



Licence Number	L9025/2017/1
Licence Holder	Austral Bricks (WA) Pty Ltd
ACN	079 711 603
Registered business address	738-780 Wallgrove Road HORSLEY PARK NSW 2175
File Number	DER2017/000089
Duration	18/06/2019 to 17/06/2029
Date of issue	18 June 2019
Prescribed Premises	Category 41: Clay bricks or ceramic products manufacturing
Premises	Cardup Brickworks Lot 101 on Plan 42930 Byford 6122 Lot 21 on Diagram 49238 Nettleton Road Byford 6122 Lot 7 on Diagram 10840, Byford 6122 Lot 51 on Diagram 52746, Kiln Road Byford 6122 Lot 50 on Diagram 52748, Byford 6122 Lot 10 on Diagram 26892, Byford 6122 Lot 12 on Diagram 52677, Kiln Road Byford 6122 Lot 53 on Diagram 4790, Byford 6122 Lot 30 on Plan 404710, Byford 6122

This Licence is granted to the Licence Holder, subject to the following conditions, on 18 June 2019, by:

Manager, Process Industries
Regulatory Services
an officer delegated under section 20 of the *Environmental Protection Act 1986 (WA)*

Explanatory notes

These explanatory notes do not form part of this Licence.

Defined terms

Definition of terms used in this Licence can be found at the start of this Licence. Terms which are defined have the first letter of each word capitalised throughout this Licence.

Department of Water and Environmental Regulation

The Department of Water and Environmental Regulation (DWER) is established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the *Environmental Protection Act 1986* (WA) (EP Act). The Department also monitors and audits compliance with licences, takes enforcement action and develops and implements licensing and industry regulation policy.

Licence

Section 56 of the EP Act provides that an occupier of Prescribed Premises commits an offence if Emissions are caused or increased, or permitted to be caused or increased, or Waste, noise, odour or electromagnetic radiation is altered, or permitted to be altered, from Prescribed Premises, except in accordance with a works approval or licence.

Categories of Prescribed Premises are defined in Schedule 1 of the *Environment Protection Regulations 1987* (WA) (EP Regulations).

This Licence does not authorise any activity which may be a breach of the requirements of another statutory authority including, but not limited to the following:

- conditions imposed by the Minister for Environment under Part IV of the EP Act;
- conditions imposed by DWER for the clearing of native vegetation under Part V, Division 2 of the EP Act;
- any requirements under the *Waste Avoidance and Resource Recovery Act 2007*;
- any requirements under the *Environmental Protection (Controlled Waste) Regulations 2004*; and
- any other requirements specified through State legislation.

It is the responsibility of the Licence Holder to ensure that any action or activity referred to in this Licence is permitted by, and is carried out in compliance with, other statutory requirements.

The Licence Holder must comply with the Licence. Contravening a Licence Condition is an offence under s.58 of the EP Act.

Responsibilities of a Licence Holder

Separate to the requirements of this Licence, general obligations of Licence Holders are set out in the EP Act and the regulations made under the EP Act. For example, the Licence Holder must comply with the following provisions of the EP Act:

- the duties of an occupier under section 61; and
- restrictions on making certain changes to Prescribed Premises unless the changes are in accordance with a works approval, Licence, closure notice or environmental protection notice (s.53).

Strict penalties apply for offences under the EP Act.

Reporting of incidents

The Licence Holder has a duty to report to DWER all discharges of waste that have caused or are likely to cause Pollution, Material Environmental Harm or Serious Environmental Harm, in accordance with s.72 of the EP Act.

Offences and defences

The EP Act and its regulations set out a number of offences, including:

- Offence of emitting an Unreasonable Emission from any Premises under s.49.
- Offence of causing Pollution under s.49.
- Offence of dumping Waste under s.49A.
- Offence of discharging Waste in circumstances likely to cause Pollution under s.50.
- Offence of causing Serious Environmental Harm (s.50A) or Material Environmental Harm (s.50B).
- Offence of causing Emissions which do not comply with prescribed standards (s.51).
- Offences relating to Emissions or Discharges under regulations prescribed under the EP Act, including materials discharged under the *Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)*.
- Offences relating to noise under the *Environmental Protection (Noise) Regulations 1997 (WA)*.

Section 53 of the EP Act provides that a Licence Holder commits an offence if Emissions are caused, or altered from a Prescribed Premises unless done in accordance with a Works Approval, Licence or the requirements of a Closure Notice or an Environmental Protection Notice.

