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Application for Works Approval

Part V Division 3 of the Environmental Protection Act 1986

Works Approval Number	W6861/2023/1
Applicant ACN	Italia Stone Group Pty Ltd 119 060 543
File number	DER2023/000689
Premises	Lot 17, Torgoyle Road, WATTLEUP Certificate of Title Volume 1788 Folio 587
Date of report	12 July 2024
Decision	Works approval granted

Lauren Edmands A/Senior Manager, Resource Industries an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. **Decision summary**

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, the application 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 3 October 2023, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction works and time limited operations (TLO) relating to crushing and screening at the premises. The premises is approximately 10 km north of the Kwinana Town Centre.

The premises relates to the category 12 assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6861/2023/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6861/2023/1.

The site will be operated as a sand and limestone quarry with raw materials needing to be crushed and screened as required. The extraction will operate in accordance with the Development Approval which was issued by the Western Australian Planning Commission (WAPC) and the City of Cockburn (DA22/0606-4411456) for extractive industry and bulk earthworks on the site. More specifically, the approval permits sand and limestone extraction across the entire extent of Lot 17, stockpiling, transport and other activities. As extraction activities are not regulated by DWER as a prescribed premises, these have not been considered in this risk assessment.

The use of the mobile crushing and screening equipment will be dependent on the market demand of a particular product and will not be used continuously. It's anticipated that the equipment will be brought onto the site as required and removed when no longer needed.

Throughput rates have been estimated at approximately 200 000 tonnes per annum. Extraction will commence near the north-east corner of the site and will gradually extend in a southerly direction. Screening only is necessary to extract sand from the eastern portion of the land. Crushing and screening will only be required once works commence on the western half of the lot.

A summary of the operational procedure for the site is summarised below:

- Construct fencing and crossovers at locations indicated in approvals;
- Push up topsoil across eastern half of the site use this material to build bunds along property boundaries;
- Commence extraction of sand in north-eastern corner of the site (most distant from receptors). For this operation, only a screen would be required – no crushing to be carried out. Screen to be located in the north-east corner of the site;

- Extract sand moving in a southerly direction. All limestone recovered from the screening works to be stockpiled for future crushing;
- Extract material in eastern half of the site to full depth permitted under the Development Application. Crushing and screening plant to be located in the north-east corner of the site (same location as previous screening plant, but at full depth);
- Commence extraction of limestone in the north-west corner pushing material eastwards towards the processing plant;
- Finalise limestone extraction of the south-west corner, again with the plant located to the north.
- Limestone will be placed onto trucks for carting from the site;
- At decommissioning the slopes will be battered to a safe and stable condition as the site will be prepared for future development.

Operation is expected to occur over 5 or 6 days per week during the approved operation hours throughout the duration of the year. Approved hours stated in the current approved Development Application are "No earthworks shall be carried out after 6:00pm or before 7:00am Monday to Saturday and not at all on Sunday or public holidays".

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction / 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.

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Installation of mobile crushing and screening plant Site establishment works Vehicle movement	Air / windborne pathway	 The following controls are outlined in the Works Approval Holder's Dust Management Plan: Erect a wind break fence along the southern and eastern boundary of the site After each stage of bulk earthworks and excavation is completed and if area is to remain inactive for a period of time, dust suppressants can be used. Maintain all equipment in good working condition.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls			
			Continue training programs on dust control requirements to all workers and contractors.			
			• Any dust complaints will be recorded. Any complaints received will be reviewed by the operator to asses the legitimacy of the complaint, the aspects of operation that triggered the complaint and management actions required to address the issues raised to bring operations into line with conditions imposed by the City of Cockburn under the Extractive Industries Licence.			
			 Any actions deemed necessary following assessment of complaint will be immediately undertaken to bring operations into line with relevant legislation, regulation and licence conditions. 			
			 Non-compliances and dust related complaints to be reported to DWER. 			
			 Intentions to carry out a letter drop to the neighbouring residents on the commencement of quarrying to advise them of the operation and provide a contact should they have any complaints. 			
			 Weather conditions to be monitored and operations should not commence and/or will cease when conditions may impact sensitive receptors. 			
			 Vehicles and machinery to be inspected to ensure they are not carrying clods/slurry of soil. 			
			• Truck loads to be covered prior to exiting site.			
			Construct a 20 m sealed crossover at site entrance.			
			 Install a cattle grid at end of sealed crossover to help dislodge material from tyres. 			
			 Watercarts to be utilised at all times during operations to wet down areas driven on by machinery and trucks to prevent dust generation. 			
			 Vehicle speed limits low throughout site (15 km/hour). 			
			Place stockpiles in areas which have screening protection from the walls of the pit.			
			 Reduce the height of stockpiles to ensure that pit walls can provide appropriate screening. 			
			 Reduce drop heights when placing limestone onto stockpile. 			
			Crushing and screening specific:			
			 Ensure water sprays or water carts used when crushing and screening. 			
			Place equipment at the lowest part of the pit			

