



## Application for Licence Amendment

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

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<b>Licence Number</b>	L4511/1967/14
<b>Licence Holder</b>	Midland Brick Pty Ltd
<b>ACN</b>	635 664 710
<b>File Number</b>	2012/002146-1
<b>Premises</b>	Midland Brick 321 Great Northern Hwy MIDDLE SWAN WA 6056  Legal description –  Part Lot 72 on Plan 408605 (72 Eveline Road, Middle Swan) Lot 9007 on Plan 422796 (321 Great Northern Highway, Middle Swan), and Lot 111 on Plan 422796 (6 Bassett Road, Middle Swan)  As defined by the coordinates in Schedule 2 of the Revised Licence
<b>Date of Report</b>	26 June 2023
<b>Decision</b>	Revised licence granted

**Amine Fisher**

**A/Manager Process Industries**

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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## 1. Decision summary

Licence L4511/1967/14 is held by Midland Brick Pty Ltd (Licence Holder) for the Midland Brick (the premises), located at 321 Great Northern Highway, Middle Swan.

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 L4511/1967/14 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 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

On 27 April 2023 the Licence Holder submitted an application to the department to amend Licence L4511/1967/14 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- remove kiln 11 and associated exhaust stack from the licence;
- reduce the assessed capacity from 1,000,000 tonnes to 500,000 tonnes in line with the removal of kiln 11;
- remove AQ1 monitoring point from the licence, and;
- amend the boundary to exclude kiln 11 from the prescribed premises area.

The licence holder no longer has legal access to the land on which kiln 11 and ambient monitoring station AQ1 are located. The number of kilns has gradually been reduced from 5 to 2 reflecting the reduction in production capacity.

Table 1 below outlines the proposed changes to the existing Licence.

**Table 1: Proposed production capacity changes**

Category	Current assessed production capacity	Proposed production capacity	Description of proposed amendment
41: Clay bricks or ceramic products manufacturing	1,000,000 tonnes per annum	500,000 tonnes per annum	The proposed amendments will remove a kiln from operation and the proposed production reflects the capacity of the remaining 2 kilns on the premises.

### 2.3 Part IV of the EP Act

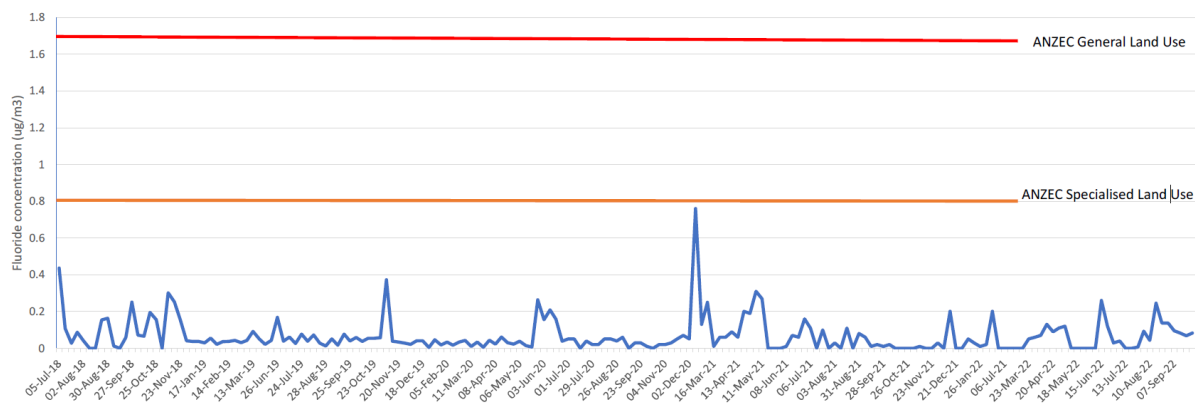
The premises are subject to Ministerial Statement 1124 which replaced MS 322 on 30 January 2020.

Condition 5 of MS 1124 relates to de-commissioning and requires the proponent to prepare a decommissioning and rehabilitation plan, and implement that plan, for the Brickworks.