Defences to certain offences may be available to a Licence Holder and these are set out in the EP Act. Section 74A(b)(iv) provides that it is a defence to an offence for causing Pollution, in respect of an Emission, or for causing Serious Environmental Harm or Material Environmental Harm, or for discharging or abandoning Waste in water to which the public has access, if the Licence Holder can prove that an Emission or Discharge occurred in accordance with a Licence.

This Licence specifies the Emissions and Discharges, and the limits and Conditions which must be satisfied in respect of Specified Emissions and Discharges, in order for the defence to offence provision to be available.

Authorised Emissions and Discharges

The Specified and General Emissions and Discharges from Primary Activities conducted on the Prescribed Premises are authorised to be conducted in accordance with the Conditions of this Licence.

Emissions and Discharges caused from other activities not related to the Primary Activities at the Premises have not been conditioned in this Licence. Emissions and Discharges from other activities at the Premises are subject to the general provisions of the EP Act.

Amendment of licence

The Licence Holder can apply to amend the Conditions of this Licence under s.59 of the EP Act. An application form for this purpose is available from DWER.

The CEO may also amend the Conditions of this Licence at any time on the initiative of the CEO without an application being made.

Amendment Notices constitute written notice of the amendment in accordance with Section 59B(9) of the EP Act.

Duration of Licence

The Licence will remain in force for the duration set out on the first page of this Licence or until it is surrendered, suspended or revoked in accordance with s.59A of the EP Act.

Suspension or revocation

The CEO may suspend or revoke this Licence in accordance with s.59A of the EP Act.

Fees

The Licence Holder must pay an annual licence fee. Late payment of annual licence fees may result in the licence ceasing to have effect.

Definitions and interpretation

Definitions

In this Licence, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Annual Period	means a 12 month period commencing from 1 July until 30 June in the following year.
ARI	Average Recurrence Interval
AS 4323.1	means AS/NZS 4323.1: Stationary source emissions Selection of sampling positions
AS5667.1	means AS/NZS 5667.1:1998 Water quality - Sampling Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples
AS5667.6	means AS/NZ 5667.6: 1998 Water quality - Sampling Guidance on sampling of rivers and streams
Condition	means a condition to which this Licence is subject under s.62 of the EP Act.
combined acid gas	means total of the concentrations of hydrogen fluoride (HF), hydrogen chloride (HCl), sulphur dioxide (SO ₂) and sulfuric acid mist (SO ₃ and H ₂ SO ₄)
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 10, Joondalup DC, WA 6919 info@dwer.wa.gov.au
Compliance Report	means a report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO (guidelines and templates may be available on the Department's website).
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
Department Request	means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Licence Holder in writing and sent to the Licence Holder's address for notifications, as described at the front of this Licence, in relation to: (a) compliance with the EP Act or this Licence; (b) the Books or other sources of information maintained in accordance with this Licence; or (c) the Books or other sources of information relating to Emissions from the Premises.
DWER	Department of Water and Environmental Regulation.
EP Act	means the <i>Environmental Protection Act 1986 (WA)</i> .
EP Regulations	means the <i>Environmental Protection Regulations 1987 (WA)</i> .
HCl	means Hydrogen Chloride
HF	means Hydrogen Fluoride
H ₂ SO ₄	means Sulfuric Acid
Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.
Licence	refers to this document, which evidences the grant of a Licence by the CEO under s.57 of the EP Act, subject to the Conditions.

Term	Definition
Licence Holder	refers to the occupier of the premises being the person to whom this Licence has been granted, as specified at the front of this Licence.
mV	millivolts
NATA	means National Association of Testing Authorities
NTU	Nephelometric Turbidity Unit
PM	means Particulate Matter
Premises	refers to the premises to which this Licence applies, as specified at the front of this Licence and as shown on the map in Schedule 1 to this Licence.
Quarterly	means the four inclusive periods from 1 January to 31 March, 1 April to 30 June, 1 July to 30 September and 1 October to 31 December in any year.
SO ₂	means Sulfur Dioxide
STP	Standard Temperature (273 K or 0° C) and Pressure (101.3 kPa)
USEPA	means United States (of America) Environmental Protection Agency
USEPA Method 1	USEPA Method 1 – Sample/Velocity Traverses
USEPA Method 2	USEPA Method 2 – Velocity – S – type Pitot
USEPA Method 5	USEPA Method 5 - Particulate Matter
USEPA Method 8	USEPA Method 8 – Determination of Sulfuric Acid and Sulfur Dioxide
USEPA Method 26	USEPA Method 26 – Hydrogen Chloride, Halides, Halogens
USEPA Method 26A	USEPA Method 26A – Hydrogen Halide and Halogen – Isokinetic Method

