



Application for Licence Amendment

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

Licence Number	L7421/1995/10
Licence Holder	Hanson Construction Materials Pty Ltd
ACN	009 679 734
File Number	2011/007498
Premises	Hanson Bunbury Quarry 309 Lillydale Road NORTH BOYANUP WA 6237 Legal description – Lot 27 on Deposited Plan 419247 As defined by the Premises maps attached to the Revised Licence
Date of Report	28 May 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 L7421/1995/10 is held by Hanson Construction Materials Pty Ltd (Licence Holder) for the Hanson Bunbury Quarry (the premises), located at Lot 27 on Deposited Plan 419247.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the premises. As a result of this assessment, revised licence L7421/1995/10 has been granted.

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 Application summary

On 27 September 2023, the Licence Holder submitted an application to the department to amend licence L7421/1995/10 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). Table 1 below outlines the proposed changes to the existing licence.

Table 1: Proposed production capacity changes

Category	Current production capacity	Proposed production capacity	Description of proposed amendment
12	500,000 tonnes per annual period	750,000 tonnes per annual period	Temporarily increase production capacity by 250,000 tonnes per annual period for a duration of two years.

The premises opened in April 2000, where Bunbury Basalt, a hard rock material, is extracted, crushed and screened to be used for aggregates, road bases and other uses. The premises and the hard rock are classified by the Department of Mines, Energy, Industry Regulation and Safety (DEMIRS) as an area of Regionally Significant Basic Raw Material.

In this application, the Licence Holder has requested to temporarily increase production capacity of crushing and screening operations at the premises for up to two years in order to accommodate an increase in demand for hard rock products to service the Bunbury Outer Ring Road (BORR) project. The BORR is a state significant transport infrastructure project forming a major component of the planned regional road network for the Greater Bunbury area. The Licence Holder stated that only three operating hard rock quarries were capable of efficiently servicing the BORR Project requirements within 80 kilometres of Bunbury. The three quarries neighbour each other and include, from east to west:

- Hanson Bunbury Quarry, authorised for Category 12 activities up to 500,000 tonnes per annum under licence L7421/1995/10 (the premises);
- Hanson Gelorup Quarry, authorised for Category 12 activities up to 250,000 tonnes per annum under licence L4593/1983/13; and
- Holcim Bunbury Quarry, authorised for Category 12 activities up to 500,000 tonnes per annum under licence L4698/1967/13.

Further west of the Holcim Bunbury Quarry is the Gelorup residential area.

The BORR alignment traverses the Hanson Bunbury Quarry and Hanson Gelorup Quarry, which facilitates direct access to basalt hard rock stockpiles, reducing truck movements on roads. The neighbouring Hanson Gelorup Quarry is currently in care and maintenance and has not been operating since 2003.

In considering options for meeting the hard rock demands required by the BORR project, the Licence Holder considered it preferable to have the Hanson Gelorup Quarry remain in care and maintenance, and instead amend licence L7421/1995/10 to operate the Hanson Bunbury Quarry at 750,000 tonnes per annum. The basis of this decision was to minimise potential impacts of emissions and discharges to surrounding land uses. The Hanson Bunbury Quarry is further away from the Gelorup residential area, compared to the non-operational Hanson Gelorup Quarry. Limited stakeholder consultation undertaken by the Licence Holder also found this to be the preferred option. The Licence Holder has committed to retaining the Hanson Gelorup Quarry in care and maintenance while the premises is operating at 750,000 tonnes per annum.

The proposed increase in crushing and screening activities will be achieved through utilising existing infrastructure at the premises for longer periods during each working day. That being said, the quarry's operating hours will not vary. Crushing and screening will be undertaken in 'campaign' volumes, as required by the BORR project demands, estimated to be typically 100,000 tonnes to 150,000 tonnes across a 3–5-month period. No additional blast campaigns will be required to be undertaken as a result of the increased production capacity.

In addition, the CEO has made the following changes to update the format and appearance of the revised licence L7421/1995/10:

- removed any redundant conditions;
- updated conditions to current licensing format and
- revised and realigned condition numbers for numerical consistency.

The changes made are detailed further in Section 5.1.

2.3 Legislative context

In undertaking the risk assessment for the proposed activities, the department also considers other relevant legislative approvals. In addition to licence L7421/1995/10, operational activities at the premises are also regulated by the Shire of Capel (the Shire) under the *Planning and Development Act 2005* and *Shire of Capel Extractive Industry Local Law 2016*. Accordingly, development approval PA72/2020 and the associated extractive industry licence were granted to the Licence Holder on 30 September 2020 for a duration of 20 years.

The approvals granted are subject to conditions, including the following:

- Separation distances between screening operation from general public, including public roads and dwellings.
- Restrictions on hours for operation and blasting activities, including notification requirements for blasting.
- Retention of existing noise bunds for the duration of excavation activities.
- Limit on maximum material stockpile size (i.e., no greater than 100,000 m³ at any one time).
- Management of onsite storage of hydrocarbons, refuelling, repairing and refuelling activities.
- Restriction on extractive industry intercepting the local water table.
- Requirement to routinely review rehabilitation bond.

- Requirement to submit annual report to the Shire on extraction activities, volume of material remaining at the premises, and progress of rehabilitation works.