Condition 6 requires five yearly vegetation health surveys to assess for impact of fluorides on vegetation in the vicinity of the brickworks and associated reporting requirements. The licence holder is required to meet the condition requirements.

## 2.4 Ambient fluoride monitoring

The licence holder and its predecessors have been monitoring ambient fluoride concentrations in air for over 20 years. The premises boundary change will result in the licence holder no longer having access to one of two ambient fluoride air monitoring stations (AQ1) because it will be within an area where a new subdivision is proposed to be developed. The results for ambient monitoring of fluoride at AQ1 since 2018 are illustrated in Figure 1.



**Figure 1: Ambient fluoride measurements at AQ1 since 2018**

The results illustrated in Figure 1 show that measured ambient fluoride concentrations have been below the ANZEC guidelines for specialised land use of  $0.8 \mu\text{g}/\text{m}^3$  for the past five years. Concentrations are also anticipated to decrease with the closure kiln 11.

Kilns 9 and 10 were retrofitted with four chamber lime scrubbers in 2007 and 2008 since the requirement for ambient fluoride measurement was first introduced in the early 1990s.

## 2.5 Premises boundary changes

An automated brickworks has been operated on the premises by various companies since 1982. In 2020 the premises and some adjacent land was sold by the then licence holder (Boral Bricks Western Australia Pty Ltd) to Hesperia Limited (Hesperia), a land development consortium. Hesperia entered into a lease with the current Licence Holder to operate the brickworks on the premises, and licence L4511/1967/13 was transferred to the licence holder in October 2020.

The landowner Hesperia is developing the area located to the east of Cranwood Crescent, into residential lots (Cranwood Crescent subdivision) and redevelopment of additional lots within the current brickworks premises boundary for urban and/or light industrial use is also planned. A licence amendment was granted on 31 August 2021 to modify the premises boundary to exclude areas to the east of Cranwood Crescent, which were approved for subdivision for residential purposes by the Western Australian Planning Commission (WAPC). At this time the stack for kilns 7 and 8 was also removed from the licence as an authorised emission point.

A further licence amendment was granted 2 August 2022 reducing the boundary to the outline of kiln 11 on the southern boundary (Figure 2). The Licence Holder has progressed with the

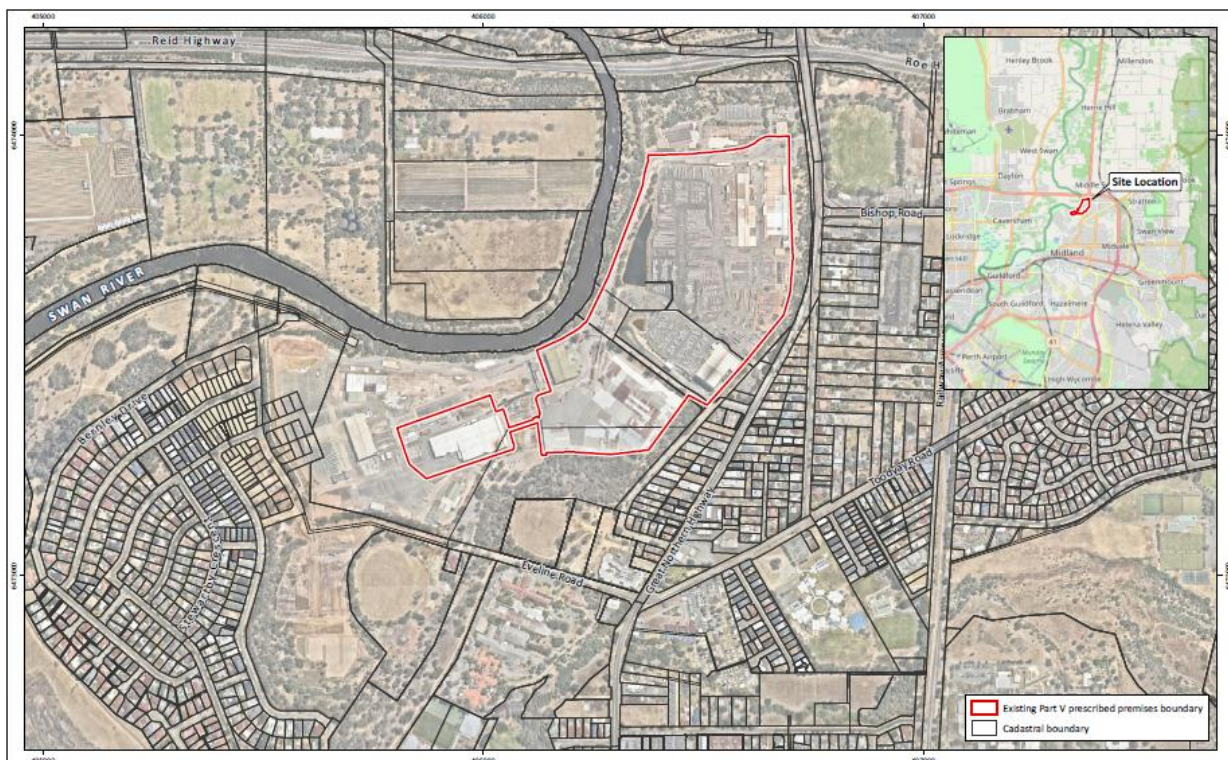
rationalisation of its activities within the premises boundary and has now decommissioned Kiln 11 and restricted associated activities further east to coincide with the impending change to its lease arrangements.

