Decision Report

Application for Licence

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

Licence Number	L9326/2022/1
Applicant	Covalent Lithium Pty Ltd
ACN	70 623 090 139
File number	DWER2022/000016
Premises	Earl Grey Lithium Project via Marvel Lock-Forrestania Road within Shire of Yilgarn Mining Tenement M77/1066 As defined by the coordinates in Schedule 1 of the licence As defined by the premises maps attached to the issued licence
Date of report	21 July 2022
Proposed Decision	Licence granted

Jarrod Abrahams
Digitally signed by Jarrod Abrahams
Date: 2022.07.21 09:28:31 +08'00'

MANAGER WASTE INDUSTRIES REGULATORY SERVICES
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 operation of the premises. As a result of this assessment, licence L9326/2022/1 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

On 14 January 2022, the applicant submitted an application for a licence to the department under section 57 of the *Environmental Protection Act 1986* (EP Act).

The application is to seek a licence relating to wastewater treatment servicing the accommodation village at the premises. The premises is approximately 105km south-southeast of Southern Cross and 1.5km northeast of Mt Holland in the Shire of Yilgarn.

The premises relates to the category and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in licence L9326/2022/1. 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 licence L9326/2022/1.

The works approval was issued for construction and time-limited operations (W6517/2021/1) in April 2021, and it was amended in October 2021 to include irrigation of effluent to a spray field.

The initial application submitted on 14 January 2022 requested a throughput of 100ML/day. On 16 March 2022 the applicant requested a change to the proposed prescribed premises boundary to allow for all future activities licensed under the EP Act to be covered within one prescribed premises area. On 16 June 2022 the applicant requested that the licensed throughput be increased to 120ML/day due to updated information from the supplier on the equipment capacity.

2.3 Part IV of the EP Act

Covalent Lithium was authorised to develop the Earl Grey Lithium Project under Ministerial Statement 1118, published in 2019, and subsequent Ministerial Statement 1167 in 2021. The Wastewater Treatment Plant is within a Development Envelope covering 1,984 hectares with a Project footprint of 667 ha.

The broader project activities are open-cut mining of lithium in pegmatite deposits. The Wastewater Treatment Plant will service the mine site accommodation village, housing around 300 personnel.

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 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
Odour	Operation of WWTP	Airborne pathway causing disturbance to vegetation and native fauna	PLC control system to transfer waste from the aerobic/MBR tank to sludge tank for anaerobic digestions to reduce waste and minimise odour
Noise			Physical separation
Light			Airborne pathway causing disturbance to vegetation and native fauna
Untreated and partially treated sewage	Overtopping, spillage, or leakage of untreated or partially treated wastewater	Infiltration to soil and percolation through to groundwater	PLC control system to transfer waste from the aerobic/MBR tank to sludge tank for anaerobic digestions to reduce waste and minimise odour
Treated effluent	Discharge of treated effluent via sprayfield	Infiltration to soil and percolation through to groundwater	• operated to ensure nutrient loads in treated effluent do not exceed targets specified in Australian Guidelines for Sewerage Systems –Effluent Management Proposed ongoing monitoring regime follows the *Guidelines for the Non-potable Uses of Recycles Water in Western Australia* minimum monitoring requirements for low risk exposure levels (Department of Health 2011, Table 8) • Surface water management structures /bunding will be maintained to ensure any spills are contained

Emission	Sources	Potential pathways	Proposed controls
			• Treatment ponds liners of 1.5 mm thick HDPE, with a permeability of minimum of 1 x 10^{-9} m/s to be maintained

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 2 and Figure 1 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 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Closest residential receptor	The Earl Grey Lithium Project is considered remote, with no townsites or residential receptors within a 10 km radius of the premises boundary. In accordance with the Department's *Guidance Statement: Risk Assessment* (February 2017), when identifying potential receptors, DWER will exclude employees, visitors, or contractors of the Works Approval Holder, as protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other State legislation.
Environmental receptors	**Distance from prescribed activity**
Threatened fauna • *Mallee fowl (Leipa ocellata)* – vulnerable • *Chudich (Dasyurus geoffro)* – vulnerable • Inland western rosella *(Platycercus icterotis xanthogenss)* – P4 • Western brush wallaby *(Notamacropus irma)* – P4 • Peregrine falcon *(Falco peregrinus)* - OS	• Recorded within Earl Grey Lithium Project development envelope
Threatened priority flora • *Banksia sphaerocarpa var. dolichostyla* – Threatened • *Acacia sp. Forrestiana (D. Angus DA 3001)* – P1 • *Grevillea lissopleura* – P1	• The site of the WWTP is outside of the 50 m buffer zone from the *Banksia sphaerocarpa var. dolichostyla* and *Microcorys elatoides* population groups

