

## Summary of reasons for decision – Amendment of an approved proposal under section 45C of the *Environmental Protection Act 1986*

<b>Ministerial Statement:</b>	1111
<b>Proposal Title</b>	Greenbushes Lithium Mine Expansion
<b>Approved Proposal:</b>	<p>The development of Stage 3 and Stage 4 expansion activities at the existing Greenbushes Lithium Mine in Greenbushes, Shire of Bridgetown, WA. The proposal includes the following:</p> <ul style="list-style-type: none"> <li>• Developing an expanded open pit;</li> <li>• Establishment of two additional chemical grade processing plants, a plant for retreatment of tailings, an additional crusher and expansion of a centralised ROM;</li> <li>• Establishment of a new Mine Services Area and explosives storage and handling infrastructure;</li> <li>• Expansion of the existing Floyds Waste Rock Landform;</li> <li>• Construction of an additional Tailings Storage Facility (TSF4);</li> <li>• Establishment of additional linear infrastructure corridors (mine access road, powerline, pipeline and road corridors); and</li> <li>• Workers' Village.</li> </ul>
<b>Proponent:</b>	Talison Lithium Australia Pty Ltd
<b>Environment Online Reference Number:</b>	APP-0000076
<b>Date Ministerial Statement first issued</b>	19 August 2019
<b>Dates of any approved changes to Approved Proposal</b>	6 April 2020
<b>Date of proponent's request to amend</b>	7 November 2022
<b>Date additional information received</b>	17 November 2022 13 March 2023
<b>Date application made public</b>	N/A

<b>Description of requested amendments to approved proposal</b>	<ul style="list-style-type: none"> <li>• A revised Mine Access Road design;</li> <li>• Construction of a workers' accommodation village;</li> <li>• Relocation of the rehabilitation material stockpiles; and</li> <li>• Changes to the development envelope to include: <ul style="list-style-type: none"> <li>○ A noise bund;</li> <li>○ A gate;</li> <li>○ A vegetation screen;</li> <li>○ Excision of the cemetery and mine lookout; and</li> <li>○ Access tracks for Cowan Brook Dam</li> </ul> </li> </ul>
<b>Decision</b>	The requested amendments to the Approved Proposal are not considered to be significant amendments. The amendments to the Approved Proposal are approved.

**Environmental factors relevant to amendments:**

- Terrestrial Fauna;
- Flora and Vegetation;
- Social Surroundings;
- Air Quality;
- Inland Waters; and
- Terrestrial Environmental Quality

<b>Summary of review of whether an amendments should be approved under section 45c(1)</b>	
Environmental Factor review	<p>Terrestrial Fauna:</p> <p>The amendments will involve loss of 9.54 ha of native vegetation that provides habitat for conservation significant terrestrial fauna including Carnaby's black cockatoo, Baudin's black cockatoo, western Brush wallaby, forest red-tailed black cockatoo, chuditch, numbat and western ringtail possum.</p> <p>The total area of clearing for the amended proposal will not exceed the 350 ha originally approved under Ministerial Statement 1111. The disturbance footprints have been located within previously cleared and degraded areas where practicable.</p> <p>The potential impacts to terrestrial fauna from the amended proposal include clearing, vehicle strike, weeds, dust and dieback. Potential impacts terrestrial fauna are expected to be comparable to those of the approved proposal.</p>