The Licence Holder currently holds a lease only for the north-eastern portion of the premises (north of Bassett Road) which kilns 9 and 10, and a masonry plant are located within, and has long term lease options to continue operation of the brickworks within this area. The licence holder had a short-term access lease, until 30 April 2023, for the portion of the premises on which kiln 11 is located.

The Licence Holder proposes to reduce the existing premises boundary to exclude the southern portion where kiln 11 is located but to retain the area on the southern edge where the clay shed is located. The proposed change will not result in a reduction in the distance to sensitive receptors.

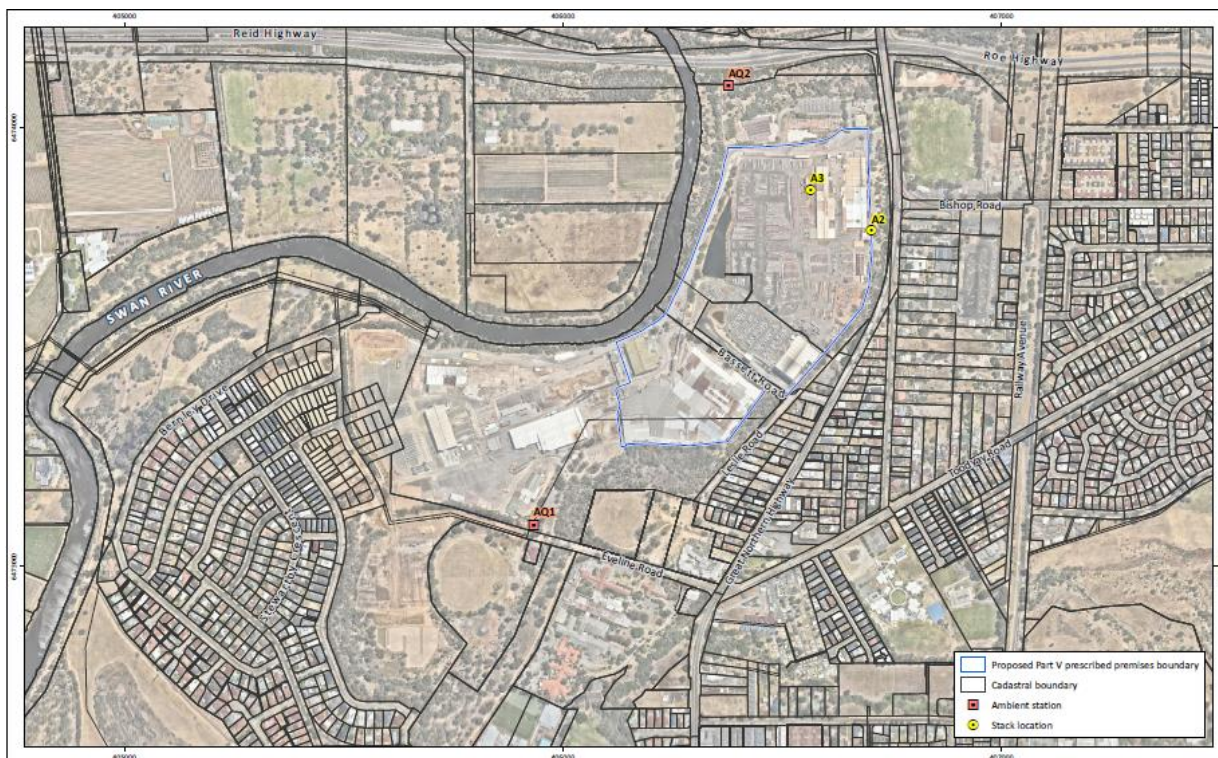
Separation distance between the closest residential lots within the Cranwood Crescent subdivision and the stacks of the remaining kilns will be more than 1,000 metres. It is understood that in the future the area of kiln 11 and the clay shed will be zoned urban and when this occurs the separation distance will reduce to more than 400 metres.