Interpretation

In this Licence:

- (a) the words 'including', 'includes' and 'include' will be read as if followed by the words 'without limitation';
- (a) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (b) where tables are used in a Condition, each row in a table constitutes a separate Condition;
- (c) any reference to an Australian or other standard, guideline or code of practice in this Licence means the version of the standard, guideline or code of practice in force at the time of granting of this Licence and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the Licence; and
- (d) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act.

Conditions

Emissions

1. The Licence Holder must not cause any Emissions from the Primary Activities on the Premises except for specified Emissions and general Emissions described in Column 1 of Table 2 subject to the exclusions, limitations or requirements specified in Column 2 of Table 2.

Table 2: Authorised Emissions table

Column 1	Column 2
Emission type	Exclusions/Limitations/Requirements
Specified Emissions	
Point source emissions from the Kiln Stack S1, Dryer Stacks S2 and S3, and Hot Air Exhaust	Subject to compliance with Conditions 2, 4, 5, and 6.
General Emissions (excluding Specified Emissions)	
Emissions which: <ul style="list-style-type: none"> • arise from the Primary Activities set out in Schedule 2 	Emissions excluded from General Emissions are: <ul style="list-style-type: none"> • Unreasonable Emissions; or • Emissions that result in, or are likely to result in, Pollution, Material Environmental Harm or Serious Environmental Harm; or • Discharges of Waste in circumstances likely to cause Pollution; or • Emissions that result, or are likely to result in, the Discharge or abandonment of Waste in water to which the public has access; or • Emissions or Discharges which do not comply with an Approved Policy; or • Emissions or Discharges which do not comply with a prescribed standard; or • Emissions or Discharges which do not comply with the conditions in an Implementation Agreement or Decision; or • Emissions or Discharges the subject of offences under regulations prescribed under the EP Act, including materials discharged under the Environmental Protection (Unauthorised Discharges) Regulations 2004.

Infrastructure and equipment

2. The Licence Holder must ensure that the infrastructure and equipment specified in Column 1 of Table 3 is maintained in good working order and in accordance with manufacturers' specifications and operated in accordance with the requirements specified in Column 2 of Table 3.

Table 3: Infrastructure and equipment controls table

Column 1	Column 2
Site infrastructure and equipment	Operational requirements
Clay storage stockpiles located on in-situ soils.	Raw materials are to be stored in former excavation area including the clay storage shed as described in Map 1 of Schedule 1.
Clay grinding sheds	Clay blending activities are to occur in the clay grinding sheds. 1. .
2 x Dryers with hot air flues	Air emissions through flues as shown in Map 2 of Schedule 1.
Gas fired tunnel kiln	<ol style="list-style-type: none"> The Licence Holder must ensure air from the Combustion Zone of the kiln is treated by the Cascade Limestone Scrubber and discharged via the Kiln Exhaust Stack The Cascade Lime Scrubber may be bypassed pursuant to Condition 5.
Cascade limestone scrubber	Maintained in accordance with the manufacturers specifications.
Kiln Exhaust Stack	Not less than 29.5 metres in height
Water catchment, swales and settling ponds	<ol style="list-style-type: none"> Design capacity of 10 year ARI 2 hour rainfall event to be maintained by removal of sediment. Prevent and repair erosion of banks and spillways.
Roads and storage areas	To be swept and wetted down to prevent dust lift off.

Materials Handling

- The Licence Holder must ensure that dust emissions from any operational, unsealed areas are controlled with water or other dust suppression materials.

Discharges to air

- The Licence Holder must ensure that the emissions specified in Table 4 are discharged only from the corresponding discharge point and only at the corresponding discharge point location set out in Table 4.

Table 4: Authorised discharge points

Emissions	Discharge point	Discharge point location on Schedule 1, Map 2: Manufacturing area layout
HCl, HF, PM and, Total oxides of sulphur (as SO ₂)	Kiln Stack S1	S1
	Dryer Stacks S2	S2
	Dryer Stack S3	S3

5. In the event the Cascade Scrubber is bypassed for more than 30 consecutive minutes, the Licence Holder must implement the bypass procedure in Schedule 4 and demonstrate compliance with the emission limits in Table 5.