Emission	Sources	Potential pathways	Proposed controls
			 where possible so that the walls of the pit provide additional screening. Ensure mobile crushing and screening equipment is provided with dust extraction, shielding or filtration systems as appropriate. Instruct operators to visually monitor for dust creation and to cease operation if dust is leaving the premises boundary. Clean and replace filtration equipment if and when required.
Noise	Installation of mobile crushing and screening plant Site establishment works Vehicle movement (including reversing alarms)	Air / windborne pathway	 The quarry is located within the Hope Valley – Wattleup Redevelopment Scheme, where the intent is for land to ultimately be developed as Industrial over time. It is noted that the surrounding noise sensitive receptors are owned by the Development WA or WAPC in anticipation of future development of the area. Recommendations from the Lloyd George Noise Modelling Report includes: Boundary bunds to the easterly, southerly and westerly boundaries located at the highest level atop the natural ground. Height of bunds should be as high as reasonably practicable to a minimum of 3 metres; Noise bunds should also be created as close as reasonably practicable to the crusher/screening operation. Height of bunds should be as high as is reasonably practicable to a minimum of 10 metres; or if this is not feasible to undertake noise control at the crusher including installation of an acoustic muffler to exhaust, orientation of exhaust to north, consideration of close fitting acoustic curtains/panel in conjunction with smaller height bunds. Orientation of the crusher screening plant so as the exhaust is pointing to the north to limit noise emissions; Make use of radio communication between wheeled loader and road truck operators to allow for positioning and loading of trucks without the use of horn signals as far as practicable; Installation of an acoustic muffler of crusher and consideration of close fitting acoustic curtains/panels; Mobile plant tonal reversing alarm alternatives should be considered where safe; Selection of the quietest plant possible; Ensure that trucks aren't existing and entering

Emission	Sources	Potential pathways	Proposed controls
			 the site at the same time where practicable, so as to minimize noise impact at nearby receivers; Only one haulage truck operational on site at any one time where practicable; Purchasing staff need clear policy guidelines to procurement of new plant to ensure that noise levels to not increase over time; Maintenance staff may need to implement a maintenance program to prevent noise levels increasing over time. Revised noise modelling has been provided and is discussed further in section 3.3
Operation (inc	cluding Time Limit	ed Operations	s)
Dust	Operating of mobile screening plant Operation of crushing plant	Air / windborne pathway	As above
Noise	Operating of mobile screening plant Operation of crushing plant	Air / windborne pathway	As above
Discharge of contaminants to land (e.g. hydrocarbon spills)	Hydrocarbon storage, spills and leaks	Stormwater runoff	 No fuels, lubricants or chemicals will be stored on site. Major servicing to be done off site. Regularly inspect fuel, oil and hydraulics fluids on machinery for wear or faults. Ensure that equipment for the containment and clean-up of spills is provided on site. If a spill occurs isolate the area and identify the substance. Ensure the source is restricted. Minor spills to be scooped up with the resource. Large spill can be absorbed using polypropylene pads and scooped up with soil, which may be removed of site and disposed of at an appropriate location.

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	d environmental	receptors ar	nd distance f	rom pres	cribed
activity							

Human receptors	Distance from prescribed activity
Neighbouring resident to the east (R1 and R2)	Two houses located 27 m from the site boundary – confirmed residents required to vacate property and properties will be demolished. R1 will be handed back to DevelopmentWA by 17 June 2024. R2 to be vacated and handed back to DevelopmentWA by 14 July 2024.
Neighbouring resident to the south (R5)	One house located 20 m from the site boundary
Neighbouring resident at the south-west corner (R6)	One house abutting the site boundary
Neighbouring resident to the south-west (R7)	One house located 75 m from the site boundary
Environmental receptors	Distance from prescribed activity
Beeliar Regional Park and Thomsons Lake Nature Reserve	1.1 km to the east and 1.3 km to the west respectively
Thomsons Lake (RAMSAR site)	1.3 km to the east
Priority 4 flora located to the north and east associated with the Thomsons Lake Nature Reserve	Approximately 1.1 km to the east
Thomsons Lake Registered Site (18938 and 3292)	1 km to the east





