundwater and surface water quality	Woljenup Creek, and Cascade Creek Potential impacts to downstream residential groundwater and surface water users.	Refer to 3.1.1	C = Major L = Possible **High Risk**	Y	Condition 2 and 13	The delegated officer considers that the re-mining of TSF1 into Zone 5 including embankment material has the potential to increase seepage volumes and alter seepage pathways through disturbance of consolidated tailings, modification of phreatic surfaces and reactivation of preferential flow pathways within embankment and foundations. The highest seepage risk is considered to occur (typically) during active re-mining with potential for short-term increases in seepage flux and deteriorating seepage water quality. Without appropriate monitoring and seepage control measures, re-mining may elevate risks to groundwater, surface soils and downstream receptors. Seepage to groundwater will be managed by controlling potentially contaminated stormwater, rainfall, and groundwater incursion through the construction and management of the internal collection sumps within TSF1 and maintaining the existing stormwater collection sump controls on TSF1 (condition 2 of licence L4247/1991/13). This assessment has identified that there is a potential risk of contaminated seepage from TSF1 to Cascade Creek from the continued re-mining TSF1 activities. The applicant has proposed three additional groundwater monitoring bores (25-08, 25-10 and 25-14) to monitor the potential impacts of discharge into Cascade Creek from TSF1. While the delegated officer notes that these monitoring wells are also proposed as part of the broader network of monitoring wells (as part of the current referral under Part IV of the EP Act) the construction of these wells has been included in the works approval in order for seepage risks associated with TSF1 to be monitored.

Risk Event					Risk rating C = consequence L = likelihood	Applicant controls sufficient?	Conditions of works approval	Reasoning and/or justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Deposition of tailings (re-processed from TSF1) to TSF4	Tailings	Seepage through the base of the TSF causing contamination and deteriorating the quality of local groundwater and surface water	Surface water in the Blackwood River catchment with ecological and aboriginal heritage values. Potential impacts to downstream residential groundwater and surface water users (drinking water and consumption of aquatic species). Potential impacts to downstream residential groundwater and surface water users (stock irrigation, domestic use).	Refer to 3.1.1	C = Moderate L = Possible **Medium Risk**	Y	N/A	Consideration has been given to this assessment on the basis that re-mining of TSF1 is already an approved activity under the existing licence, and the current application seeks only to extend this activity for an additional two-year period for an additional 2.1 Mt. While re-mining has the potential to temporarily increase seepage from TSF1, as discussed above, the retreated tailings will be deposited into TSF4, which incorporates enhanced containment measures compared to TSF1. These measures include a bituminous geomembrane liner (BGM), underdrainage pipeline systems, and piezometers representing a significant improvement over the historically approved, unlined TSF1. As a result, the delegated officer considers that the existing licence controls including operational requirements for TSF4, monthly water balance monitoring, groundwater monitoring and annual ecological monitoring will be sufficient in managing the potential risks of seepage during the re-mining activities. The additional analytes that have been identified in this assessment that would be useful in early detection of changes to groundwater chemistry including tungsten, will be included on the groundwater monitoring program for the premises on the next relevant licence amendment.
	Tailings and contaminated water (metals, metalloids)	Seepage through the base and embankments causing groundwater contamination and mounding, impacting the root zones of native vegetation	Adjacent native vegetation	Refer to 3.1.1	C = Moderate L = Possible **Medium Risk**	Y	N/A	The delegated officer considers that the existing controls on licence L4247/1991/13 are sufficient to manage the potential risks to native vegetation adjacent to TSF4.
	Overtopping of seepage collection ponds	Contamination and deteriorating the quality of local groundwater and surface water	Shallow aquifers below the pond that discharge to downstream surface water. Surface waters in the Blackwood River catchment with ecological and aboriginal heritage values. Potential impacts to downstream residential groundwater and surface water users.	Refer to 3.1.1	C = Minor L = Possible **Medium Risk**	Y	N/A	The delegated officer considers that the existing controls on licence L4247/1991/13 are sufficient to manage the potential risks associated with overtopping seepage collection ponds.
	Mine water circuit contaminated water (metals, metalloids)	Contamination and deteriorating the quality of local groundwater and surface water			C = Minor L = Possible **Medium Risk**	N	**<u>Condition 9</u>**	The delegated officer notes that while the proposed re-mining activities are a continuation of existing activities at the premises, and tailings characterisation provided indicates that tailings material in TSF1 are similar, the sampling used to determine the composition by the applicant is based on a relatively minor number of samples. As a result, the delegated officer does not consider that there is sufficient information to confirm that the tailings materials from TSF1 and TSF2 are geochemically comparable with a high level of confidence. To improve the confidence in the tailings characterisation, the delegated officer has conditioned a requirement for ongoing tailings characterisation and sampling, and where this analysis determines areas within the TSF1 that contain higher concentrations of CoPCs, these are avoided. The delegated officer considers this control will assist with the management of contamination risks within the mine water circuit, reducing higher contaminant load tailings from entering the tailings reprocessing plant, and in turn reducing the level of contamination within the mine water circuit.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk Assessments* (DWER 2020).