• *Microcorys elatoides* – P1 • *Eutaxia lasiocalyx* – Priority 2 • *Acacia undosa* – P3 • *Hakea pendens* – P3 • *Stylidium sejunctum* – P3 • *Eremophilla biserrata* – P4	
Threatened Ecological Communities Ironcap Hills Vegetation assemblages (Mt Holland; Middle, North and South Ironcap Hills; Digger Rock and Hatter Hill) (greenstone ranges)	• Earl Grey Lithium Project development envelope is situated within the Priority 3 ecological community buffer zone
Nature reserves • Jilbadji Nature Reserve and the Parker Range • Lake Cronin Nature Reserve	• Approximately 5 km north of WWTP boundary • Approximately 30 km to the south of WWTP boundary
Water supply reserve • Reserve 1785, Reserve Number 13524 – WATER SUPPLY MINES	• Approximately 5 km southwest of WWTP boundary
Surface water • Minor non-perennial watercourse • Surface waterbody - Land Subject To Inundation • Stock dams excavated in minor non-perennial watercourse	• Transects northeast corner of WWTP boundary (through spray field) • Approximately 3.5 km southeast of WWTP boundary • Approximately 3.5 km south of WWTP boundary

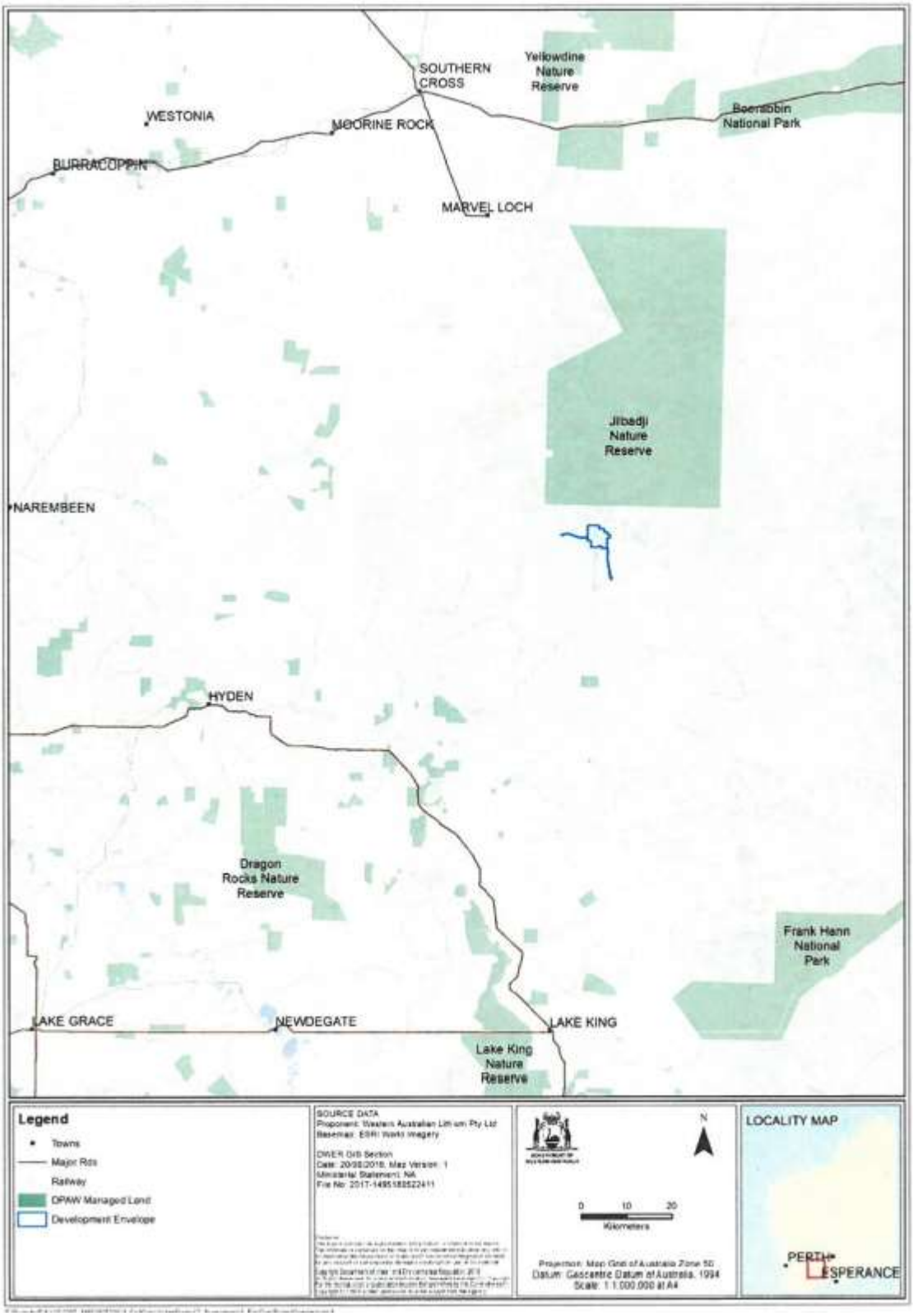

Figure 1: Regional location of the licence area (shown in blue) (supplied by applicant)

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 licence 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.