Figure 1: Distance to sensitive receptor

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3.2 Risk ratings

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

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

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

Risk events					Risk rating ¹	Annlinent		luctification for	
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood	controls sufficient?	Conditions ² of works approval	additional regulatory controls	
Construction									
Placement of screen and associated equipment including vehicle movements (reversing beepers).	Dust	Air / windborne	Residential	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Condition 1 – infrastructure and equipment Condition 6 – time limited operation requirements	The Delegated Officer is satisfied applicant controls are sufficient and as such, the works approval includes applicant controls within conditions.	
	Noise	patnway causing impacts to health and amenity	immediately adjacent to the premises	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Condition 1 – infrastructure and equipment Condition 6 – time limited operation requirements	See section 3.3.	

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Risk events					Risk rating ¹	Applicant		luctification for		
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood	controls sufficient?	Conditions ² of works approval	additional regulatory controls		
Operation										
(including time-limited-operation	ions operations)				-			-		
Screening, crushing, unloading, loading and storage of material Vehicle movements	Dust	Air / windborne pathway causing impacts to health and amenity	Residential receptors immediately adjacent to the premises	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Condition 6 – time limited operation requirements Condition 8	The Delegated Officer is satisfied applicant controls are sufficient and as such, the works approval includes applicant controls within conditions.		
	Noise	Air / windborne pathway causing impacts to health and amenity	Residential receptors immediately adjacent to the premises	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Condition 6 – time limited operation requirements Condition 7 – hours of operation Conditions 9 – 17 – TLO noise monitoring and compliance reporting	See section 3.3. The Delegated Officer has determined that due to the very close proximity of sensitive receptors, noise monitoring during TLO is required following the installation of both the screening plant and the crushing plant.		
	Sediment laden stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Thomas Lake Nature Reserve approximately 1 km away	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	N/A	This emission is adequately managed by the general provisions of the EP Act and the Environmental Protection (Unauthorised discharge) Regulations 2004.		

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

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

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3.3 Detailed risk assessment for noise

3.3.1 Hazard characterisation and potential impacts

3.3.2 Acoustic assessment

The initial application submitted on 3 October 2023 included Acoustic Modelling which, when reviewed by technical noise experts within the Department, showed that whilst the proposed mitigation/management measures to reduce the noise impacts on receptors were deemed effective, they were not enough to bring noise emissions into compliance with the assigned levels specified in the *Environmental Protection (Noise) Regulations 1997* (Noise Regulations).

On 18 March 2024, the applicant submitted a Revised Acoustic Model which was reviewed by the DWER's internal noise experts. In this Revised Noise Model, the Influencing Factors (IFs) of the sensitive receptors surrounding the premises have been recalculated, resulting in applicable daytime assigned noise level to be 55 dB(A) (LA10) at all closest receptors, demonstrative compliance with the Noise Regulations.

The revision of the IFs was undertaken, following recommendation from DWER's internal noise experts of the initial application. It was identified that as the proposed operation and its surrounding neighbouring receptors were all located within Area B of the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy Approval Order 1999*, Lloyd George Acoustics might have underestimated the IFs, as well as the applicable assigned noise levels at the closest sensitive premises. DWER's technical experts support the revised IFs.

Based on the noise revised modelling results, by implementing all the noise mitigation and management measures, noise emissions from the proposed operations will comply with the actual assigned noise level at all neighbouring sensitive receptors. The results indicated that they will be able to meet the requirements of the Noise Regulations and therefore be compliant.

It is important to note, that the revised calculations are based on the operations occurring in the north-west corner of the site, which is furthest from the receptors. The applicant has stated that processing will commence in this area until surrounding sensitive receptors have been vacated (via end of lease and demolition).

3.3.3 Criteria for assessment

The criteria for assessment of noise emissions are the assigned noise levels outlined within the *Environmental Protection (Noise) Regulations 1997.*

3.3.4 Applicant controls

Refer to section 3.1, Table 1 for a list of Applicant Controls.

3.3.5 Key Findings

The Delegated Officer has reviewed the information regarding noise emissions and has found:

1. The revised noise modelling is adequate.

2. The noise modelling demonstrates the *Environmental Protection (Noise) Regulations* 1997 can be complied with when operations are limited to the north-west premises.

