



Application for Works Approval

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

Works Approval Number	W6773/2023/1
Applicant	Talison Lithium Australia Pty Ltd
ACN	139 401 308
File number	DER2023/000095
Premises	Talison Greenbushes Lithium Mine L70/232 Maranup Ford Road GREENBUSHES WA 6254
Date of report	26 April 2023
Decision	Works approval granted

MANAGER, PROCESS 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 W6773/2023/1 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>.

2.2 Application summary and overview of premises

Talison Lithium Australia Pty Ltd (the applicant, Talison) operate the Greenbushes Lithium Mine under Licence L4247/1991/13. The applicant is developing a temporary accommodation camp south of the mine within mining tenement L70/232 to house construction works associated with mine operations.

On 1 February 2023, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction works relating to a temporary wastewater treatment plan (WWTP) to service the temporary accommodation camp. The premises is approximately 5km south of Greenbushes townsite and 1.5km south of Talison's existing mine operations.

The proposed WWTP is a Sequence Batch Reactor (SBR) modular containerised system, designed to treat up to 50 m³ per day of wastewater. No planned discharge to the environment is proposed with all treated effluent to be removed from site via vacuum truck and disposed of at an appropriately licensed waste facility.

The camp and WWTP are expected to operate for a period of 18 months before being replaced by a permanent accommodation village. Separate approval will be sought by the applicant for the permanent WWTP.

The premises relates to the *Category 85: Sewage facility* and assessed design capacity under Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations) which are defined in works approval W6773/2023/1. 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 W6773/2023/1.

The proposed wastewater treatment plant is not within the boundary of the existing Licence for the mine and therefore will be separate premises and require a separate instrument following construction (i.e. registration) to operate.

2.3 Legislative context

2.3.1 Part IV of the EP Act

The Greenbushes Lithium Mine was assessed and approved under Part IV of the EP Act and subject to conditions of Ministerial Statement 1111. Mining Tenement L70/232 is outside the current development envelope approved under Minister Statement 1111. The Applicant has applied to amend the development envelope under s45C of the EP Act to include the permanent accommodation village and associated WWTP. The temporary accommodation camp and WWTP is outside the scope of the current s45C.

The Delegated Officer has considered existing approvals under Part IV of the EP Act and, noting the temporary, removable nature of the WWTP and lack of planned discharge, determined to proceed with a decision under Part V of the EP Act.

2.3.2 Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974

The WWTP is subject to approval under the Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974. An application for approval has been submitted by the Applicant. The Delegated Officer notes that it is the responsibility of the applicant to obtain all necessary approvals for the construction and operation of the wastewater treatment plant.

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 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Earthworks and placement of plant and associated equipment including vehicle movements	Air / windborne pathway	<p>Short-term construction period as the containerised components of the system will be assembled offsite and delivered ready for installation.</p> <p>Periods with a higher likelihood of dust will be forecast, and giving consideration to weather conditions, additional dust controls implemented as required to avoid or minimise dust.</p> <p>Water cart to be utilised to when hot/dry conditions occur and soil has been excavated.</p> <p>Vehicle speed limits will apply.</p>
Noise			<p>Short-term construction period as the containerised components of the system will be assembled offsite and delivered ready for installation.</p> <p>Construction will be limited to daylight hours.</p> <p>Use of modern, low noise emission equipment.</p>