2.4 Compliance history

In undertaking the risk assessment for the proposed activities, the department will consider the compliance history of the Licence Holder. In reviewing the Annual Audit Compliance Reports and Annual Environmental Reports from 2018 to 2023, the department has identified the following non-compliances:

1. On 27 June 2019, the Licence Holder exceeded relevant surface water quality limit specified under condition 2.5.2 of the existing licence, where the concentrations of hydrocarbons at the eastern gate drain (WE) and western gate drain (WW) monitoring locations. Investigations found that the hydrocarbon capture boom may have been compromised. Subsequently, the capture boom was replaced. Sampling in the following month found only exceedance at the eastern gate drain (WE), followed by no hydrocarbons detectable during the September monitoring event.

In addition to non-compliances, the Licence Holder is required to maintain and provide to the department a record of complaints received. The department also maintains a record of complaints received on the operation of the premises. Relevant complaints from the 2018 to 2023 period are summarised as follows:

1. On 7 December 2021, a complaint was made by a nearby resident regarding (i) red dust settling at their dwelling and (ii) excessive dust observed from the crushing and screening plant. While the former issue was unlikely to be due to premises operation as the quarry dust is normally light grey in colour, the latter issue was due to the Licence Holder running out of water due to mechanical issues at their water dam. The issues were rectified in the following days. Additional dust sprinklers were also installed at the plant to better manage fugitive dust emissions.
2. On 9 February 2022, the Licence Holder was contacted by the Shire, as well as a number of nearby residents due to visible dust being emitted from the premises. This was due to the premises' water truck being temporarily out of service. The issue was resolved through the temporary hire of a water truck to service operations, while the site water truck was undergoing repairs.
3. On 14 April 2022, the Licence Holder was contacted by the Shire, as they had received a few complaints regarding a blasting event (HB31). The blast was monitored and peak particle velocity measured at monitoring sites ranged between 1.64 mm/sec and 2.42 mm/sec, which did not exceed the relevant limit specified in condition 2.4.1 of the existing licence. The Licence Holder had stated that it was not known how this specific blast event was felt more than other blasts, but the geology and location of the blast could send more vibration in a particular direction. There was a total of nine blasts undertaken in 2022.
4. On 13 October 2022, a complaint was made by a nearby resident regarding a blasting event (HB36). The blast was monitored and peak particle velocity measured at monitoring sites ranged between 1.25 mm/sec and 4.32 mm/sec, which did not exceed the relevant limit specified in condition 2.4.1 of the existing licence. The Licence Holder had stated that it was not known how this specific blast event was felt more than other blasts, but the geology and location of the blast could send more vibration in a particular direction. There was a total of nine blasts undertaken in 2022.
5. In 2023 (date unspecified), a complaint was received by a nearby resident, noting that their dwelling was dusty and that they had noticed excessive dust driving along Allenville Road. The Licence Holder increased dust management measures in response to the complaint. The Licence Holder also noted that the dwelling was over one kilometre away

from the premises and is closer to the neighbouring Holcim Quarry and the Bunbury Outer Ring Road project.

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 2020b).

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 2 below. Table 2 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 2: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Dust	Screening, crushing, unloading, loading and storage of material at a production capacity of 750,000 tonnes per annual period; Vehicle movements.	Air / windborne pathway	<ul style="list-style-type: none"> Automatic water sprays will be utilized on primary hopper, crusher and various conveyors; Dust covers and dust suppression equipment on the plant equipment will be maintained and serviced regularly; Product will be washed to minimise fines in product stockpiles; Sprinkler and water cannon will be used to wet down stockpile areas; Processing and stockpile facilities are located towards the rear of the premises, further away from nearby residents at sufficient distance for mitigate dust impacts; Vegetated screening bunds are present at approximately 3 m in height throughout the northern, western, southern and at parts of the eastern boundary of the operational area; Frequent dust suppression will be undertaken on roads at the premises; and Loaded trucks leaving weighbridge will trigger automatic wet down sprays, with loads on trucks covered when they have potential to generate dust.

Emission	Sources	Potential pathways	Proposed controls
			<p>Conditions in the existing licence relating to management of dust emissions include:</p> <ul style="list-style-type: none"> • 2.3.1 – Use all reasonable and practical measures to prevent and/or minimise dust emissions; • 2.3.2 – Ensure that no visible dust generated crosses the premises boundary.
Noise			<ul style="list-style-type: none"> • Vegetated screening bunds are present at approximately 3 m in height throughout the northern, western, southern and at parts of the eastern boundary of the operational area; • Primary crusher is located below ground level to minimise noise impacts; • Four sea containers will be installed (in a 2x2 configuration) adjacent to the primary crusher, in line with nearby residential receptors, to further attenuate noise emissions; • All noise suppression measures on the crushing and screening plants will be closely monitored; • Operating hours will be restricted to 06:00 am to 06:00 pm on weekdays, and 07:00 am to 12:00 pm on Saturdays. Processing activities, including crushing and screening, will only occur between 07:00 am to 06:00 pm on weekdays, and 07:00 am to 12:00 pm on Saturdays; • Blasting activities will be undertaken such that they comply with internal Blast Management Plan and <i>Environmental Protection (Noise) Regulations 1997</i>, with a potential 5 dB reduction in air blast criteria at sensitive premises; • During each blasting event, air blast overpressure will be monitored at two of four noise monitoring locations; • Drilling, blasting and excavation will occur below ground level, with screening bunds and vegetation around the perimeter to provide additional shielding; and • Mobile equipment will be fitted with low frequency beepers, rather than audible sirens/beepers. <p>Conditions in the existing licence relating to</p>