Licence L9326/2022/1 that accompanies this decision report authorises emissions associated with the operation of the premises i.e. wastewater treatment activities.

The conditions in the issued licence, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 3: Risk assessment of potential emissions and discharges from the premises during operation

Risk Event					Risk rating[1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Operation of WWTP	Odour	Air/windborne pathway causing impacts to human health and amenity	Accommodation village residents	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	1-3	*N/A*
	Noise	Air/windborne pathway causing impacts to human health and amenity and fauna health and behavior	Native fauna Accommodation village residents	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	1	N/A
	Light	Airborne pathway causing impacts on vegetation and native fauna	Native fauna and remnant vegetation	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	1	N/A
Overtopping, spillage, or leakage of untreated or partially treated wastewater	Untreated and partially treated sewage	Infiltration to soil	Native fauna and remnant vegetation	Refer to Section 3.1	C = Slight L = Possible **Low Risk**	Y	1, 2, 6, 9	N/A
Discharge of treated effluent via sprayfield	Treated sewage	Direct application to soil and vegetation	Native fauna and remnant vegetation	Refer to Section 3.1	C = Minor L = Possible **Medium Risk**	Y	1-7	N/A

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 at this stage.

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 5 May 2022	No responded received.	N/A
Application advertised in The West Australian on 9 May 2022	No responses received.	N/A
Applicant was provided with draft documents on 2 June 2022 and further drafting on 1 July 2022	See Appendix 1	See Appendix 1

The Delegated Officer considers that the proposed prescribed activities have been suitably consulted with further direct stakeholders, given the sum of the Part IV process (see Section 2.3) and specific stakeholder consultation about the WWTP during the works approval phase (see Table 5).

Table 5: Stakeholder consultation for the wastewater treatment plant construction and oepration, during the works approval phase (from W5617/2021/1 Decision Report, DWER 2021)

Consultation method	Comments received	Department response
Application advertised on the Department's website (02/03/2021)	None	N/A
Local Government Authority advised of proposal (03/03/2021)	None	N/A
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal (03/03/2021)	None	N/A
Department of Biodiversity, Conservation and Attractions (DBCA) (03/03/2021)	DBCA did not provide any specific comments in relation to the proposed construction of the wastewater treatment plants, but advised that relevant approvals under the *Biodiversity Conservation Act 2016* may be required prior to the commencement of activities impacting on matters protected under the Act.	Noted The clearing of native vegetation and any associated impacts on threatened fauna are authorised by the Ministerial Statement
Department of Planning, Lands and	DPLH advised that there are no	Noted

Consultation method	Comments received	Department response
Heritage (DPLH) (03/03/2021)	relevant land use planning, land use management or heritage implications associated with the construction of the proposed wastewater treatment plants, and has no comment or advice to provide. However, DPLH did advise that separate advice was being sought in relation to any aboriginal heritage interests on the land	
Environmental Protection Authority Services	EPA Services provided comments relevant to the Earl Grey Lithium Project (the proposal). EPA considered that emissions and discharges from the WWTP could be adequately managed and regulated under Part V at the level of assessment determination stage. The clearing of native vegetation proposed in the Works Approval application is noted to be generally consistent with that approved under Ministerial Statement (MS) 1118; however, EPA noted that there were discrepancies between the MS and Works Approval indicative disturbance footprints. Covalent Lithium are required to determine compliance with the management plan as this is a legal requirement for implementation of the proposal under MS 1118. EPA Services noted that the Works Approval prescribed premise boundary is not within: • A Conservation Significant Flora Exclusion Zone, as described by Condition 6-1 of MS 1118; or • A Malleefowl Mound Exclusion Zone, as described by Condition 7-1(1) of MS 1118. EPA noted that fauna egress points could be installed on the stabilisation ponds given the high diversity and abundance of Threatened fauna species.	Noted (A) Egress points have been included as a design and construction/installation requirement for the facultative, maturation and evaporation ponds that they be equipped with egress points and/or fauna ladders. (B) The applicant is responsible for ensuring compliance with management plans in accordance with MS 1118.