Emission	Sources	Potential pathways	Proposed controls
Operation			
Odour	WWTP operations including transport of wastewater offsite and sludge removal	Air / windborne pathway	<p>WWTP fitted with series of alarms to alert the operator to potential leaks and where WWTP is operating outside of design parameters (e.g. excessively high/low pressure, insufficient/excessive chlorine/pH, etc.).</p> <p>Maintenance of the plant will be undertaken in accordance with manufacturer (Tristar) specifications.</p> <p>Effluent will be monitored on a monthly basis.</p> <p>WWTP will be inspected daily. The manufacturer (Tristar) will attend site monthly.</p> <p>Sludge will be emptied from the storage tank on a monthly basis by a controlled waste contractor for disposal at a licensed facility.</p> <p>Any community complaints will be recorded and investigated where notified directly to the proponent, Community or Department.</p> <p>WWTP will undergo 12 week commissioning during which time effluent will be monitored weekly to confirm the system is performing as expected.</p>
Noise			Use of modern, low noise emission equipment.
<p>Spills and leaks of treated/ untreated wastewater</p> <p>WWTP tank overflows</p>		Overland runoff and direct discharge and migration via soil to groundwater	<p>WWTP fitted with series of alarms to alert the operator to potential leaks and where WWTP is operating outside of design parameters (e.g. excessively high/low pressure, etc.)</p> <p>WWTP will be situated on a compacted earth pad with a surrounding earthen bund to capture spills.</p> <p>Spills will be cleaned up immediately and contaminated material removed and disposed of at an appropriate facility.</p> <p>Treated wastewater will be collected at the required frequency to ensure the WWTP storage tanks high level is not exceeded. The WWTP includes 2 x 50m³ holding tanks to allow 2 days holding capacity.</p> <p>Contingency contracting will be in place (i.e. alternative contractor) in case the primary contractor is not available to collect wastewater as required.</p> <p>The irrigation tank includes a high-level alarm which will automatically shut down the WWTP to prevent overflow if required (i.e. when tanks are full).</p> <p>WWTP will be inspected daily.</p> <p>Stormwater diversion bunds/open v drains will be installed to prevent stormwater coming into contact with any spilled material.</p>

Emission	Sources	Potential pathways	Proposed controls
Spills and leaks of chemicals			<p>Stormwater diversion bunds/open v drains will be installed to prevent stormwater coming into contact with any spilled material.</p> <p>Chemicals, including chlorine, sucrose & coagulant, will be delivered in 15-20L drums and decanted into bunded 80L storage tanks.</p> <p>Spill kits will be located onsite near the reagent storage areas.</p> <p>Spills will be isolated with any contaminated material remediated or disposed off to an appropriately licensed facility.</p> <p>WWTP will be situated on a compacted earth pad with a surrounding earthen bund to capture spills.</p>

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.

It is noted that there are two residential dwellings that exist within the premises boundary (receptors "J" and "K" shown in Figure 1). As these are owned by the applicant, the Delegated Officer does not consider them to be sensitive receptors for the purposes of this assessment.

Table 2, Figure 1 and Figure 2 below provide 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 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Residential Premises "A"	550m southwest of the proposed WWTP location
Residential Premises "I"	1300m east of the proposed WWTP location
Environmental receptors	Distance from prescribed activity
Hester State Forest	320m north and 700m west of the proposed WWTP location.
Drainage line (tributary of Woljenu Creek) Woljenu Creek flows to the Blackwood River.	450m from proposed WWTP location to Woljenu Creek Tributary
Heritage Site (Blackwood River) The drainage line, Woljenu Creek and Blackwood River are listed as a Heritage Site under the <i>Aboriginal Heritage Act 1972</i>	450m east

Underlying groundwater

Depth to groundwater is ~1m towards the base of the valley and within 100m of the main drainage line.

Historical WIN data (ID 60911480) suggests depth to groundwater 375m north-west (upgradient) of the WWTP is between 2-3mbgl.