Note 2: Proposed applicant controls are depicted by standard text. Bold and underline text depicts additional regulatory controls imposed by department.

4. Consultation

Table 10 provides a summary of the consultation undertaken by the department.

Table 10: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 8 January 2026	N/A	N/A
Local Government Authority advised of proposal on 8 January 2026	N/A	N/A
Department of Mines, Petroleum and Exploration (DMPE) advised of the proposal on 8 January 2026	DMPE provided comments on 18 February 2026 advising that an application for a Mining Proposal, seeking the continuation of the remining of TSF1 (in addition to expansion of pits and some other aspects) had been received and is currently under assessment.	This information has been noted.
Department of Local Government, Industry Regulation and Safety (DLGIRS) advised on the proposal on 8 January 2026	A memorandum from DLGIRS was provided to DWER through correspondence via DMPE on 18 February 2026. The memorandum advised that a geotechnical review has been completed of the *Mining Proposal – Talison Lithium Greenbushes Lithium Operation 10 Year Plan.* The Mining Proposal seeks permission for the following mining activities: • Continuation of mining in the Central Lode pit / Kapanga Pit • Continue remining of the TSF1 for reprocessing to a new defined level of 1257.5mRL. The following aspects are noted and understood: • Continued extraction of TSF1 tails for reprocessing: - Geotechnical consultant was engaged in the design, and this office is of the understanding that operationally wise, no changes are anticipated.	This information has been noted.
Department of Education were advised on the proposal on 8 January 2026	N/A	N/A
Greenbushes Primary School were advised of the proposal on 8 January 2026	N/A	N/A

Direct interested stakeholders (residential receptors) were advised on the proposal on 8 January 2026	Two submissions were received. Refer to Appendix 1 for a summary of the matters raised.	Refer to Appendix 1
Applicant was provided with draft documents on 7 April 2026	The Applicant provided comments on 15 April 2026. Refer to Appendix 2	Refer to Appendix 2

5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

References

Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.

1. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
2. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
3. GHD 2019, *Talison Lithium Limited, TSF1 Geotechnical Investigation*, February 2019
4. GHD 2021 TSF1 Foundation Investigation: Geotechnical Investigation Factual Report, October 2021
5. GHD 2022, *Technical Memorandum, November 7 2022, Short Term Tailings Leach Testing Results (LEAF 1313/1314)*
6. GHD 2023a, T*SF4 Seepage Assessment: Groundwater Model Update and Site Assessment*, April 2023
7. GHD 2023d *TSF4 Seepage Assessment: Site-Specific Water Quality Guidelines,* March 2023
8. GHD 2025, *TSF1 Mining Zone 5 Risk Assessment, Human Health and Environmental Risk Assessment,* Talison Lithium Pty Ltd, including Appendix 1A – Previous TSF1 Seepage Risk Assessment (GHD 2023g), Appendix A – Laboratory Data Tables, Appendix B – Geological Drilling logs, Appendix C TSF1 Surface Seepage Water Quality, Appendix D Long Term Water Quality Monitoring Data, Appendix F Surface Water Monitoring Data (SW20/02)
9. Parbhakar-Fox and Dominy (2017) Sampling and blending in geoenvironmental campaigns – current practice and future opportunities. *Proceedings of the Eighth World Conference on Sampling and Blending, AusIMM, pp 45-45*.
10. Talison 2025, Talison Lithium Australia Pty Ltd, 2025 *Re-Mining TSF1 – Zone V, Attachment 3B*; TSF1 Re-Mining Zone V Project Description
11. Talison 2025a *Talison Lithium Australia Pty Ltd, Letter response to further information required*, 25 November 2025
12. Hoyer, M., Kummer, N-A. and Merkel, B., 2015. Sorption of lithium on bentonite, kaolin and zeolite. *Geosciences*, **5**, 127-140. The paper is available from the following website: https://www.mdpi.com/2076-3263/5/2/127.