Emission	Sources	Potential pathways	Proposed controls
			management of dust emissions include: <ul style="list-style-type: none"> 2.4.1. – Noise emission limits; 3.3.1 – Noise and vibration monitoring.
Sediment laden stormwater		Overland runoff during rainfall events	None proposed. Conditions in the existing licence relating to management of dust emissions include: <ul style="list-style-type: none"> 1.3.1 – Ensure uncontaminated stormwater is kept separate from contaminated stormwater; 2.2.1 – Authorised discharge point for overflow from water recycling ponds, comprising stormwater, contaminated stormwater, dewatering effluent and water residue; 2.2.2 – Discharge limits; 3.2.1 – Discharge monitoring.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020b), 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 3 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 2020a)).

Table 3: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Rural residential premises	The premises is surrounded by various rural dwellings in all directions, including to the east (390 m and 900 m), north-east (270 m), north (150 m), south-east (340 m) and south-west (370 m) of the premises boundary.
Industrial premises	Several industrial premises are located directly west of the prescribed premises. The Hanson Gelorup Quarry (occupied by Hanson Construction Materials Pty Ltd, holder of licence L4593/1983/13 for Category 12 activities) is located directly west of the prescribed premises, on the other side of Allenville Road. The quarry is currently in care and maintenance and the Licence Holder has committed to retaining the quarry in care and maintenance during the two-year period where the prescribed premises operated at the increased production capacity. West of the Hanson Gelorup Quarry is the Bunbury Quarry, occupied by Holcim (Australia) Pty Ltd, holder of licence L4698/1967/13 for Category 12 activities.

	Both quarries are located between the prescribed premises and the Gelorup residential area.
Urban residential premises	The Gelorup residential area is located approximately 1,000 m west of the premises boundary, west of the Hanson Gelorup Quarry.
Environmental receptors	Distance from prescribed activity
Native vegetation, including priority ecological communities (PEC)	<p>Areas of native vegetation surrounding the premises boundary have been classified as '<i>Banksia Woodlands of the Swan Coastal Plain ecological community</i>'. This ecological community has been classified as Priority 3 under the <i>Biodiversity Conservation Act 2016</i> and as 'Threatened' under the <i>Environmental Protection and Biodiversity Conservation Act 1999</i>.</p> <p>The closest area of PEC is located directly south and south-east of the premises boundary. Other areas of PEC are located to the west, north and north-east of the premises.</p>
Surface water body	<p>Patches of multiple use and resource enhancement wetlands are mapped across the premises, as well as surrounding land uses (including the neighbouring quarries).</p> <p>A conservation sump land, classed as an environmentally sensitive area, is located approximately 400 m south-east of the premises boundary.</p>

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020b) 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 4.

The revised licence L7421/1995/10 that accompanies this Amendment Report authorises emissions associated with the operation of the premises i.e., crushing and screening of basalt hard rock material.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 4. 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 at a production capacity of 750,000 tonnes per annual period for a period of two years. Vehicle movements	Dust	Pathway: Air / windborne pathway Impact: Impact to human and ecological health, as well as amenity	Residential dwellings (rural and urban areas) Industrial premises site workers Native vegetation (PEC)	Refer to Section 3.1	C = Minor L = Possible Medium risk	Y	Condition 1 Condition 2 Condition 5 Condition 6	Refer to Section 3.3.
	Noise	Pathway: Air / windborne pathway Impact: Impact to human health and amenity	Residential dwellings (rural and urban areas) Industrial premises site workers	Refer to Section 3.1	C = Minor L = Unlikely Medium risk Refer to Section 3.3	Y	Condition 1 Condition 7 – Restriction on crushing and screening operating hours Condition 8 Condition 14 Condition 15 – Noise investigation and monitoring requirement Condition 16 – Requirement where assigned noise levels cannot be complied with	Refer to Section 3.3.

Licence: L7421/1995/10

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				
							<p>Condition 23 – Requirement to submit noise investigation report</p> <p>Condition 24 – Requirements for content of noise investigation report</p>	
	Sediment laden stormwater	<p>Pathway: Overland runoff during rainfall events</p> <p>Impact: Impact to human and ecological health</p>	<p>Native vegetation (PEC)</p> <p>Surface water bodies</p>	Refer to Section 3.1	<p>C = Minor</p> <p>L = Unlikely</p> <p>Medium risk</p>	Y	<p>Condition 3</p> <p>Condition 4</p> <p>Condition 13</p>	N/A

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

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

3.3 Detailed risk assessment for premises operation at 750,000 tonnes per annual period

3.3.1 Overview of risk events

Crushing and screening of basalt hard rock is undertaken at the premises through a three-stage crushing and screening plant at the centre of the premises. A mobile crushing and screening plant is also present further north of the premises. As part of the proposed increase in production capacity, no additional crushing and screening infrastructure will be installed at the premises. Instead, the Licence Holder proposed to increase operating hours for these existing plants, while still adhering to the operating hours specified in Development Approval PA72/2020. As the crushing and screening plants are operated on a campaign-basis based on product demand, the length of these campaigns may also be longer.

The crushing and screening activities at the prescribed premises can cause dust and noise emissions, which may adversely impact human and ecological health, as well as visual amenity. The proposed increase in production capacity may potentially increase dust and noise emissions, further impacting surrounding sensitive receptors.