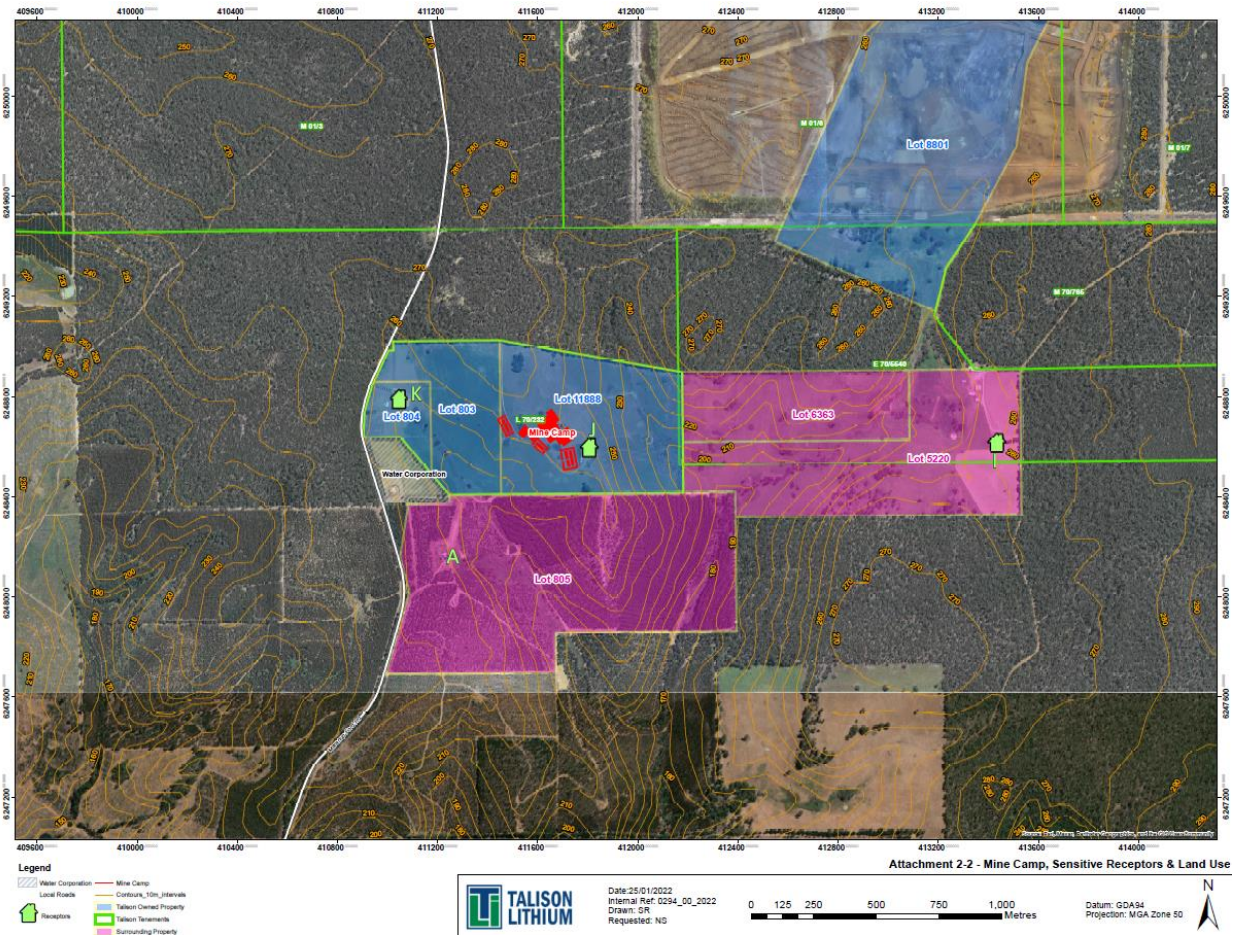


Figure 1: Location of residential receptors.