Appendix 1: Summary of stakeholder comments on the application

Summary of comments relation to water	Department's response
The submissions include a range of matters regarding potential impacts to water resources and water management, summarised by: • Concerns regarding contamination of water, and to the Aboriginal Heritage Listed Blackwood River. • Elevated salt levels – salt used by the mine for dust suppression entering tributaries and flowing into the Blackwood River. • Elevated salt levels causing the water to be unsuitable for native animals • Concerns about the communities drinking water • Concerns about the mine's water management practices • Proposal to dam Hester Brook and impacts to threatened native species • Mine impacting the water availability from increasing extraction from the Heritage listed Yarragardee Aquifer to meet residential demand current and future use of the mine is sustainable. • Water table decreasing and community dependent on water for livestock	The delegated officer acknowledges the range of concerns regarding this specific proposal and also matters that are relevant to the broader management of the premises. The delegated officer notes that a number of the matters raised are regulated and managed by the existing premises licence L4247/1991/13, including matters relating to mine water management, dust suppression activities and offsite contamination risks. Other matters raised (namely matters relating to Hestor Brook dam, and water extraction) are considered outside the scope of the current assessment under Part V of the EP Act. Water related matters that are considered relevant to the assessment for this works approval (such as seepage risks, stormwater and process water management) are detailed in section 3 of this decision report.
Summary of comments relating to dust emissions	**Department's response**
The submissions include a range of matters regarding potential impacts from dust emissions, summarised by: • Mining impacts from dust on tourism • Community continues to be impacted by dust • Daily issues with white dust at workplace	The delegated officer acknowledges the comments regarding dust emissions and their management. Dust risks specific for this works approval application are detailed and considered in section 3 of this decision report. The assessment has noted that this current proposal is an extension of an existing activity at the premises, and for a limited ongoing duration (approximately two-year period). The proposal does not include any increases to processing or throughput capacity at the associated tailings retreatment plant on the premises. As a result of this, the delegated officer considers that the existing licence controls are suitable to manage the risk from dust associated with the activity in this works approval. More broadly, the impacts associated with air quality from the premises have been considered with recent amendments to the licence L4247/1991/13 and within works approval W6283/2019/1. A range of additional controls have been conditioned and require ongoing monitoring and management of dust emissions from the premises.

Summary of comments relating to noise emissions	Department's response
The submissions include a range of matters regarding potential impacts from noise emissions, summarised by: • Mining impacts from noise and blasting on tourism • Community impacts from humming noise more pronounced at night • Community impacts from blasting noise	The delegated officer acknowledges the community concerns regarding the broader management of the premises in relation to noise emissions. This proposal, for the continued re-mining activities at TSF1 is not considered likely to increase additional noise sources, nor factor into noise emissions associated with blasting. The delegated officer considers that noise associated with this activity is unlikely to significantly contribute to overall noise from the premises. This is detailed in section 2.6 and section 3 of this decision report. Impacts from the premises activities on tourism are not matters considered that are considered with assessments under Part V of the EP Act, and are therefore considered outside the scope of this assessment.
Summary of comments relating to clearing of native vegetation and fauna	**Department's response**
The submissions include a range of matters regarding potential impacts to native vegetation and fauna, summarised by: • Loss of habitat including endangered black cockatoo • Increase of roadkill of native species including brown bandicoots and ringtail possums – being caused by clearing of habitat • Bridgetown is part of the southwest Australian Floristic Region a globally recognised biodiversity hot spot. This region has lost over 70% of its original habitat but remains an incredibly rich in biodiversity while being highly threatened.	The delegated officer acknowledges the concerns regarding the general impacts to flora and fauna from the broader management of the premises, however notes that clearing of native vegetation is not proposed as part of this application. The proposed activities are to be conducted within the footprint of the existing TSF1, and associated activities (tailings retreatment and disposal to TSF4) similarly within the existing operational footprint of the premises. Matters relating to native vegetation clearing and potential impacts to flora and fauna are managed via MS1111, as detailed in section 2.4 of this decision report, and to avoid regulatory duplication are considered outside the scope of this assessment.
Summary of additional comments and concerns	**Department's response**
Additional related matters raised included: • Lack of transparency from the applicant, specifically concerns that the applicant has not been transparent in their application documentation. That they have not been able to confirm the amount of employees on site, and they have failed to confirm the location of the air quality monitoring to the public. • Incorrect naming of things like 'Salty Gully' and confusing online resources • Light pollution • Long-term loss of tourism • Increase in traffic • Local shops seeing fewer customers	The delegated officer acknowledges these concerns raised, and notes that the matters raised incorporate a number of aspects relating to premises operation, assessment process, information sharing, and broader community related concerns. A number of these matters are outside the scope of an assessment under Part V of the EP Act, including for this works approval. This includes impacts to tourism, traffic, rent, homelessness, illegal dumping, retail shopping and matters relating to the number of employees, Kirip Dam and monitoring undertaken by the Water Corporation on the Swan Coastal Plain and general climate change concerns. Matters that relate to publicly available information provided by the applicant, such as information provided via their website or other sources should be directed to the applicant. The delegated officer notes that information on current air quality monitoring is available at https://www.talisonlithium.com/information. Detail on air quality monitoring requirements and dust monitor locations is also outlined in licence L4247/1991/13, available on the