The operation of the two neighbouring quarries (e.g., Hanson Gelorup Quarry, Holcim Bunbury Quarry) may also result in greater cumulative emissions than those emitted solely from the premises. That being said, the Licence Holder has committed that no extraction, crushing and/or screening activities will be undertaken at the neighbouring Hanson Gelorup Quarry while the premises is operating under the increased production capacity for the next two years.

Several dwellings are located within 500 m of the premises boundary in all directions, including east (390 m), north-east (270 m), north (190 m), south-east (340 m) and south-west (370 m). These represent dwellings closest to the premises boundary, with more dwellings present further away from the premises. Furthermore, the Gelorup residential area is located approximately one kilometre west of the premises boundary.

The premises is also surrounded by remnant native vegetation and wetlands, especially to the south and south-east of the premises boundary, which is classified as Priority 3 threatened ecological communities.

A detailed risk assessment is required to determine whether dust and noise emissions from the proposed increase in Category 12 activities will result in an unacceptable risk to surrounding sensitive receptors.

3.3.2 Assessment of dust emissions

Based on stakeholder consultation undertaken for this application, the department understands that there were concerns on dust emissions from the premises operation to nearby residential dwellings. Concerns also extended to the excessive settling of dust into residential rainwater tanks, contaminating the water quality such that it was not acceptable for residential uses.

Controls and measures have been implemented at the premises to manage fugitive dust emissions. In particular, the Licence Holder sources water from a nearby dam to undertake dust suppression at the crushing and screening plant and on haul roads using a dedicated water truck. Additionally, the crushing and screening infrastructure are sited such that they are located on topographically low points and behind bunds, with a vegetated screening bund extending along the premises' western boundary.

In assessing the adequacy of these controls, the department considered the compliance history of the Licence Holder at the premises, including complaints received (either directly or indirectly through the Licence Holder). In the last six years (i.e., between 2018 and 2023), three incidents/complaints were made regarding fugitive dust issues from the premises. Two complaints were made during the summer months of 2021/2022. In both instances, excessive

dust generation was caused by a mechanical inability to undertake appropriate dust suppression at the premises while in operation (refer to Section 2.4 for further information). The Licence Holder was able to undertake corrective actions, including use of temporary water trucks. The department understands that, following corrective actions, no further complaints were received. Similarly, corrective actions were taken following the complaint received in 2023.

Based on the information available to date, dust emissions at the premises appear to be manageable, if appropriate dust mitigation measures are implemented.

3.3.3 Risk assessment of dust emissions and regulatory controls

Based on the risk assessment undertaken, the Delegated Officer considers the consequence and likelihood of the risk event to be **minor** and **possible**, respectively. The resultant risk rating is **medium**.

The temporary increase in production capacity to 750,000 tonnes per annual period for the next two years is unlikely to cause an unacceptable risk to sensitive receptors, given the controls proposed are implemented. To provide assurance that dust management controls are being implemented, the Delegated Officer has included the existing controls proposed by the Licence Holder in revised licence L7421/1995/10. Specifically, condition 1 has been added to the revised licence to specify operational and infrastructure requirements to manage dust emissions from the premises. Additionally, the Licence Holder is also required to comply with the conditions of their development approval PA72/2020.

No additional regulatory controls were determined to be required.

3.3.4 Assessment of noise emissions

To support the detailed risk assessment, the Licence Holder undertook an acoustic assessment of the activities at the premises (Herring Storer Acoustics 2023a). In addition to noise generated from the premises, the assessment considered cumulative noise from the neighbouring quarry operated by Holcim. The *Environmental Protection (Noise) Regulations 1997* (Noise Regulations) sets out assigned noise levels that must be complied with to manage noise impacts to nearby human receptors.

Based on the assessment, the primary source of noise emissions from the premises is the crushing and screening plant. The primary crusher is located at a topographical low point and surrounded by vegetated screening bunds that are approximately 3 m high near the northern, southern, western and parts of the eastern premises boundary (Herring Storer Acoustics 2023b). Noise generated from blasting activities were not considered in the assessment, as the assigned noise levels do not apply, in accordance with regulation 11 of the Noise Regulations.

Three residential dwellings located closest to the premises was considered in the assessment (Figure 1). However, the receptor R1, located at the south-west of the premises, was considered most likely to be impacted by noise emissions due to the close proximity to noise-generating infrastructure at the premises, as well as receiving noise emissions from both operational quarries.

The acoustic assessment compared predicted noise levels at residential dwellings to relevant assigned noise levels, namely the 'weekday' assigned noise levels for noise sensitive premises, which applied to crushing and screening operation occurring from Monday to Saturday (07:00am to 07:00pm). In addition, noise generated from loading of trucks with a loader prior to 07:00am in the morning, where 'nighttime' assigned noise levels would apply.