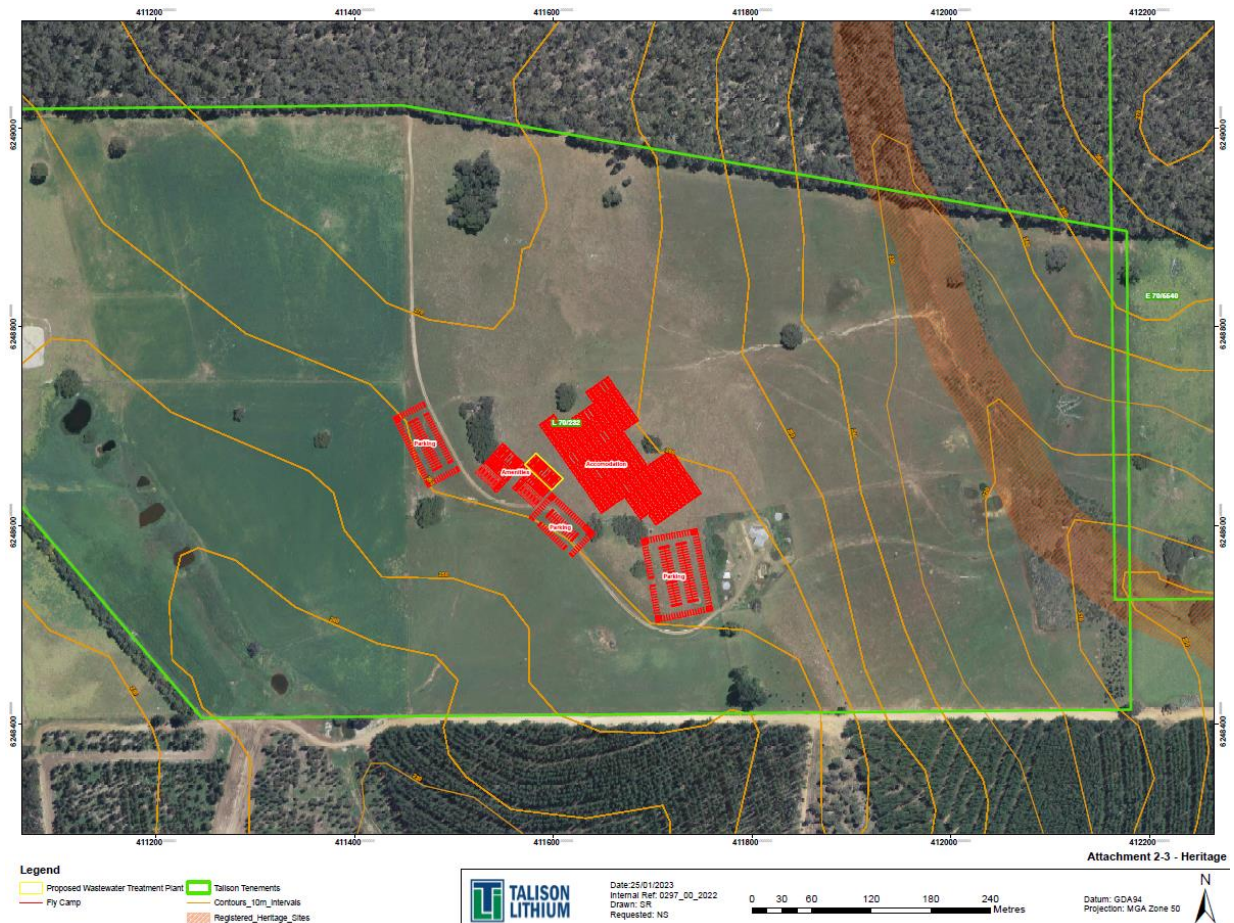


Figure 2: Location of drainage line that forms part of the Blackwood River heritage site under the *Aboriginal Heritage Act 1972*.

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 3.

Works approval W6773/2023/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A registration is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises i.e. Category 85 activities. 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 3: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation

Risk events					Risk rating ¹	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood			
Construction								
Earthworks and placement of plant and associated equipment including vehicle movements	Dust	Air / windborne pathway causing impacts to health and amenity	Resident 600m southwest and 1300m east of the WWTP	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 1	N/A
	Noise			Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 1	N/A
Commissioning / Operation (including time-limited-operations operations)								
WWTP operations including transport of wastewater offsite and sludge removal	Odour	Air / windborne pathway causing impacts to amenity	Resident 600m southwest and 1300m east of the WWTP	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 1, 5, 6, 8, 9, 12, 13, 14	Slight odours may be generated during commissioning however only expected to be for short duration as the systems biological processes establish. After this period, and provided the system is maintained appropriately, no significant odours are expected to occur. The Delegated Officer considers that odour emissions are unlikely to impact sensitive receptors due to their short-term nature and considering that the nearest receptor is 600m away. Water quality monitoring is required to verify system performance with results reported at the completion of commissioning and time limited operation.
	Noise	Air / windborne pathway causing impacts to health and amenity		Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 1	The Delegated Officer considers there to be sufficient separation distance to mitigate the risk of noise. The Environmental Protection (Noise) Regulations 1997 apply.
	Spills and leaks of treated/ untreated	Overland runoff potentially causing ecosystem disturbance and/or	Groundwater depth less than 3mbgl	Refer to Section 3.1	C = Slight L = Rare	Y	Condition 1, 5 and 12	Applicant controls regarding spill management have been imposed on the works approval.

