Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: Boral Resources (W.A.) Ltd

Licence: L6822/1967/13

Registered office: Level 3
40 Mount Street
NORTH SYDNEY NSW 2060

ACN: 008 686 904

Premises address: Boral Quarries – Orange Grove
ORANGE GROVE WA 6109
Being Lots 453, 457, 465, 466 and 467 on Plan 3327; Lot 50 on Plan 42517; Lot 101 on Diagram 90993; Lot 113 on Plan 248353; and Lot 181 on Plan 250164 as depicted in Schedule 1.

Issue date: Wednesday, 12 December 2012

Commencement date: Wednesday, 12 December 2012

Expiry date: Monday, 30 June 2025

Prescribed premises category
Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
12	Screening, etc. of material	50 000 tonnes or more per year	2,000,000 tonnes per annual period
13	Crushing of building material	1,000 tonnes or more per year	36,000 tonnes per annual period
35	Asphalt manufacturing	Not applicable	300,000 tonnes per annual period
61A	Solid waste facility	1,000 tonnes or more per year	30,000 tonnes per annual period

Conditions
This Licence is subject to the conditions set out in the attached pages.

Date signed: 4 March 2016
.....
Tim Gentle
Manager Licensing – Industry Regulation (Resources Industries)
Officer delegated under section 20
of the *Environmental Protection Act 1986*

Contents

Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role
The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements
This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link:
http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.

- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.

- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.

Licence holders are also reminded of the requirements of section 53 of the Act which places 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.

Licence fees
If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions
If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary
Boral Resources (W.A.) Ltd (Boral) operates a hard rock quarry on the outskirts of Perth. The western perimeter of the premises boundary is located approximately 850 metres from a residential development. Rock is extracted using blasting and excavation methods and is then processed on site.

The occupier also operates a mobile asphalt plant at the Quarry to service the Gateway WA project over the next 2.5 - 3 years. The asphalt plant is installed within the Stage 2 quarry pit which has a depth of approximately 100 metres. The main emissions from activities onsite are noise, air emissions (point source and fugitive) and odour.

The potential impact of noise on neighboring properties is managed by reducing the noise generated from the quarrying and processing operations and by appropriate screening procedures on site. Noise associated with blasting is managed by an on site monitoring system.

The asphalt plant is fitted with a cyclone and baghouse system which ensures particulates are captured within the bag house prior to the air being vented through the stack. The stack has been designed to increase the velocity of emissions for greater dispersion. The modeling data provided to DER showed that air emissions, dust and odour will be below relevant standards and guidelines.

Water is used for dust management through a regular watering of all access and haul roads as required during the drier months. A water truck is retained on site for this purpose. Automatic water cannons are also used to reduce dust generation from stockpiles and vehicle movements.

This Licence is the result of an amendment sought by the Licensee to allow for the use of processed Reclaimed Asphalt Pavement (RAP) sourced from offsite for use in the asphalt manufacturing process.

The licences issued for the Premises since 01/10/2000 are:

Instrument log		
Instrument	**Issued**	**Description**
L6822/1967/5	01/10/2000	Licence re-issue
L6822/1967/6	07/11/2001	Licence re-issue
L6822/1967/7	11/10/2002	Licence re-issue
L6822/1967/8	01/10/2003	Licence re-issue
L6822/1967/9	01/10/2004	Licence re-issue
L6822/1967/10	12/12/2005	Licence re-issue
L6822/1967/11	12/12/2006	Licence re-issue
L6822/1967/12	12/12/2009	Licence re-issue
L6822/1967/13	12/12/2012	Licence re-issue

L6822/1967/13	13/09/2013	Licence amendment to REFIRE format
L6822/1967/13	12/12/2013	Licence amendment to add Category 13
L6822/1967/13	10/07/2014	Licence amendment in response to appeal against Category 13
L6822/1967/13	31/10/2014	Licence amendment to add Category 35
L6822/1967/13	03/3/2016	Licence amendment to add Category 61A and allow receipt and processing of RAP

Severance
It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

END OF INTRODUCTION

Licence conditions

1 General

1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986;*

'annual period' means the inclusive period from 1 January until 31 December in that year;

'AS 3580.9.11' means the Australian Standard AS 3580.9.11 *Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM10 beta attenuation monitors;*