• Increase in rent • Increase in homelessness • Increase in rubbish dumping in nearby bushland • Monitoring from Water Corporation(?) to monitor the water quality from the Swan Coastal Plain not being done adequately. • Kirup Dam approved by DWER(?) across the road from the Water Corporation Drinking Water dam – since the dam was constructed, little to no water has flowed into it, and the Water Corporation Dam has been taken offline as it's no longer usable. Water has to be carted to Kirup's community. • No consideration for future generations and concern for climate change	departments website at https://www.der.wa.gov.au/our-work/licences-and-works-approvals/current-licences Matters that relate to light pollution are included in the current s.38 referral (as referred in section 2.5 of this decision report). To avoid regulatory duplication, are considered outside the scope of this assessment.

Appendix 3: Summary of applicant's comments on risk assessment and draft conditions

Condition	Summary of Licence Holder comment	DWER response
7	Talison's approval schedule indicates that Time Limited Operation (TLO) is likely to take place from approximately Q3 2026 to Q1 2027, with an amendment of our licence proposed in approximately Q2 2027. It is therefore proposed that TLO be extended to 270 calendar days.	Condition 7 has been amended, TLO period has been revised at the applicant's request to allow sufficient time for the required licence to be obtained to allow the continued operations of the infrastructure approved under this works approval.
10	Talison generally aims to reduce the volume of water reporting to tailings storage facilities (TSF). It would be Talison's preference, where practicable, to pump water collected in the temporary collection sumps to the Mine Water Circuit (MWC) via a water dam such as Clean Water Dam (CWD) or Vultan's Pit. CWD is licensed to accept tailings decant, mine dewater, contaminated stormwater and process water (seepage return and decant). Vultan's Pit is licensed to accept mine dewater and stormwater.	Condition 10 has been amended to clarify that stormwater or groundwater intercepted during re-mining activities and collected through TSF1 temporary sumps may be pumped to the Mine Water Circuit, consistent with the works approval application and with the intent of this condition. This amendment is in line with the current risk assessment.
Decision Report Section	**Summary of Licence Holder comment**	**DWER response**
2.7 *Mining Act 1978*	Talison expects to submit Rev1 of the subject Mining Proposal and Mine Closure Plan (Reg ID 500845), and the accompanying RFI response (to Rev0), between late April and mid-May 2026.	Noted.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY			
Application type			
New works approval	☒	W3141/2025/1	
Date application received		31/10/2025	
Compliance reporting			
This section is only applicable to applications for new licences or licence amendments.			
Has the required compliance report(s) been received?		Yes ☐ No ☐ N/A ☒	N/A
Applicant and premises details			
Applicant name/s (full legal name/s)		Talison Lithium Australia Pty Ltd	
Has the applicant demonstrated occupancy (proof of occupier status)?		Yes ☒ No ☐	Certificate of title ☐ General lease ☐ Expiry: Mining lease / tenement ☒ Expiry: Other evidence ☐ Expiry: M01/13 – Expires 27/12/2026, M01/6 – Expires 27/12/2026*, M01/7 -Expires 27/12/2026*, M01/8 – Expires 27/12/2026, M01/9 – Expires 27/12/2026, M01/16 – Expires 05/06/2028, G01/1 – Expires 05/06/2028, L70/232 – Expires 20/04/2043, L70/244 – Expires 15/08/2044 *Tenure of which the activities will be conducted
Premises name		Talison Lithium Mine	
Premises location		Mining Tenements: M01/13, M01/6, M01/7, M01/8, M01/9, M01/16, G01/1, L70/232, L70/244	
Local Government Authority		Shire of Bridgetown - Greenbushes	
Application documents			
HPCM file reference number		Instrument (folder): INS-0001134 (Licence) Application (subfolder): APP-0032149	
Key application documents (supporting information provided in addition to the application form)		Works approval supporting document: • ATT08-TSF1 Seepage Risk Assessment Zone 5- GHD 2025 • ATT10-TSF1 Mining Zone V WA Fee Cals • ATT09 – Category Specific Checklist • ATT07 – Siting and Location • Att02- Premises Map • Att03 – Project Description • Attn01 – Proof of Occupier Status • Application form works approval – TSF1 Mining Continuation • Att01b ASIC Company Extract • Appendix 1A – Previous TSF1 Seepage Risk Assessment (GHD 2023g) • Appendix A – Laboratory Data Tables • Appendix B – Geological Drilling Logs • Appendix C TSF1 Surface Seepage Water Quality • Appendix D - Long-term water quality monitoring data • Appendix E – Short-term Groundwater Quality Monitoring Data • Appendix F – Surface Water Monitoring Data (SW20/02)	