	<p><b>Flora and Vegetation:</b>  9.54 ha of native vegetation in a completed degraded to very good condition will be cleared as a result of the proposed changes. No additional clearing is proposed.</p> <p>None of the native vegetation communities recorded within the revised development envelope are of conservation significance. Twelve individuals of the priority 4 flora species, <i>Acacia semitrullata</i>, were recorded within previously rehabilitated areas that are already approved to be cleared.</p> <p>Impacts from construction, earthworks and use of roads have the potential to introduce weeds, dieback and dust that affect vegetation. The proponent has measures in place to minimise and monitor the impacts of weeds, dieback and dust on native vegetation. The impacts to flora and vegetation from the amended proposal are considered to be comparable to those of the approved proposal.</p> <p><b>Social Surroundings:</b>  Construction and operation of the infrastructure may cause noise, vibration, odour and light emissions that affect nearby residential receptors.</p> <p>The proponent has measures in place to ensure light spill from the workers' village will be minimised. The closest sensitive receptor to the that is not owned by the proponent is located ~1.5 km away. Noise, dust, vibration and odour emissions are not expected to significantly affect any sensitive receptors around the village due to the nature of the activities and proponent's controls. The revised mine access road will be located further from sensitive receptors than the original road. It will be bitumised to reduce dust emissions and haulage routes will avoid the Greenbushes townsite.</p> <p>The noise bund and vegetation screen are expected to mitigate noise and visual amenity impacts from both the approved proposal and the proposed changes respectively. Cumulative noise, dust, vibration and odour emissions are not expected to significantly increase as a result of construction and operations associated with the amended proposal.</p> <p><b>Air Quality:</b>  Construction, traffic and movement of the rehabilitation material stockpiles may impact air quality due to dust emissions, it is unlikely that the dust emissions will contain any contaminants that will further reduce air quality.</p> <p>To reduce dust emissions the revised mine access road will be bitumised and haulage routes will no longer pass through the Greenbushes townsite. Dust emissions may be elevated during short-duration construction activities but are not expected to significantly increase the cumulative dust emissions of the proposal.</p> <p>The proponent has measures in place to reduce dust emissions from the proposal, current dust monitoring and a complaint system. In case of excessive dust emissions additional measures are required to be implemented and if dust levels cannot be sufficiently reduced, activity is required to cease. No change to potential impacts associated with air quality is considered to be likely.</p>
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	<p><b>Inland Waters:</b></p> <p>Sewage and wastewater generated from the use of village have the potential to affect the quality of nearby creeks and dams and groundwater if discharged without treatment.</p> <p>Surface water and groundwater in the vicinity is not known to support any significant beneficial uses such as drinking water supply. The proponent will use a wastewater treatment plant with an anoxic/aerobic membrane bio-reactor that meets required Standards. Wastewater will be treated to a class A standard (meaning it can generally be used for non-potable domestic uses) and irrigated into a sprayfield. The risk to inland waters is considered unlikely to be significant provided that typical approvals are obtained prior to construction and operation of the plant.</p> <p><b>Terrestrial Environmental Quality:</b></p> <p>Sewage and wastewater generated from the village have the potential to contaminate soil if released into the environment without treatment.</p> <p>The location of the village is mostly cleared land that is unlikely to support any significant environmental values that could be affected by inadvertent discharge or spill of untreated sewage and wastewater. The proponent will use a wastewater treatment plant with an anoxic/aerobic membrane bio-reactor that meets required standards. The risk to terrestrial environmental quality is considered unlikely to be significant.</p>
Controls on implementation, including relevant DMA processes (where relevant), for amendment	<p>The Conservation Significant Terrestrial Flora Management Plan required under condition 6 and the Disease Hygiene Management Plan required under condition 9 of MS 1111 (the management plans) will continue to minimise impacts to flora and fauna. The management plans require avoidance of trees being used for nesting by black cockatoos, trapping and translocation of fauna prior to clearing, weed and dieback management and monitoring of vegetation health. The management plans will be updated to manage the risks posed by the amendments.</p> <p>The amendments are not expected to result in exceedances of the noise limits prescribed under the <i>Environmental Protection (Noise) Regulations 1997</i>. Therefore, the EPA does not consider that any additional controls are necessary. Visual impacts, including light spill, are required to be minimised under condition 7-1(2) of MS 1111.</p> <p>The construction and operation of a Wastewater Treatment Plant required approvals from other decision making authorities. The EPA considers that regulation of potential emissions and discharges of untreated wastewater, and emissions and discharges of treated wastewater will be subject to risk assessment under Part V of the <i>Environmental Protection Act 1986</i>, and that by managing risk to the environment and public health, the EPA's objectives for the relevant factors will be met.</p> <p>Tenement conditions imposed under the <i>Mining Act 1978</i> require the minimisation of dust emissions. The majority proposed amendments will be required to be approved under a mining proposal where the proponent must demonstrate that environmental impacts are as low as reasonably practicable.</p> <p>Current dust monitoring is required under the mining and Part V approvals, with monitoring equipment sited at the Greenbushes townsite and at the eastern side of the development envelope near Fullerton Road. The EPA considers that the review of adequacy of dust monitoring locations and controls by other decision making authorities meets EPA objectives for the relevant environmental factor.</p>
Significance of requested amendment	<p>The proposed amendments are not likely to have a significant effect, on their own or in the context of the existing approved proposal, on the environment.</p>

### **Summary of consideration of amendment**

The decision-maker has considered whether the proposed amendment would be a significant amendment in addition to the potential impacts of the amendments.