3. The applicant has outlined that processing will be limited to the north-west corner of the premises, until the receptors leases are terminated and the residential premises demolished.

4. The Licence which follows the works approval will be conditioned to limit processing to the north-west corner of the premises, until such time that the residential premises are

demolished. The Licence Holder will be required to submit evidence to the department with an application to amend the licence to authorise processing in the southern and eastern sections of the premises.

3.3.6 Consequence

Based on the proximity of receptors and the results of the noise modelling, the Delegated Officer has determined that noise emissions from the operations could cause mid level impact to amenity. Therefore, the Delegated Officer considers the consequence to be **Moderate**.

3.3.7 Likelihood of Risk Event

Based on the proximity of receptors and the results of the noise modelling, the Delegated Officer considers the likelihood of impacts to human health to be **Possible**.

3.3.8 Overall rating of noise emission to risk

The Delegated Officer has considered the consequence and likelihood ratings described above with the risk rating matrix from DWER's *Guideline: Risk Assessments* and determined that the overall rating for noise emissions is **Medium**.

4. Consultation

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

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 20 August 2021	None received	N/A
Residential receptors advised of proposal on 5 December 2024	Three submissions received, all with concerns relating to noise and dust emissions.	Stakeholder comments are taken into consideration, in particular receptors located within close proximity of the premises boundary. Noise and dust emissions are discussed in Sections 3.1 and 3.3 of this report.
Local Government Authority advised of proposal on 5 December 2024	No response received.	N/A
Applicant was provided with initial draft documents on 22 February 2024	The Applicant resubmitted the noise modelling to demonstrate compliance with the <i>Environmental Protection</i> (<i>Noise</i>) <i>Regulations 1997.</i> See section 3.3 for details.	The revised noise modelling was reviewed by the internal noise experts, confirming compliance can be met. The risk assessment was recommenced.
Applicant was provided with updated draft documents on 10 May 2024	See Appendix 1	See Appendix 1

Applicant was	Confirmation received on 11 July 2024 that the applicant has no further	N/A
draft documents on 24 June 2024	comments and wishes the for the works approval to be issued.	

5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls 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. Landinsights 2023, Application for Licence, prepared for Italia Stone Group, Lot 17 Torgoyle Road, Wattleup, Mt Lawley, Western Australia.

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

Condition	Summary of applicant's comment	Department's response
Decision Report:	Applicant was requested to confirm approved hours of work.	Section 2.2 has been updated to reflect these hours.
Section 2.2	The application has confirmed the current approved Development Application states "No earthworks shall be carried out after 6:00pm or before 7:00am Monday to Saturday and not at all on Sunday or public holidays."	
Table 1	Applicant was to confirm whether letters to residents had been delivered.	Table 1 has been updated to reflect this.
	Applicant commented that they have not been. The intention is to carry out a letter drop to neighbouring residents on the commencement of quarrying to advise them of the operation and provide a contact should they have any complaints.	
Table 1	Applicant was requested to confirm speed limit on site as part of dust controls. Applicant confirmed the limit will be 15 km/h	Speed limit added to the controls table.
Material Changes	The Applicant advised that the two sensitive receptors located to the east of the premises are currently in the process of being evicted with the dwellings scheduled for demolition. An email from DevelopmentWA has been provided to the department confirming this.	The email states that the notice to vacate is effective by 11 th July 2024 and 14 th July 2024 for the two properties (R1 and R2 respectively). As such, Table 2 has been updated to reflect this.
Material Changes	The Applicant also advises that a series of test pits at the premises has been completed to provide greater certainty on the material expected to be extracted. This additional site investigation works shows that "the eastern half of the property comprises predominately sand with some limestone pinnacle located sporadically, with the density of limestone pinnacles increasing as you head westwards, such that near the western boundary the material comprises predominantly limestone with some	Given the removal of receptors R1 and R2, the change to staging will not change the risk assessment shown in Table 3. Section 2.2 of the Decision Report has been updated to reflect the updated staging sequence. The Premises Map in Schedule 1 of the Licence has also been updated to reflect the correct staging.
	sand pockets. This would therefore result in differing operations for the extraction and production of differing materials whereby only screening would be necessary to extract sand from the eastern portion of the land, whilst the originally states (and noise assessed) crushing and screening would only be required once works commence on the western half of the	screening only, and the applicant has stated noise monitoring will be carried out during this time during time limited operations.

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