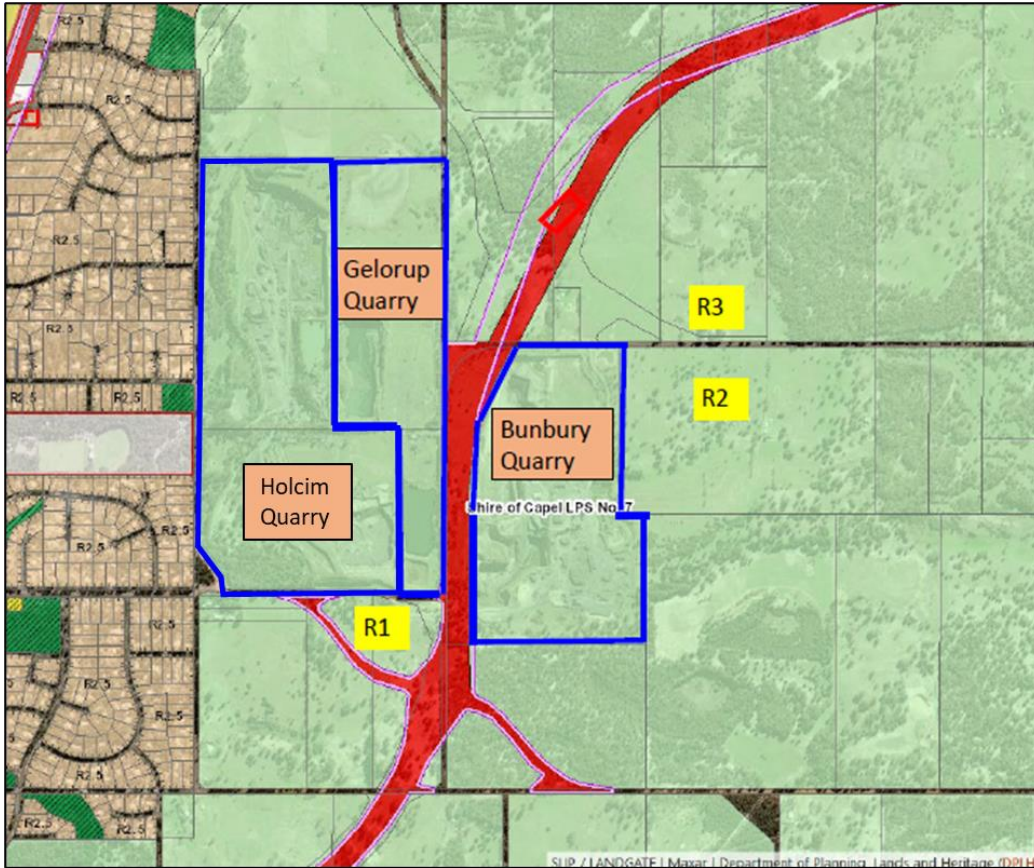


Figure 1: Prescribed premises, surrounding quarries and human receptors

The acoustic assessment predicted that the truck loading activities undertaken from 06:00am onwards would be able to comply with nighttime assigned noise levels. Noise emissions from crushing and screening activities at the premises were initially predicted to be 47 dB(A) at receptor R1. Where noise emissions from other neighbouring quarries (e.g., Holcim Bunbury Quarry; 42 dB(A)), the cumulative noise received at receptor R1 was predicted to be 48 dB(A), marginally exceeding the relevant assigned noise level by 1 dB(A). The predicted noise levels were based on worst case meteorological conditions, specifically where there is a temperature inversion occurring in conjunction with light winds in the direction from the noise source to sensitive receptors.

Table 5: Predicted noise level at human receptors

Operating scenario	Assigned noise level, dB(A)	Predicted noise level at R1, dB(A)
Truck loading activities	39	36
Crushing and screening activities	47	44 ¹
Crushing and screening activities (cumulative)	47	46 ¹

Note 1: Predicted noise level is based on the revised acoustic assessment detailed in Herring Storer Acoustics (2024), includes the use of sea containers as noise attenuation barriers.

The inclusion of the sea containers will likely enable the Licence Holder to comply with the relevant assigned noise levels in the *Environmental Protection (Noise) Regulations 1997*.

To ensure the operational activities are able to comply with assigned noise levels, the Licence Holder has committed to installing a series of sea containers, arranged in a 2x2 configuration, between the existing primary crusher and the receptor R1, to further attenuate noise emissions (Figure 2) (Herring Storer Acoustics 2024). Furthermore, the Licence Holder also clarified that the initial acoustic assessment (Herring Storer Acoustics 2023a) did not account for an existing bund at the edge of the Gelorup pit. Given the siting of the existing bund, the Licence Holder understands that it may provide further noise attenuation from the premises to the receptor R1 (Herring Storer Acoustics 2023b).

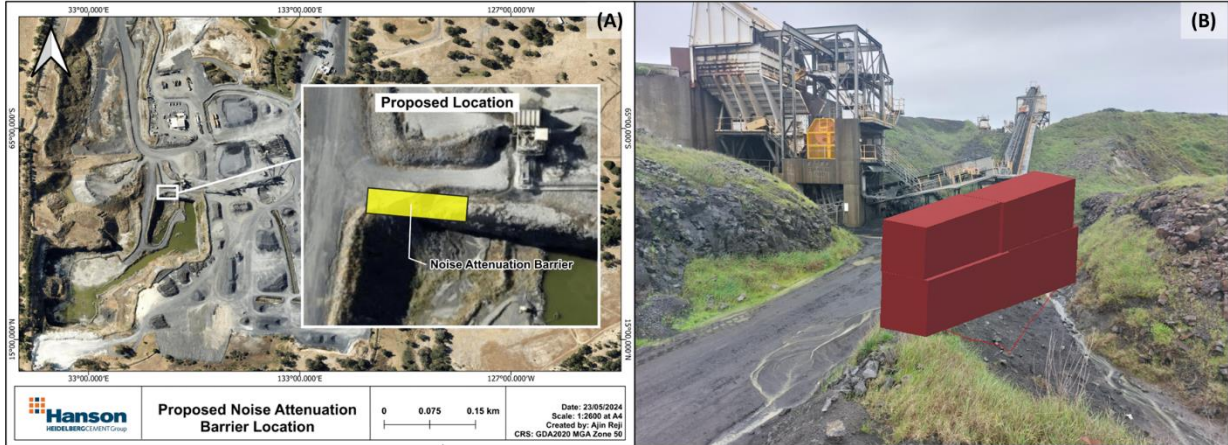


Figure 2: (A) Proposed location of sea container as noise attenuation barrier and (B)