The EPA has considered:

- the cumulative environmental impacts
- the holistic impacts
- whether the environmental effects of the implementation of the proposal as amended will be consistent with the EPA's environmental factor objectives
- whether the proposal as amended would still be substantially the same character as the approved proposal.

### **Summary of decision**

The decision-maker has considered the request to amend approved proposal under section 45C(1) of the EP Act. The decision-maker considers the requested amendments to the Approved Proposal are not considered to be significant amendments.

### **Attachments:**

- Proposal content document
- Figure of approved changes to development envelope

**Appeals:** Decision not appealable.



**Professor Matthew Tonts**

CHAIR

Delegate of the Environmental Protection Authority

**Date:** 15 May 2023

# Proposal Content Document

**Table 1:** General proposal content description

<b>Proposal title</b>	Greenbushes Lithium Mine Expansion
<b>Proponent name</b>	Talison Lithium Australia Pty Ltd
<b>Short description</b>	<p>The Proposal is to undertake Stage 3 and Stage 4 expansion of the existing Greenbushes Lithium Mine in the Shire of Bridgetown - Greenbushes, WA. The proposal includes the following:</p> <ul style="list-style-type: none"> <li>• Developing an expanded open pit;</li> <li>• Establishment of two additional chemical grade processing plants, a plant for retreatment of tailings, an additional crusher and expansion of a centralised ROM;</li> <li>• Establishment of a new Mine Services Area and explosives storage and handling infrastructure;</li> <li>• Expansion of the existing Floyds Waste Rock Landform;</li> <li>• Construction of an additional Tailings Storage Facility (TSF4);</li> <li>• Establishment of additional linear infrastructure corridors (mine access road, powerline, pipeline and road corridors); and</li> <li>• Workers' Village.</li> </ul>

**Table 2:** Proposal content elements

Proposal element	Location description	Maximum extent, capacity or range
<b>Physical elements</b>		
Mine and associated infrastructure including the waste rock landform, tailings storage facility, processing infrastructure, and other mine site supporting infrastructure including a Workers' Village and linear infrastructure corridors (mine access road, powerline, pipeline and road corridors).	Figure 1	<p>Clearing of no more than 350 ha* of native vegetation within a development envelope of 2,207 ha.</p> <p>*Previous clearing approved under Part V of the <i>Environmental Protection Act 1986</i> and the <i>Mining Act 1978</i> is not included in the 350 ha authorised clearing but is authorised clearing for that purpose.</p>
<b>Operational elements</b>		
Throughput	NA	Increase processing capacity to 9.5 Mtpa ore and up to 2.1 Mtpa recovered tailings.
<b>Proposal elements with greenhouse gas emissions</b>		
Construction elements:		
Scope 1	Estimated to be 8,041 t CO <sub>2</sub> -e/year over an estimated five year construction period.	