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	wastewater	impacting surface water quality and/or groundwater quality	Minor surface water drainage line (heritage site) 450m east		Low Risk			
	WWTP tank overflows			Refer to Section 3.1	C = Slight L = Rare Low Risk	Y	Condition 1, 5 and 12	Applicant controls regarding overflow management have been imposed on the works approval.
	Spills and leaks of chemicals			Refer to Section 3.1	C = Slight L = Rare Low Risk	Y	Condition 1	The Delegated Officer considers the Applicant controls for managing spills of hazardous material suitable for mitigating risk. Spills and leaks of chemicals are regulated under the Environmental Protection (Unauthorised Discharges) Regulations 2004.

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 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 27 February 2023	None received	N/A
Local Government Authority advised of proposal on 27 February 2023	None received	N/A
Other Stakeholders (e.g. DoH, South West Aboriginal Land and Sea Council, Resident "A") advised of proposal on 27 February 2023	None received	N/A
Applicant was provided with draft documents on 24 March 2023.	See Appendix 1.	

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

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

Section / Condition	Summary of applicant's comment	Department's response
Decision Report		
Table 1	Applicant requested that the wording in the table "Any community complaints will be recorded and investigated." be amended to "Any community complaints will be recorded and investigated, where notified directly to the proponent Community Department."	Noted and updates made. Changes do not alter the assessment of risk.
Table 1	The Applicant advised that the stated frequency of wastewater collection was intended as indicative. Actual frequency will be determined by system loading. As such, the Applicant requested the wording be amended from "Treated wastewater will be collected at least every second day. The WWTP includes 2 x 50m ³ holding tanks to allow 2 days holding capacity" to "Treated wastewater will be collected at the required frequency to ensure the WWTP storage tanks high level is not exceeded. The WWTP includes 2 x 50m ³ holding tanks to allow 2 days holding capacity."	
Table 1	The Applicant advised that stormwater diversion infrastructure includes diversion bunds / open v drains and requested that the table be update to reflect this.	
Conditions		
Schedule 1: Maps	The Applicant advised that the proposed premises boundary is too restrictive and unlikely to contain all WWTP elements. Furthermore, the Applicant requested some flexibility regarding the siting of the WWTP. The Applicant noted imminent future proposals for the permanent village WWTP within the same tenement, and given this, the preference is to expand the premise boundary to the extent of L70/232.	Noted and updated. The Premises map shows the indicative location of the WWTP. Any deviations from design and location of the WWTP will need to be disclosed in the Environmental Compliance Report with justification for the modifications. Changes that are likely to alter the outcomes of the above risk assessment may require further assessment via a works approval amendment.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY		
Application type		
Works approval	<input checked="" type="checkbox"/>	
Date application received	1 February 2023	
Applicant and Premises details		
Applicant name/s (full legal name/s)	Talison Lithium Australia Pty Ltd	
Premises name	Talison Greenbushes Lithium Mine (WWTP)	
Premises location	L70/232, Maranup Ford Road, Greenbushes	
Local Government Authority	Shire of Bridgetown-Greenbushes	
Application documents		
HPCM file reference number:	DER2023/000095	
Key application documents (additional to application form):	Application Form Dust Management Plan Noise Management Plan	
Scope of application/assessment		
Summary of proposed activities or changes to existing operations.	Works approval Construction of a temporary WWTP to support the proposed accommodation camp. WWTP capacity is 50m ³ /day (estimated throughput 50m ³ /day). No discharge of wastewater; all wastewater will be trucked offsite.	
Category number/s (activities that cause the premises to become prescribed premises)		
Table 1: Prescribed premises categories		
Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 85: Sewage facility	50m ³ /day	N/A
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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Greenbushes Mine is currently subject to a s45C application	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> For Greenbushes Lithium Mine Expansion	Ministerial statement No: 1111 EPA Report No: 1635
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:

Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input checked="" type="checkbox"/> Expiry: 20/4/2043 Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: If N/A explain why? Mining tenure – no planning approval required
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A – no clearing proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> No discharged proposed	Name: N/A Type: Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office:
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: P1 / P2 / P3 / N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974 Environmental Protection (Controlled Waste) Regulations 2004
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Classification: N/A Date of classification: N/A