3.3.5 Risk assessment of noise emissions and regulatory controls

Based on the acoustic assessment undertaken, the Delegated Officer considers the consequence and likelihood of the risk event to be **minor** and **unlikely**, respectively. The resultant risk rating is **medium risk**.

It is acknowledged that, while the acoustic assessment has demonstrated that the assigned noise levels can be complied with under worst-case meteorological conditions, there may still be some degree of impacts to amenity, particularly at the R1 receptor, which likely receives cumulative noise emissions from the premises, the Holcim Bunbury Quarry and construction of the BORR project.

The Delegated Officer has specified requirements in condition 1 of revised licence L7421/1995/10 to maintain the relevant noise-attenuating infrastructure (e.g., vegetated screening bund, sea containers etc) while crushing and screening operations are underway.

Condition 7 has been added to the revised licence to specify the operating hours for the crushing and screening infrastructure. The intention of the condition is to ensure that the premises and its operations comply with the relevant assigned noise level at the premises, such that no crushing and screening occurs during nighttime hours (i.e., between 07:00 pm and 07:00 am). The condition also considers the restrictions of operating hours specified in Development Approval PA72/2020.

Furthermore, conditions 15, 23 and 24 were added to the revised licence to require the Licence Holder to undertake noise monitoring to demonstrate compliance with the relevant assigned noise levels, as well as validate the noise levels predicted by Herring Storer Acoustics (2023a, 2024). Condition 16 was included to ensure that remedial actions were proposed and implemented if monitored noise levels were shown not to comply with relevant assigned noise levels.

4. Consultation

Table 6 provides a summary of the consultation undertaken by the department.

Table 6: Consultation

Consultation method	Comments received	Department response
<p>Application advertised on the department's website from 30 November 2023 to 21 December 2023.</p> <p>Application advertised in the West Australian on 4 December 2023 and in the Bunbury Southwest Times on 7 December 2023.</p>	None received.	N/A
Shire of Capel advised of proposal on 5 December 2023.	None received.	N/A
<p>Residential stakeholders advised on 30 November 2023.</p> <p>Twelve nearest residents were contacted by post.</p> <p>Eighteen residents who had provided comment to the department on previous applications were contacted by email.</p>	<p>Six responses received, all of which belonged to residents who had provided comments to the department on previous applications relating to the premises.</p> <p>Refer to Appendix 1.</p>	Refer to Appendix 1.
Licence Holder was provided with draft amendment on 26 February 2024.	<p>Between 14 March 2024 and 24 May 2024, the Licence Holder liaised with the department on the additional regulatory controls required to comply with the <i>Environmental Protection (Noise) Regulations 1997</i>.</p> <p>On 24 May 2024, the Licence Holder completed addressing the outstanding matters and provided additional information requested by the department.</p>	The department included the additional information provided in the amended licence and Amendment Report. There were no changes to the outcome of the risk assessment.

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 7 provides a summary of the formatting changes undertaken, while Table 8 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 7: Revision of licence conditions in this amendment

Existing condition	Condition summary	Revised licence condition	Conversion notes
1.1.1	Interpretation	N/A	Redundant condition. Revised to current licensing format as Interpretation section.
1.1.2	Definitions	N/A	Redundant condition. Revised to current licensing format as Table 9.
1.1.3	Australian or other standard	N/A	Redundant condition. Revised to current licensing format as Interpretation section.
1.2.1	Authorisation of emissions	N/A	Redundant condition. Revised to current licensing format as Interpretation section.
1.2.2	Written notice for changes to the premises	N/A	Redundant condition. Adequately regulated under section 53 of the EP Act. Deleted from licence.
1.2.3	Premises location	N/A	Redundant condition. Revised to current licensing format as Schedule 1: Maps.
1.2.4	Pollution control and monitoring equipment	N/A	Redundant condition. Adequately covered by alternative existing conditions. Deleted from licence.
1.2.5	Storage of environmentally hazardous materials	N/A	Redundant condition. Adequately regulated by the <i>Dangerous Goods Safety Act 2004</i> . Deleted from licence.
1.2.6	Recovery and removal of spills	N/A	Redundant condition. Adequately covered by <i>EP (Unauthorised Discharges) Regulations 2004</i> . Deleted from licence.
1.3.1	Prevention of contamination and containment of contaminated stormwater	3	N/A
2.1.1	Authorised emission point	4	Revised to current licensing format.
2.2.2	Emission limits	N/A	Amalgamated with condition 13.
2.3.1	Mitigation of dust emission	5	N/A
2.3.2	Dust emission (crossing boundary)	6	N/A
2.4.1	Noise and vibration limits	8	Revised to current licensing format.
3.1.1	Standards for monitoring	9	Updated to remove irrelevant standards.
3.1.2	Non-continuous or CEMS monitoring	10	N/A
3.1.3	Equipment calibration	11	Revised to current licensing format.

