



Application for Licence Amendment

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

Licence Number	L9385/2023/1
Licence Holder	Mario Michele Giacci
File Number	DER2023/000173
Premises	Springhill Road Sand Quarry 10 Springhill Road Parkfield WA 6233 Legal description – Part of Lot 2 on Deposited Plan 36635 As defined by the Premises map attached to the Revised Licence.
Date of Report	12 June 2024
Decision	Revised licence granted

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

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1. Decision summary

Licence L9385/2023/1 is held by Mario Michele Giacci (Licence Holder) for the Springhill Road Quarry (the Premises), located at Part Lot 2 on Deposited Plan 36635.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during operation of the Premises. As a result of this assessment, Revised Licence L9385/2023/1 has been granted.

The Revised Licence issued as a result of this amendment consolidates and supersedes the existing Licence previously granted in relation to the Premises.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department 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 Amendment summary

On 12 March 2024, the Licence Holder submitted an application to the department to amend Licence L9385/2023/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The amendment application is seeking an expansion of the premises boundary to allow a second stage of sand excavation and processing to occur. The premises is a sand quarry with a mobile crushing and screening plant (Category 12) that processes up to 70,000 tonnes of sand per year. It is proposed that the screening plant will continue to be located within the current stage being excavated which means the plant will move into the new expanded area. No other changes to the premises operation have been proposed.

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 Amendment Report are detailed in Table 1 below. Table 1 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 1: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Dust	Screening of material, lift-off from stockpiles and material handling, vehicle movements	Air / windborne	<p>Water sprays will be utilised on the screening plant when required.</p> <p>Stockpiles, access roads and immediate extraction areas will be watered down using a water cart when required.</p> <p>Stockpile size will be limited to the anticipated cubic volume per vehicle movement for cartage on the following operational day.</p> <p>When visual dust emissions are observed water sprays and wetting down of operational areas will occur.</p>
Noise	Operation of screening equipment, material handling and movement of vehicles (including reversing alarms)	Air/windborne pathway	<p>Screening activities will only occur 6 weeks out of every annual period.</p> <p>Topsoil stripping will only occur on 3 weeks out of every annual period.</p> <p>Stockpiles will be placed to form a noise buffer between the operational area of the premises and the nearest residences.</p> <p>Construction of an earthen bund of at least 5 meters height immediately east of the screen and crusher, while operational.</p> <p>Operations will only occur between 7am and 6pm Monday – Friday and 7am to 12pm Saturday.</p> <p>Speed restrictions will be in place (30km/hour).</p> <p>All vehicles and plant equipment will be maintained.</p>
Sediment laden stormwater	Interaction of stormwater with operational areas of the Premises	Overland runoff	All stormwater will be directed to and retained within previously mined areas of the premises for infiltration to land.
Potentially contaminated stormwater	Spills of environmentally hazardous material	Infiltration to groundwater	<p>Hydrocarbons will not be stored on site.</p> <p>Bunds will be in place to contain potential spills when mobile refueling of plant equipment is occurring.</p> <p>Spill kits will be available across the operational area of the premises.</p>

3.1.2 Receptors

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

Table 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)).

Figure 1 below shows the location of the 4 closest residential receptors to the proposed premises boundary change.

Table 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Closest residential receptors	<ul style="list-style-type: none"> • 350 metres east of the premises boundary • 900 metres north east of the premises boundary • 1300 metres north west of the premises boundary • 1400 metres south west of the premises boundary <p>The Bureau of Meteorology's website data indicates a prevailing wind direction towards the west to north-west in the morning and to the east (towards Forrest 4 Highway) in the afternoon</p>
Town of Binningup	2.5 km North-west of the premises boundary (screened out due to distance)
Environmental receptors	Distance from prescribed activity
Proclaimed groundwater area	<p>Premises located within the South West Coastal Groundwater Area</p> <p>Groundwater ranges between 2.34 m AHD and 1.62 AHD across the premises.</p>
Geomorphic Wetlands – Swan Coastal Plain	Estuary-Peripheral wetlands located 750m west of the Premises
Threatened Ecological Communities	Premises mapped within the buffer zones of Tuart (<i>Eucalyptus gomphocephala</i>) woodlands of the Swan Coastal Plain
Clearing Regulations – Environmentally Sensitive Areas	<p>490m south of the premises boundary</p> <p>670m west of the premises boundary</p> <p>1.4km east of the premises boundary</p>
Threatened fauna	<p>Located within 1000m of the Premises boundary:</p> <ul style="list-style-type: none"> • <i>Calyptorhynchus latirostris</i> – Carnaby's cockatoo • <i>Hydromys chrysogaster</i> - water rat
Department of Biodiversity, Conservation	180m southeast of the premises

and Attractions (DBCA) Legislated tenure	
Native Title – Registered Determination Applications Gnaal Karla Booja Indigenous Land Use Agreement	Within premises boundary
Native Title – Determinations (National) South West Settlement	Within premises boundary



Figure 1: Location of sensitive human receptors.