Emission Limits

6. The Licence Holder must ensure that emissions from the discharge point listed in Table 5 for the corresponding parameter do not exceed the corresponding limit when monitored in accordance with Condition 7.

Table 5: Discharges to air limits

Discharge Point	Parameter ¹	Averaging Period	Limit ²
Kiln Stack S1	HF	30 minutes minimum	1 g/s
	HCl	30 minutes minimum	200 mg/m ³
	PM	1-hour	50 mg/m ³

Note 1: concentrations are to be reported at STP, corrected to 18% O₂; and
 2: limits do not apply for the first 30 minutes following start-up.

Monitoring of discharges to air

7. The Licence Holder must monitor discharges to air:
 - (a) from the specified discharge point;
 - (b) at the corresponding monitoring location;
 - (c) for the corresponding parameters;
 - (d) at the corresponding frequency;
 - (e) for the corresponding averaging period;
 - (f) in the corresponding units; and
 - (g) using the corresponding method,
 set out in Table 9 of Schedule 3.
8. The Licence Holder must ensure that sampling required by Condition 7 is undertaken at sampling locations in accordance with the current version of AS 4323.1.
9. The Licence Holder must ensure that all non-continuous sampling and analysis undertaken required by Condition 7 is undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.

Ambient Monitoring – Surface Water

10. The Licence Holder must monitor the surface water:

- (a) for the parameters;
- (b) at the corresponding monitoring location;
- (c) in the corresponding unit;
- (d) at no less than the corresponding frequency;
- (e) for the corresponding averaging period; and
- (f) using the corresponding methods,

set out in Table 6.

Table 6: Ambient Monitoring of Surface Water

Parameter	Monitoring location	Unit	Frequency	Averaging period	Method	
					Sampling	Analysis
pH	CAR01 upstream of discharge point F1, and CAR06 downstream of discharge point A as shown in Map 3 of Schedule 1	-	During the months of May, June, July and August and at other times when high rainfall events cause the potential for discharge.	Spot sample	AS5667.1 AS5667.6	Field measured parameter
Dissolved oxygen		mg/L				
Total dissolved salts from conductivity		mg/L				
Redox		mV				
Temperature		°C				
Flow		m/s				
Turbidity		NTU				NATA accredited
Total suspended solids (TSS)		mg/L				
Total Petroleum Hydrocarbons (TPH)		mg/L				

Record-keeping

11. The Licence Holder must maintain accurate and auditable Books including the following records, information, reports and data required by this Licence:

- (a) the calculation of fees payable in respect of this Licence;
- (b) the maintenance of infrastructure required to ensure that it is kept in good working order in accordance with Condition 2 of this Licence;
- (c) monitoring undertaken in accordance with Conditions 7 and 10 of this Licence;
- (d) complaints received under Condition 12 of this Licence; and

In addition, the Books must:

- (e) be legible;
- (f) if amended, be amended in such a way that the original and subsequent amendments remain legible and are capable of retrieval;
- (g) be retained for at least 3 years from the date the Books were made; and
- (h) be available to be produced to an Inspector or the CEO.

12. The Licence Holder must record the number and details of any complaints received by the Licence Holder relating to its obligations under this Licence and its compliance with Part V of the EP Act at the Premises, and any action taken by the Licence Holder in response to the complaint. Details of complaints must include:
- (a) an accurate record of the concerns or issues raised, for example a copy of any written complaint or a written note of any verbal complaints made;
 - (b) the name and contact details of the complainant, if provided by the complainant;
 - (c) the date of the complaint; and
 - (d) the details and dates of the actions taken by the Licence Holder in response to the complaints.