Figure 2 and Figure 3 show the existing and revised premises boundary respectively.



**Figure 2: Existing premises boundary**





**Figure 3: Proposed revised premises boundary**

## 2.6 Noise assessment

The proposed boundary change and changes to the area for storage of bricks will mean a reduced noise risk for the existing and proposed residential area to the south and southwest of the plant. A detailed noise assessment was undertaken for the August 2022 amendment and predicted noise levels at that time were in accordance with the *Environmental Protection (Noise) Regulations 1997* (Noise Regulations). Residential areas in Leslie Road and east of Great Northern Highway will be unaffected by the change.

In a technical review the Noise Branch of DWER found that the noise from remaining activities can be adequately addressed by the Noise Regulations.

## 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 Table 2 also details the control measures the Licence Holder has in place or proposes to implement to assist in controlling these emissions, where necessary.

**Table 2: Licence Holder controls**

Emission	Sources	Potential pathways	Existing controls
Dust	Storage and handling of clays for making bricks	Air/windborne pathway	Enclosed clay storage shed and conveyors. Sprinklers available to dampen stockpiles. Brick storage area on asphalt hardstand.
Noise	Screening of clays, kiln stacks, fans, and motors, trucks.	Air/windborne pathway	Clay preparation occurs within the clay shed. Stacks have an internally insulated flue. Stack fan exhausts incorporate silencers Sea container wall has been constructed by the land owner to the southwest of the revised premises boundary.
Air emissions including acid gases HCl and HF, SO <sub>2</sub> , CO, NO <sub>x</sub> , VOCs and particulates (PM <sub>10</sub> and PM <sub>2.5</sub> )	Firing of dried bricks in high temperature kilns	Air/windborne pathway	Kiln exhaust gas emissions are treated via dry injection fabric filter (DIFF) scrubbers to remove pollutants prior to discharge via a 40m stack. The licence requires the scrubbers are operated in accordance with manufacturer's specifications.  The licence requires quarterly monitoring of stack emissions, specifies limits for HCl, HF and SO <sub>2</sub> and required continuous ambient air monitoring for HF.