Existing condition	Condition summary	Revised licence condition	Conversion notes
3.1.4	Issues with equipment calibration	12	N/A
3.2.1	Emission monitoring	13	Revised to current licensing format.
3.3.1	Noise and vibration monitoring	14	Revised to current licensing format.
4.1.1	Record management	20, 21	Revised to current licensing format.
4.1.2	Licence awareness	N/A	Redundant condition. Revised to current licensing format. Deleted from licence.
4.1.3	Annual Audit Compliance Report	18	Revised to current licensing format.
4.1.4	Complaints management	17	Revised to current licensing format.
4.2.1	Annual Environmental Report	19	Revised to current licensing format.
4.2.2	Annual Environmental Report additional information	N/A	Amalgamated with condition 19.
4.2.3	Notification	22	Revised to current licensing format.

Table 8: Summary of licence amendments

Condition no.	Proposed amendments
Condition 1	Added new condition to specify operational requirements for relevant infrastructure and associated controls.
Condition 2	Added new condition to specify duration of temporary increase in prescribed activities.
Condition 7	Added new condition to specify operational hours at the premises.
Condition 15	Added new condition to require noise monitoring during normal crushing and screening operations and assessment against assigned noise levels.
Condition 16	Added new condition for actions to be taken if assigned noise levels cannot be complied with.
Condition 19	Updated Table 7 to replace reporting format of emission and discharge monitoring. Forms LR1 and NR1 have been removed.
Condition 23	Added new condition to require submission of noise monitoring investigation report.
Condition 24	Added new condition to specify requirements of noise monitoring investigation report.
----	Updated Table 9 to include definition of ' <i>suitably qualified acoustics professional</i> '. Updated Figure 1 of <i>Schedule 1: Maps</i> to show updated site layout; Included Figure 2 of <i>Schedule 1: Maps</i> to show location of noise attenuation barrier; and Removed forms LR1 and NR1 from <i>Schedule 2: Reporting and notification forms</i> .

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020a, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020b, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Herring Storer Acoustics 2023a, *Acoustic Assessment – Hanson Bunbury Quarry Temporary Amendment to Increase in Capacity*, Como, Western Australia.
5. Herring Storer Acoustics 2023b, *Hanson Construction Materials Pty Ltd (Hanson) Bunbury Screening Licence L7421/1995/10 – Licence Amendment for a temporary increase in screening production volume*, Como, Western Australia.
6. Herring Storer Acoustics 2024, *Bunbury Hard Rock Quarry Amendment – Response to Queries*, Como, Western Australia.

Appendix 1: Summary of comments from consultation with residential stakeholder

A total of six submissions were received from five individuals: five via email and one via phone call.

Submission item	Frequency	Summary of concern/issue	Department's response
<p>Summary of submissions: A total of six submissions were received during the consultation period between 30 November 2023 to 28 December 2023: five via email and one via phone call. All stakeholders who responded with comments had previously done so for a previous proposed amendment to licence L7421/1995/10. One of the stakeholders is resides at a dwelling within 1 km of the premises boundary. Due to overlapping concerns in the submissions received, submission items will be categorised by type of concern/issue raised, rather than addressing each submission individually.</p>			
1. Dust	4/6	<ul style="list-style-type: none"> (a) Fugitive dust from increased crushing and screening operations were an emission of concern. Residents noted that dust from the surrounding quarries was already an existing issue, especially on windy days. (b) There was concern that the chemical composition of dust would pose a risk to human health, based on the hard rock geology. (c) There were concerns that dust emissions may impact the nearby Bunbury Cathedral Grammar School. (d) It was highlighted that dust was not discussed in detail in the application form and supporting documentation provided for this application. 	<ul style="list-style-type: none"> (a) The department has considered the risk of fugitive dust emissions from crushing and screening activities as a result of the temporary increase in production capacity in a risk assessment (refer to Section 3.2). Dust mitigation measures proposed by the Licence Holder have been considered and conditioned in the revised licence L7421/1995/10 to ensure that dust is appropriately managed. (b) Refer to above. (c) The risk of fugitive dust emissions from the premises impacting surrounding human receptors have been considered in this risk assessment (refer to Section 3.1.2 and 3.2). The risk posed to the Bunbury Cathedral Grammar School is adequately addressed through considerations made to the rural and urban residential premises that are locate closer to the premises.
2. Blasting/vibration	4/6	<ul style="list-style-type: none"> (a) Vibration from blasting activities were an emission of concern. Residents noted that ground vibration could be felt and heard from existing blasting activities. There were concerns about the long-term structural integrity of residential dwellings in nearby areas, with some reports of cracks on buildings and rattling of windows and shelves within the dwellings. (b) It was highlighted that there was no mention of a proposed increase in blasting to supply sufficient 	<ul style="list-style-type: none"> (a) Blasting activities are not typically regulated under Part V of the EP Act but is instead regulated by the premises' development approval and extractive industry licence (PA72/2020), granted by the Shire of Capel under the <i>Planning and Development Act 2005</i>. The development approval contains conditions relating to blasting activities. That being said, the existing licence L7421/1995/10 does contain conditions relating to vibration monitoring and relevant limits. These conditions will remain in the revised licence. (b) No additional blasting was proposed as part of this proposed