Air emission investigations

13. The Licence Holder must by 31 July 2019 retain the services of a person qualified and experienced in the area of modelling of air emissions to predict ground level concentrations to:
- (a) update the model submitted in *Austral Bricks – Cardup Brickworks Works Approval and Licence Supporting Document*, Strategen October 2015;
 - (b) compile and submit to the Licence Holder by 27 September 2019 a report of the updated modelling conducted in accordance with condition 13(a)
14. The report prepared pursuant to Condition 13 must include:
- (a) measured emission rates for HF, HCl and Oxides of Sulphur from the kiln stack exhaust under normal operating conditions and during bypass as input data and clearly stating which emission rates are adopted for the model;
 - (b) the contribution of emission of acid gas emissions from dryer stacks on predicted ground level concentrations;
 - (c) predicted ground level concentrations and contours of the gases individually and as a total acid gas level;
 - (d) defined terminology when reporting results for the modelling grid and sensitive receptors; and
 - (e) an assessment of predicted ambient concentrations of acid gases at sensitive receptors and grid points against the following standards:
 - (i) combined acid gas concentration of 500 $\mu\text{g}/\text{m}^3$ as a 10-minute average;
 - (ii) combined acid gas concentration of 100 $\mu\text{g}/\text{m}^3$ as a 24 hour average;
 - (iii) HCl concentrations of 100 $\mu\text{g}/\text{m}^3$ as a 24 hour average;
 - (iv) HCl concentrations of 140 $\mu\text{g}/\text{m}^3$ as a 1 hour average;
 - (v) HF concentrations of 100 $\mu\text{g}/\text{m}^3$ as a 24 hour average; and,
 - (vi) HF concentrations of 1.7 $\mu\text{g}/\text{m}^3$ as a 7 day average.
15. The Licence Holder must submit the report required by condition 13 to the CEO by 19 October 2019.

Reporting

16. The Licence Holder must, within 7 days of becoming aware of any non-compliance with condition 2, 3, 4, 0, **Error! Reference source not found.** and 6 of this Licence, notify the CEO in writing of that non-compliance and include in that notification the following information:
- (a) which condition was not complied with;
 - (b) the time and date when the non-compliance occurred;
 - (c) if any environmental impact occurred as a result of the non-compliance and if so what that impact is and where the impact occurred;
 - (d) the details and result of any investigation undertaken into the cause of the non-compliance;
 - (e) what action has been taken and the date on which it was taken to prevent the non-compliance occurring again; and
 - (f) what action will be taken and the date by which it will be taken to prevent the non-compliance occurring again.

17. The Licence Holder must submit to the CEO, no later than 31 July in each year, a Compliance Report indicating the extent to which the Licence Holder has complied with the Conditions in this Licence for the preceding Annual Period.
18. The Licence Holder must comply with a Department Request, within 14 days from the date of the Department Request or such other period as agreed to by the Inspector or the CEO.
19. The Licence Holder must submit to the CEO by no later than 31 days after the end of each annual period, an Annual Environmental Report for that annual period for the conditions listed in Table 7, and which provides information in accordance with the corresponding requirements set out in Table 7.