### 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 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 2020)).

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

Human receptors	Distance from prescribed activity
Residential premises	Residential properties are located approximately 220 metres south of the kiln 9 stack on Great Northern Highway and 60 metres southeast of the clay shed, on Leslie Road. There has been no change to the distance between these receptors and premises operations as a result of the amendment.
Cranwood Crescent residential subdivision	Residential properties are located approximately 1100 m west southwest of the kiln 9.  New residential properties within the Cranwood Crescent subdivision will be located approximately

	1150m south southwest of the kiln 9 stack.
<b>Environmental receptors</b>	<b>Distance from prescribed activity</b>
Swan River	Immediately adjacent to parts of the northern and western boundary.
Depth to groundwater	2 to 18 metres depending on proximity to Swan River
Threatened Fauna <i>Dasyrus geoffroii</i>	Identified within the boundary of the site ( <i>D. geoffroii</i> very certain 2017)

### 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 in-complete 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 L4511/1967/14 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises.

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 operation**

Risk Event					Risk rating <sup>1</sup> C = consequence L = likelihood	Conditions of licence	Reasoning
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Existing controls			
Category 41: Clay bricks manufacturing (operation of kilns, preparation of bricks within a clay shed, storage of bricks)	Dust	Air/windborne pathway causing impacts to health and amenity	Existing residents 60 metres to south east of clay shed (no change to separation distance as a result of the amendment).	Refer to Table 3	C = Minor L = Unlikely <b>Medium Risk</b>	No new conditions.	There is no change to the activities which generate dust emissions on the premises or the distance to receptors closest to the activities therefore there is no change to the risk profile associated with dust emissions. The Delegated Officer determined that the existing licence conditions remain adequate and appropriate for the risk of dust impacts.
	Noise	Air/windborne pathway causing impacts to amenity	Existing residents 220 m south of kiln 9 (no change to separation distance as a result of the amendment).		C = Moderate L = Possible <b>Medium Risk</b>	No new conditions.	A noise barrier (sea container wall) has been constructed to the southwest of the revised premises boundary to prevent unreasonable noise affecting new residential lots being developed west of the plant.
	Air emissions including acid gases HCl and HF, SO <sub>2</sub> , CO, NO <sub>x</sub> , VOCs and particulates (PM <sub>10</sub> and PM <sub>2.5</sub> )	Air/windborne pathway causing impacts to health and amenity	Existing residents 220 m south of kiln 9 (no change to separation distance as a result of the amendment).		C = Minor L = Unlikely <b>Medium Risk</b>	No new conditions. Premises boundary in Schedule 1 and Schedule 2 revised to remove the area the licence holder previously had access to but no longer has a lease over.	There is no change to the risk of air emissions impacting on resident's health or amenity as a result of the amendment. The delegated officer considers the existing air emission controls in the licence relating to infrastructure operation and maintenance (scrubbers), limits, monitoring and reporting associated with air emissions sufficiently mitigate the risk associated with air emissions. One ambient HF air monitoring site (AQ1) to the south of the premises will be removed as the licence holder no longer has access to its location. The delegated officer noted that the three kilns closest to AQ1 have been decommissioned and the remaining monitoring site (AQ2) is to the north, closest to the remaining kilns 9 and 10 and closer to vineyards, with grapes being particularly sensitive to impact by HF.

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

**Table 5: Consultation**

Consultation method	Comments received	Department response
Local Government Authority advised of proposal 29/5/2023	The City of Swan replied on 7 June 2023 stating that the City of Swan had no objections to the modification of the premises boundary and that the demolition of Kiln 11 did not require planning approval	The delegated officer notes this advice.
Licence Holder was provided with draft amendment on 21/6/2023	Licence Holder replied on 22/6/2023 saying they had no comments and wished to proceed to issuing the revised licence.	NA

## 5. Decision

The delegated officer has determined to amend licence L4511/1967/14 by revising the premises boundary to exclude areas the licence holder no longer has access to (Kiln 11) and reducing the assessed production capacity to 500,000 tonnes. In assessing the changes the delegated officer determined that there is no significant change in the risk profile of emissions and discharges from the premises and the proposed amendment is unlikely to result in a material increase to the overall risk profile of the premises.