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Submission item	Frequency	Summary of concern/issue	Department's response
		hard rock material for crushing and screening.	increase in crushing and screening production capacity. Existing blasting frequency was determined to extract sufficient material for crushing and screening operations.
3. Water resource and quality	3/6	<p>(a) There were concerns that the increased production capacity would require further abstraction from the local aquifers, noting that the surrounding dwellings are not part of the Water Corporation integrated water supply scheme, and are thus reliant on bore water and/or rainwater.</p> <p>(b) There were concerns that dust emissions from the surrounding quarries are settling within nearby residential rainwater tanks and contaminating the water quality, impacting residential water supplies.</p>	<p>(a) Abstraction of groundwater by the Licence Holder is not regulated under Part V of the EP Act but is instead regulated by the premises' groundwater abstraction licence (GWL67124(5)), granted by the department under the <i>Rights in Water and Irrigation Act 1914</i>. In 2023, the Licence Holder applied to amalgamate groundwater licences GWL67124(4) and GWL99602(4), combining the groundwater abstraction volume authorised, with no overall increase in abstraction volumes.</p> <p>(b) Dust emissions from the increased crushing and screening operation will be managed through dust mitigation measures proposed by the Licence Holder. These measures have been assessed and conditioned in the revised licence L7421/1995/10 (refer to Submission item 1).</p>
4. Noise	2/6	<p>(a) Noise emissions from the proposed increase in material movement and truck movements on arterial roads were an emission of concern. Additionally, the increased crushing and screening campaigns represented prolonged loss of amenity.</p> <p>(b) Regarding the noise assessment prepared by the Licence Holder, there was concern that the monitoring was undertaken at locations away from the residential areas and whether additional information was being withheld.</p>	<p>(a) The impacts of noise emissions from the proposed increase in crushing and screening activities, as well as truck movements, have been assessed by the department. To inform the assessment, the Licence Holder was required to undertake an acoustic assessment to demonstrate that the proposed activities would not result in noise levels that exceeded the assigned noise levels specified in the <i>Environmental Protection (Noise) Regulations 1997</i>. The Licence Holder is required to continue complying with the relevant assigned noise levels when undertaking crushing and screening activities.</p> <p>(b) The department understands that the locations considered in the acoustic assessment were based on the closest sensitive human receptor, as these receptors were considered most likely to be impacted (i.e., where the assigned noise level would be exceeded), whereas the residential areas are located further away from the premises.</p>
5. Miscellaneous	1/6	<p>(a) No communication was received from the Licence Holder prior to being contacted by the department for consultation. The lack of communication on the proposed increase in production capacity suggested</p>	<p>(a) While the department encourages applicants and instrument holders to undertake stakeholder consultation ahead of submitting an application, it is not a statutory requirement for the applicant to do so under Part V of the EP Act. For an application</p>

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Submission item	Frequency	Summary of concern/issue	Department's response
		<p>minimal interest/care for the impacts of quarrying operations on the surrounding residential stakeholders.</p> <p>(b) The premises is located on land zoned as 'Rural' and it is expected that activities within this zoning would have minimal impact on surrounding residential dwellings, which was considered not to be the case with the current quarrying activities.</p> <p>(c) Based on aerial imagery, there appears to have been no attempt to restore the ecological integrity of the mined areas.</p> <p>(d) There was concern that the sudden need to increase crushing and screening activities at the premises to meet hard rock demands appeared disingenuous as the BORR project has been in planning for a long period and that logistical demands would have been anticipated at an earlier time. Furthermore, there were concerns that the temporary increase in production capacity would encourage the Licence Holder to maintain the production capacity permanently at the end of the proposed two-year period.</p> <p>(e) The construction of the BORR project and the resultant change in road configuration was causing accessibility and safety issues around exiting nearby residential dwellings.</p>	<p>to amend an existing licence, the CEO is not required under Part V of the EP Act to seek comment from people who have a direct interest in the application (i.e., stakeholders) but may choose to do so, where appropriate, such as the case for this application.</p> <p>(b) Land zoning is not considered and/or regulated under Part V of the EP Act.</p> <p>(c) Rehabilitation activities for extractive industries on freehold land are not typically regulated under Part V of the EP Act but is instead regulated by the premises' development approval and extractive industry licence (PA72/2020), granted by the Shire of Capel under the <i>Planning and Development Act 2005</i>. The development approval contains conditions relating to a rehabilitation bond.</p> <p>(d) In response to this comment, the department has included a new condition (2) to limit the increased production capacity (750,000 tonnes per annual period) to a maximum of two years. Afterwards, it is intended that the production capacity for Category 12 activity returns to 500,000 tonnes per annual period. The Licence Holder may apply to maintain the production capacity at 750,000 tonnes per annual period or further increase production capacity in the future. However, that will be subject to a separate assessment in the future. At that time, the department will use the latest available information to undertake an updated risk assessment. Stakeholder consultation may also be considered. This risk assessment is only valid for a temporary production capacity of 750,000 tonnes per annual period for a two-year period.</p> <p>(e) The BORR project, as well as traffic, accessibility, and safety issues on public roads, are not regulated under Part V of the EP Act. These issues are managed by Main Roads Western Australia.</p>