Table 7: Annual Environment Report

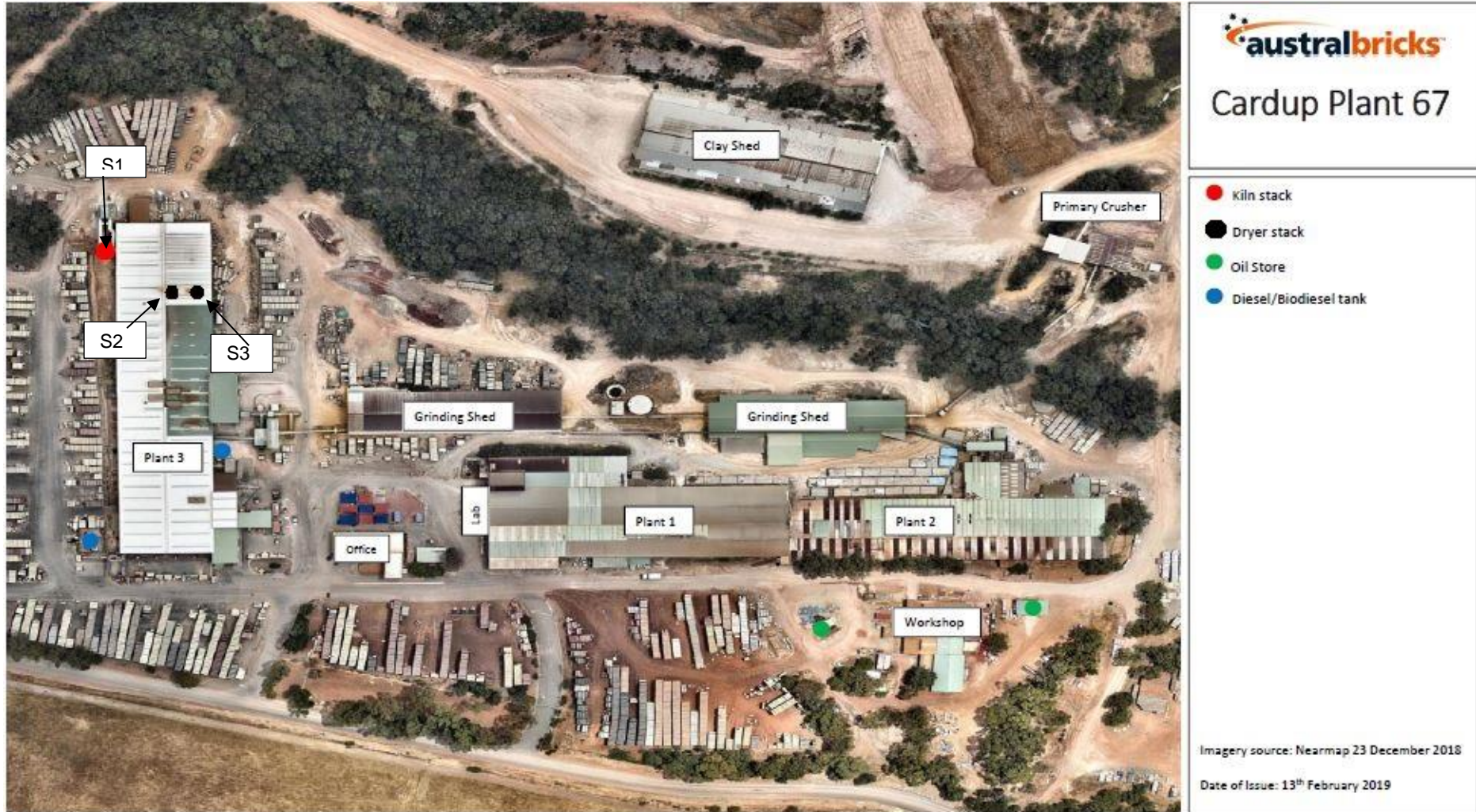
Condition	Requirement
10	Tabulated surface water monitoring data and time series graphs for each monitoring point.
6	<p>Tabulated monitoring data results and time-series graphs in Microsoft Excel format for each monitoring location showing concentrations of all parameters over a minimum three year period (where sufficient data allows).</p> <p>An interpretation of the monitoring data including comparison to historical trends and emission limits.</p> <p>Copies of original monitoring, laboratory and analysis reports submitted by third parties</p>
12	Summary of complaints data

Schedule 1: Maps

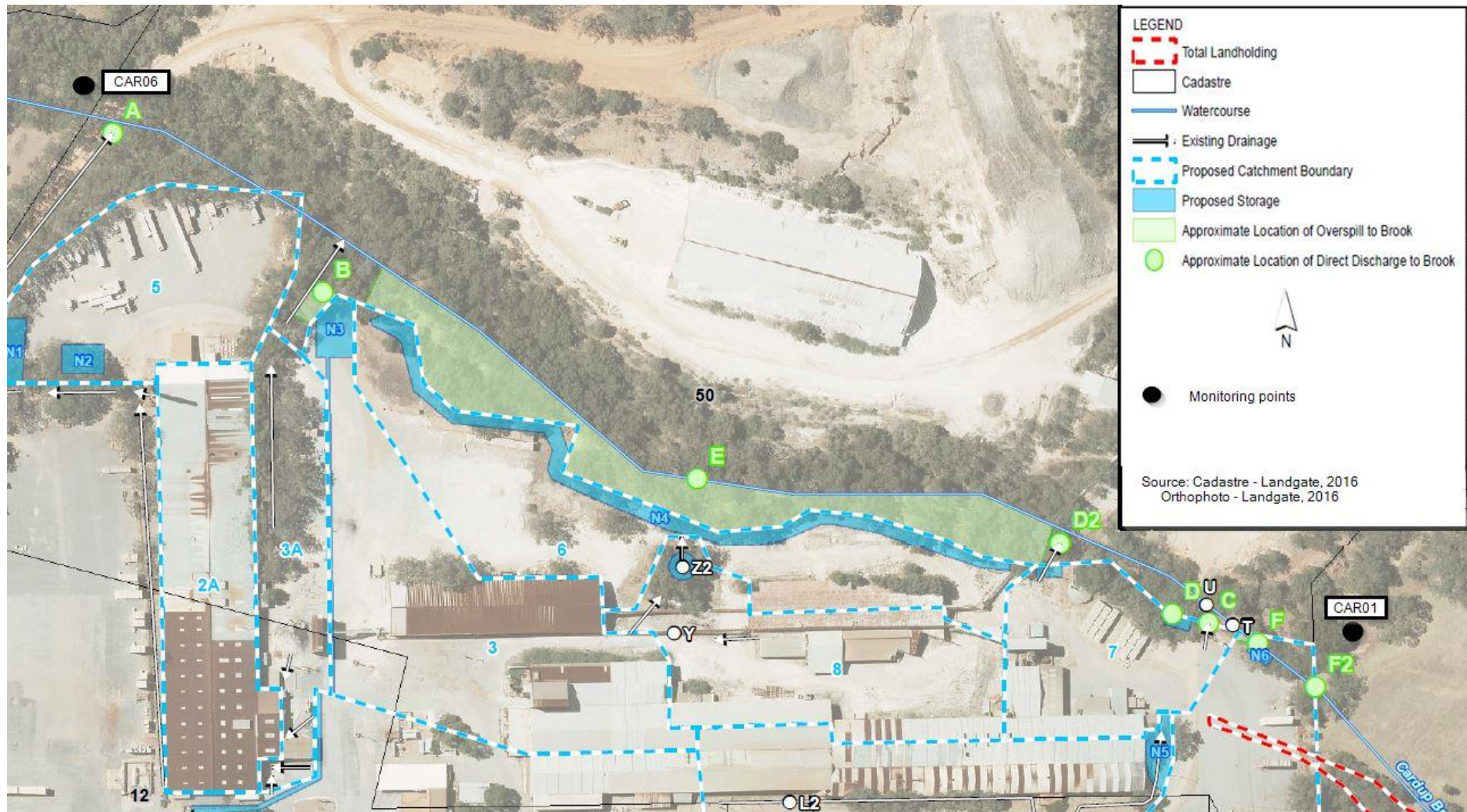
Map 1: Premises Map. The boundary of the premises is shown in red