In making these determinations the delegated officer took into account:

- There is no significant change to the risk profile for point source emissions to air as there has been no change in distance to the closest sensitive receptors as a result of the amendment.
- The risk of noise amenity impacts is expected to be reduced because of the closure of the brick yards in the southern and western parts of the old brickworks which the licence holder no longer has access to.
- The production capacity of the two remaining kilns is less than 500,000 tonnes, therefore a reduction of the assessed production capacity is appropriate.

The delegated officer has determined that ambient fluoride monitoring station AQ1 can be removed from the licence without a requirements for a replacement station.

In making this determination the delegated officer took into account:

- the low ambient fluoride measurements for the last five years;
- the licence holder no longer having access to the land where AQ1 is located;
- AQ1 being located closest to three kilns which have been decommissioned (kilns 7, 8 and 11); and
- AQ2 remaining in operation and being closest in proximity to the remaining kilns 9 and 10) and closest to vineyards in the surrounding area which are particularly sensitive to HF.

## 6. 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.

### 6.1 Summary of amendments

Table 6 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 6: Summary of licence amendments**

Condition no.	Proposed amendments
Cover page	Legal description of premises updated to align with the revised premises boundary.
Cover page	Assessed production capacity reduced from 1,000,000 tonnes per annum to 500,000 tonnes per annum due to the reduced number of kilns operating on the premises.
Schedule 1	New map showing revised boundary, emission points and single ambient monitoring point.
Schedule 2	Boundary co-ordinates updated to align with the revised premises boundary.

## 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. BGC (Australia) 2023 Pty Ltd Application and supporting letter for licence amendment Perth Western Australia
5. DWER 2023 *Technical (Review) Report: Advice on Noise Management Plan for Area 3 TPS Amendment and local Structure Plan – Lot 9000 Cranwood Crescent Subdivision, Viveash – prepared for the city of Swan Perth Western Australia*

## Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY				
<b>Application type</b>				
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L4511/1967/13	
		Relevant works approval number:		N/A
Date application received		27 April 2023		
<b>Applicant and Premises details</b>				
Applicant name/s (full legal name/s)		Midland Brick Pty Ltd		
Premises name		Midland Brick Middle Swan		
Premises location		Part Lot 72 on Plan 408605 (72 Eveline Road, Middle Swan) Lot 9007 on Plan 422796 (321 Great Northern Highway, Middle Swan) Lot 111 on Plan 422796 (6 Bassett Road, Middle Swan)		
Local Government Authority		City of Swan		
<b>Application documents</b>				
HPCM file reference number:		DWERDT770643		
Key application documents (additional to application form):		<i>Covering letter explaining amendments</i> <i>Ambient fluoride concentrations since 2018.</i>		
<b>Scope of application/assessment</b>				
Summary of proposed activities or changes to existing operations.		Licence Amendment Operation of clay brick manufacture. Amendment to remove Kiln 11 from the licence. Kiln 11 has been decommissioned and is on land that the licensee no longer has access to resulting in a further boundary changed to the premises. In addition the licensee has lost access to ambient monitoring station 1 (AQ1) and they request that it be removed from the licence.		



**Category number/s (activities that cause the premises to become prescribed premises)**

**Table 1: Prescribed premises categories**

<b>Prescribed premises category and description</b>	<b>Assessed production or design capacity</b>	<b>Proposed changes to the production or design capacity (amendments only)</b>
Category 41: Clay bricks or ceramic products manufacturing: premises on which refractory products, tiles pipes or pottery are manufactured.	1,000,000 tonnes per annum	<i>500,000 tonnes per annum</i>
Category 77: Concrete batching or cement products manufacturing: premises on which cement products or concrete are manufactured for use at places or premises other than those premises.	200,000 tonnes per annum	NA

**Legislative context and other approvals**

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: 322 and 1124 EPA Report No: 691
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input checked="" type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: If N/A explain why? Proponent is not proposing any new works and is proposing a contraction of the boundary footprint of the prescribed premises.

Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: Licence/permit No: Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Name: N/A
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i> )	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Lot 72 Classification: possibly contaminated – investigation required (PC–IR) Date of classification: 17/9/2013</p>
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