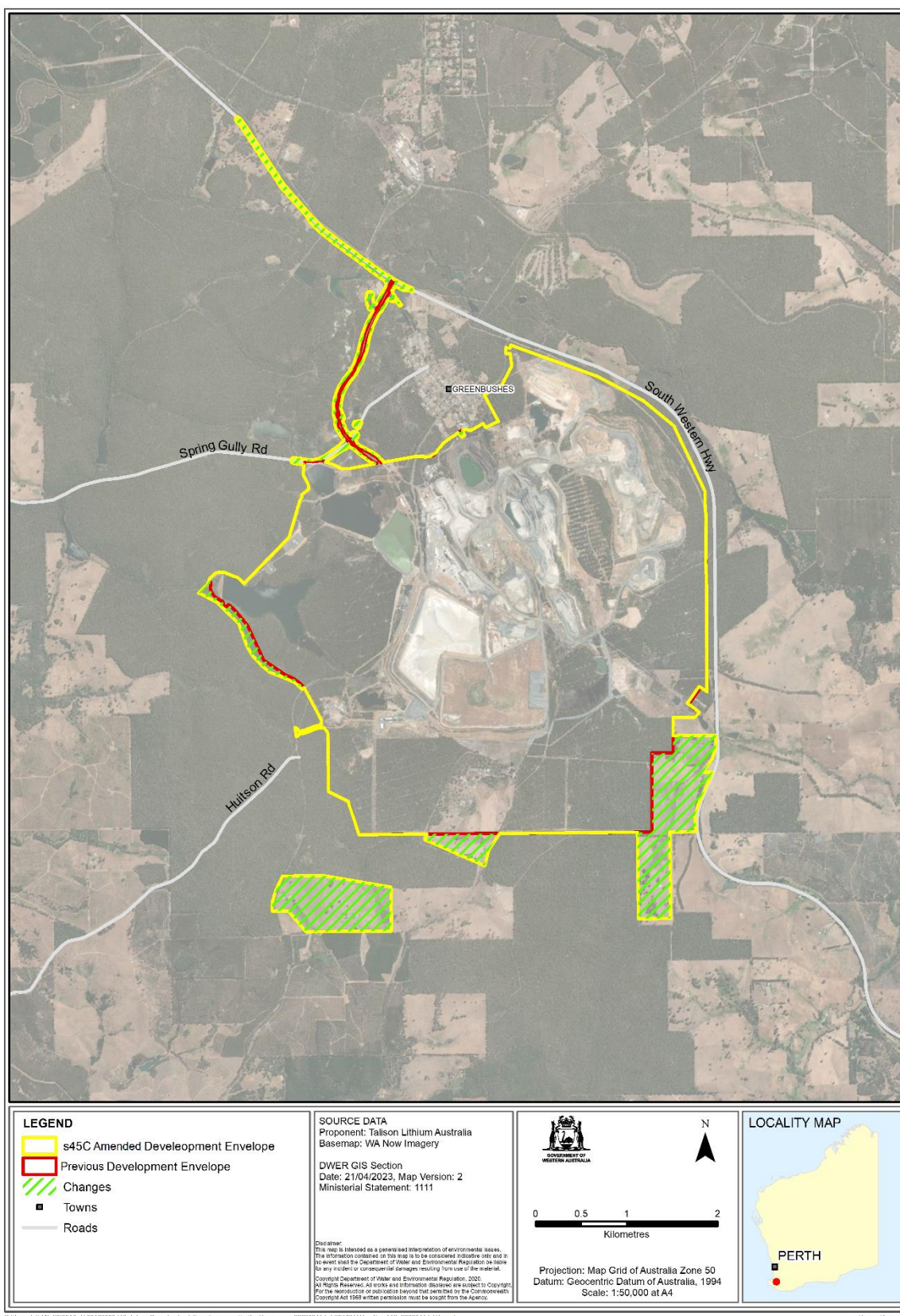
Scope 2	0 t CO <sup>1</sup> -e/year	
Scope 3	Minor emissions associated with the transport of equipment to the Proposal.	
Operation elements:		
Scope 1	Estimated to be up to 88,752 t CO <sub>2</sub> -e/year	
Scope 2	Estimated to be up to 292,068 t CO <sub>2</sub> -e/year	
Scope 3	Estimated to be 22,860 t CO <sub>2</sub> -e/year associated with the transport of product to port.	
Rehabilitation		
Areas disturbed during construction, but not required during operations will be rehabilitated. The remaining areas will be rehabilitated at the completion of the Proposal.		
Commissioning		
Commissioning of the infrastructure and operational elements will be undertaken subject to the operational limits above.		
Decommissioning		
Decommissioning of the infrastructure will be undertaken in accordance with approvals under the <i>Mining Act 1978</i> (WA).		
Other elements which affect extent of effects on the environment		
Proposal time*	Maximum project life	20 years
	Construction phase	5 years
	Operations phase	20 years
	Decommissioning phase	2 years

\* Proponents should only provide realistic timeframes to avoid unnecessary change to proposal applications at referral (section 38C), assessment (section 43A) or post assessment (section 45C).









**Figure 1. Changes to development envelope**