3.1.3 Noise modelling

As the proposed boundary amendment will mean that the distance from the boundary to the closest sensitive receptor will be approximately 350 metres, the Licence Holder is required to undertake noise modelling to ensure that their proposed activities will be able to meet the assigned noise levels at sensitive receptors set in the *Environmental Protection (Noise) Regulations 1997* (Noise Regulations). The Licence Holder employed Lloyd George Acoustics (LGA) to undertake predictive modelling of noise emissions from the current and proposed areas on surrounding receptors.

The LGA report concluded that the assigned noise levels are predicted to be exceeded at the nearest sensitive receptor during the operational phase of the project when the screen, crusher and loader are operating together. The LGA report recommended that for each stage of

excavation a 5.0m high sand bund be constructed as close as possible to the east of the screening and crushing area to provide noise protection to properties to the east of the premises. With this bund in place the noise modelling indicated that the assigned noise levels outlined in the Noise Regulations will be met at all noise sensitive receptors surrounding the premises.

Technical review of the noise modelling report has been undertaken and it was determined that in general, the methodology of the noise modelling and assessment seems correct. The source sound power levels selected for the major equipment for the noise modelling seem in reasonable range for each type of equipment and therefore the predicted noise emission levels from both construction and operation phases seem reasonable. The recommended 5-meter sand bund has also been determined to be appropriate and effective based on the noise model.

The existing licence already requires the Licence Holder to ensure all noise-generating equipment be maintained to manufacturers standards and broad-band reversing alarms are to be used on vehicles. To ensure noise emissions meet the assigned noise levels as set in the Noise Regulations, it has been determined that it will be necessary to condition a requirement for the Licence Holder to maintain a 5-meter-high earthen noise bund immediately east of the crushing and screening area for each of the proposed stages of operation.

3.2 Risk ratings

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

Where the Licence Holder 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 Licence Holder'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 Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

The Revised Licence L9385/2023/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. crushing and screening activities.

The conditions in the Revised Licence 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	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
Operation								
Screening, crushing, unloading, loading and storage of material Vehicle movements	Dust	Air/windborne pathway causing impacts to health and amenity	Nearest resident 350 metres east of Premises boundary	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Condition 1: Infrastructure requirements, water truck Condition 2: preventing dust from crossing the premises boundary. Condition 3: stockpiles and raw material to be wetted down Condition 4: stockpile heights	No changes have been proposed to the current dust management measures being implemented at the premises. The existing conditions on the licence are sufficient in managing this risk event.
	Noise	Air/windborne pathway causing impacts to health and amenity	Nearest resident 350 metres east of Premises boundary	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Condition 1- updated to include noise bund requirement	Based on the noise modelling undertaken (see section 3.1.3, the licence holder has proposed to install earthen noise bunds east of the crushing and screening area within each stage of excavation to minimize noise emissions. This control has been

Risk Event					Risk rating ¹	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood			
								conditioned on the licence. The applicant must comply with the <i>Environmental Protection (Noise) Regulations 1997</i> .
	Sediment laden stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Groundwater underlying the Premises Estuary west of the Premises	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 5 Condition 6	Existing conditions on the licence adequately manage this risk event. No additional regulatory controls required.
	Potentially contaminated stormwater	Infiltration to groundwater potentially causing impact to groundwater quality	Groundwater underlying the Premises Estuary west of the Premises	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 7 Condition 8	Existing conditions on the licence adequately manage this risk event. No additional regulatory controls required.

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

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

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

Table 4: Consultation

Consultation method	Comments received	Department response
Shire of Harvey advised of proposal (13/05/2024)	Comments received by the Shire of Harvey on 29/05/2024 confirming that the amendment is consistent with the current Development Approval issued by the Shire for Lot 2 on Deposited Plan 36635.	Noted.
Lot 124 / 7553 Forest Highway advised of proposal (13/05/2024)	No comments received.	N/A
Licence Holder was provided with draft amendment on (6/06/2024)	Licence Holder replied on 6/06/2024 with no comments, waiving the 21-day period.	Noted.

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 5: Summary of licence amendments

Condition no.	Proposed amendments
Cover Page	Date of Amendment changed.
Condition 1. Table 1.	Inclusion of the requirement for the Licence Holder to construct and maintain an earthen noise bund for each stage of operation.
Schedule 1. Premises Maps (Figure 1)	Replace the premises map with an updated version showing the expanded premises boundary.
Schedule 1. Premises Maps (Figure 2)	Inclusion of a map showing the 5 additional stages of operation and the locations of the required noise bunds.

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. Lloyd George Acoustics (LGA) 2021, *Environmental Noise Assessment Sand & Limestone Extraction Pit Lot 2 Springhill Road Parkfield* - Reference: 21076527-01A