Map 2: Manufacturing area layout.



Map 3: Direct Discharge Points and Monitoring Points for Surface Water



Adapted from Coterra Environment Stormwater Management Plan

Schedule 2: Primary Activities

At the time of assessment, Emissions and Discharges from the following Primary Activities were considered in the determination of the risk and related Conditions for the Premises.

The Primary Activities are listed in Table 8:

Table 8: Primary Activities

Primary Activity	Premises production or design capacity
Category 41: Clay bricks or ceramic products manufacturing. Premises on which refractory products, tiles, pipes or pottery are manufactured.	200,000 tonnes per annual period

Site layout

The Primary Activity infrastructure and equipment is set out on the Premises in accordance with the site layout specified on the maps in Schedule 1.

Schedule 3: Monitoring

Monitoring of discharges to air

Table 9: Monitoring of discharges to air

Discharge Point	Monitoring Location on Map 2 in Schedule 1	Parameters	Frequency	Averaging period	Unit ¹	Method ^{2,3}
Kiln Stack S1	S1	Flow rate	Quarterly	60 minutes	m ³ /s	USEPA Method 2
		PM			mg/m ³ and g/s	USEPA Method 5
		Total oxides of sulphur (as SO ₂)			USEPA Method 8	
		HCl		30 minutes minimum	USEPA Method 26 or 26A	
		HF				

Note 1: Concentrations to be corrected to STP at 18% oxygen on a dry basis.

Note 2: Duplicate runs to be completed consecutively on the same sampling day;

Note 3: Where USEPA methods refer to USEPA Method 1 for the sampling plane, this should be read as a referral to AS/NZS 4323.1:2001.

Schedule 4 Bypass Management Procedure

If the Licence Holder identifies an issue that requires the scrubber to be placed into bypass, they must initiate the following procedure if the bypass is anticipated to last for more than 30 minutes:

1. Complete a record or log containing the following information:
 - a) Bypass start date and time
 - b) Reason for bypass
 - c) Action taken
 - d) Bypass finish date and time
 - e) Duration of bypass
2. Slow the push rates to the calculated rates based on the following formula:

$$ER = T \times C \times (1 - r) \times (1 - e)$$

ER = emission rate in grams per second

T = throughput of tonnes per second

C = concentration of fluoride in the clay as grams per tonne (as appropriate for each clay mix in the current product)

r = % retention of fluoride in the fired brick (typically - 40%)

e = % efficiency of scrubber = 0 when scrubber is in bypass