5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a licence 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.
4. DWER 2021, *Decision Report, Application for Works Approval W6517/2021/1*, Perth, Western Australia.
5. Department of Health 2011, *Guidelines for the Non-potable Uses of Recycled Water in Western Australia*, Perth, Western Australia.

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

Condition	Summary of applicant's comment	Department's response
Table 1	Remove condition for the stabilization pond lining as per the Works Approval Amendment in October 2021.	Noted and amended.
Table 2	Fix reference to Treated Effluent due to administrative error only.	Noted and amended.
6 to 9	Fix numbered headings in Monitoring due to administrative error only.	Noted and amended.
Table 3, Table 4	Remove turbidity monitoring requirement (Table 3, Turbidity (NTU) discharge limit <2), (Table 4, Turbidity monthly spot sample) to align with DoH (2011; Table 8) "low risk effluent" sampling requirements, to align with Table 4 of W6517/2021/1 as amended 26/10/21.	Noted and amended.
Table 4	Change weekly BOD monitoring frequency to monthly to align with other sampling parameters that are sampled/analysed monthly	Noted and amended.
General	Increase throughput approved throughput on the Stage 1 (Train 1 and 2) Licence to 120 m^3/day instead of 100 m^3/day, as the units are each rated to 60 m^3/day, not 50 m^3/day as previously advised.	DWER consider that the draft risk assessment is relevant with this change and no further conditions are required. Amended.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)					
Application type					
Works approval	☐				
Licence	☐	Relevant works approval number:	W6517/2021/1	None	☐
		Has the works approval been complied with?	Yes ☐ No ☒ Continuing to operate beyond time limited operations timeframe (DWERDT547568) considered to not present a significant risk.		
		Has time limited operations under the works approval demonstrated acceptable operations?	Yes ☒ No ☐ N/A ☐ For most parameters, noting that chlorine and *E.coli* are recognized to need further attention (DWERDT558904).		
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?	Yes ☐ No ☐		
		Date report received:			
Renewal	☐	Current licence number:			
Amendment to works approval	☐	Current works approval number:			
Amendment to licence	☐	Current licence number:			
		Relevant works approval number:		N/A	☐
Registration	☐	Current works approval number:		None	☐
Date application received					
Applicant and premises details					
Applicant name/s (full legal name/s)		Covalent Lithium Pty Ltd			
Premises name		Earl Grey Lithium Project			
Premises location		Mining tenement M77/1066			
Local Government Authority		Shire of Yilgarn			
Application documents					
HPCM file reference number:		DER2022/000016			
Key application documents (additional to application form):		*Accommodation Village Wastewater Treatment Plant Licence Application Supplementary Information*			
Scope of application/assessment					

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)	
Summary of proposed activities or changes to existing operations.	Operation of wastewater treatment plant as part of Stage 1 of the Early Grey Lithium Project as follows: • A 100 kL/day capacity Sequence Batch Reactor (SBR) WWTP • Spray field required for the irrigation of the treated effluent with a footprint of 2.66 ha. The production capacity of Stage 1 (two trains) is 100 m^3/day. Covalent Lithium received approval to construct a dual train WWTP (W6517/2021/1) in April 2021. The Works Approval was subsequently revised to include irrigation of effluent to a spray field, with the amendment approved in October 2021. The first train of the WWTP was successfully installed and commissioned in July 2021 and subsequently commenced Time Limited Operations. The second train was installed and commissioned in October 2021 and subsequently commenced Time Limited Operations.

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 54: sewage treatment facility	100m^3/day	n/a new licence

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: Managed under Part V ☐ Assessed under Part IV ☒
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☒ No ☐	Ministerial statement No: MS1118, 1167
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☐	Reference No: Assessment number 2017-7950
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☒ No ☐	Mining lease / tenement ☒ M77/1066 Expiry: 12/12/2025
Has the applicant obtained all relevant planning approvals?	Yes ☒ No ☐ N/A ☐	Approved under EPBC Act and Ministerial Statement

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)		
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☐ No ☒	Clearing under approved Ministerial Statement
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	Clearing under approved Ministerial Statement
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☒ No ☐	Licence/permit No: [GWL201377(2)] Annual water entitlement 5,000 kL duration 22/2/2019 to 29/5/2023
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☒ No ☐	Name: Westonia Groundwater Area Type: Proclaimed Groundwater Area Has Regulatory Services (Water) been consulted? Yes ☐ No ☒ N/A ☐ Regional office: Goldfields
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	
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 ☐	Dangerous Goods chemical storage requirements
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☒	
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	
Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☒ No ☐	Earl Grey Lithium Project – 11761 Classification: Possibly contaminated - investigation required Date: Oct 28, 2020