Scope of application/assessment	
Summary of proposed activities and/or changes to existing operations	Works approval activities: • A continuation of remaining of Tailings Storage Facility (TSF)1 Zone 5 to an elevation as deep as 257.5mAHD for a period of approximately two years • The land on which the works will be completed on is M01/6 and M01/7. Land is within the Development Envelope of Ministerial Statement 111 • Prescribed Premises covered by Licence L4247/19991/13

Category number/s (activities that cause the premises to become a prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Proposed or existing production or design capacity[1]	Proposed changes to the existing production or design capacity[1] (amendments only)	Proposed activities, processes, or operations, including any changes to existing operations (if amendment)
Category 5: Processing or beneficiation of metallic or non-metallic ore	Existing: 7,100,100 tonnes beneficiated per annual period 5,200,000 tonnes of tailings deposited per annual period	No change	Talison is proposing to continue the re-mining of TSF1 stored tailings deeper and from an area known as Zone V

Category specific checklists		
Are there any of DWER's prescribed premises category checklists (application form annexes) relevant to the scope of the application?	Yes ☒ No ☐	TSF Checklist
Does the application include a completed version of the relevant prescribed premises category checklist(s)?	Yes ☒ No ☐ N/A ☐	
Is the prescribed premises category checklist(s) supported by a category/activity-specified checklist and if yes, has this been completed?	Yes ☒ No ☐ N/A ☐	HPCM file reference for separate category validation checklist(s): APP-0032149
Legislative context and other approvals		
Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes ☐ No ☒	Referral decision No: Assessed under Part IV ☐ Managed under Part V ☐
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☒ No ☐	Ministerial statement No: MS111 EPA Report No: 1635
Is the proposal a Major Project or subject to a State Agreement Act?	Yes ☒ No ☐	Lead Agency: DEED
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	Reference No: 2018/8206 Approved 14 November 2019 Existing approval, no additional assessment is required for this application.
Has the applicant obtained approval for their Mining Proposal?	Yes ☐ No ☒ N/A ☐	Reg ID: 500845 Status: Proposal has been Submitted August 2025 Amended Mining Proposal including TSF1 Zone 5 remining
Has the applicant obtained all relevant planning approvals?	Yes ☐ No ☐ N/A ☒	Approval: Expiry date: Premises is located on Mining Tenements
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☐ No ☒	CPS No: No clearing is proposed.

Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	Application reference No: Licence/permit No: No additional clearing has been proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☐ No ☒	Application reference No: Licence/permit No: Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☐ No ☒	Name: Type: Has Regulatory Services (Water) been consulted? Yes ☐ No ☒ N/A ☐ Regional office:
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes ☐ No ☐ N/A ☐
Is the Premises subject to any other Acts or subsidiary regulations (e.g. *Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx*)?	Yes ☒ No ☐	• Part IV of the EP Act (MS 1111) • *Environmental Protection (Noise) Regulations 1997*, Regulation 17 exemption • DCCEEW - EPBC 2018/8206 • *Mining Act 1978* • *Contaminated Sites Act 2003*
Is the Premises within an Environmental Protection Policy (EPP) Area or State Environmental Policy (SEP) Area (e.g. Western Swamp Tortoise Habitat EPP, Peel Inlet – Harvey Estuary EPP, Kwinana Atmospheric Wastes EPP, Goldfields Residential Areas Sulfur Dioxide EPP, *State Environmental (Cockburn Sound) Policy 2015*)?	Yes ☐ No ☒	
Is the Premises subject to any EPP or SEP requirements?	Yes ☐ No ☒	
Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☒ No ☐	Classification: contaminated – restricted use (C–RU). Date of classification: June 2007 and again October 2020