'AS 4323.3' means the Australian Standard AS4323.1 *Stationary Source Emissions – Determination of Odour Concentration by dynamic olfactometry;*

'averaging period' means the time over which a limit is measured or a monitoring result is obtained;

'CEMS' means continuous emissions monitoring system;

'CEMS Code' means the current version of the Continuous Emission Monitoring System (CEMS) Code for Stationary Source Air Emissions, Department of Environment & Conservation, Government of Western Australia;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;

At the following address:

Department Administering the *Environmental Protection Act 1986*
Locked Bag 33
CLOISTERS SQUARE WA 6850

Telephone: (08) 9333 7510
Facsimile: (08) 9333 7550
Email: info@der.wa.gov.au

'concrete waste' means un-used concrete that has been returned and has been cured or hardened;

'controlled waste' has the definition in *Environmental Protection (Controlled Waste) Regulations 2004*;

'Inert Waste Type 1' has the meaning defined in Landfill Definitions;

'Landfill Definitions' means the document titled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer of the Department of Environment as amended from time to time.

'Licence' means this Licence numbered L6822/1967/13 and issued under the Act;

'Licensee' means the person or organisation named as Licensee on page 1 of the Licence;

'NATA' means the National Association of Testing Authorities, Australia;

'NATA accredited' means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

'normal operating conditions' means any operation of a particular process (including abatement equipment) excluding start-up, shut-down and upset conditions, in relation to stack sampling or monitoring;

'NOx' means oxides of nitrogen, calculated as the sum of nitric oxide and nitrogen dioxide and expressed as nitrogen dioxide;

'PM' means total particulate matter including both solid fragments of material and miniscule droplets of liquid;

'PM_{10}' means particles with an aerodynamic diameter of less or equal to 10 μm;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

'Processed RAP' means RAP which has been crushed and/or screened to size for recycling into new asphalt;

'RAP' means Reclaimed Asphalt Pavement;

'Schedule 1' means Schedule 1 of this Licence unless otherwise stated;

'Schedule 2' means Schedule 2 of this Licence unless otherwise stated;

'shut-down' means the period when plant or equipment is brought from normal operating conditions to inactivity;

'stack test' means a discrete set of samples taken over a representative period at normal operating conditions;

'start-up' means the period when plant or equipment is brought from inactivity to normal operating conditions;

'STP dry' means standard temperature and pressure (0°Celsius and 101.325 kilopascals respectively), dry;

'STP wet' means standard temperature and pressure (0° Celsius and 101.325 kilopascals respectively), wet;

'USEPA' means United States (of America) Environmental Protection Agency;

'USEPA Method 2' means the promulgated Test Method 2 – Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)

'USEPA Method 5' means the promulgated Test Method 5 – Determination of Particulate Matter Emissions from Stationary Sources;

'USEPA Method 6' means the promulgated Test Method 6 - Determination of Sulfur Dioxide Emissions from Stationary Sources;

'USEPA Method 7D' means the promulgated Test Method 7D - Determination of Nitrogen Oxide Emissions from Stationary Sources (Alkaline-Permanganate/Ion Chromatographic Method);

'USEPA Method 7E' means the promulgated Test Method 7E - Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure);

'USEPA Method 10' means the promulgated Test Method 10 – Determination of Carbon Monoxide Emissions from Stationary Sources (Instrumental Analyzer Procedure);

'USEPA Method 17' means the promulgated Test Method 17 – Determination of Particulate Matter Emissions from Stationary Sources;

'USEPA Method 18' means the promulgated Test Method 18 - Measurement of Gaseous Organic Compound Emissions by Gas Chromatography;

'usual working day' means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia; and

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the the standard in force from time to time during the term of this Licence.

1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.

1.2 Premises operation

1.2.1 The Licensee shall only accept waste on to the Premises if:
(a) it is of a type listed in Table 1.2.1;
(b) the quantity accepted is below any quantity limit listed in Table 1.2.1;
(c) it meets any specification listed in Table 1.2.1.

Table 1.2.1: Waste acceptance

Waste type	Quantity Limit	Specification[1]
Inert Waste Type 1	36,000 tonnes per year	Limited to concrete waste and pit waste generated by Boral Resources (W.A.) Limited concrete batching operations. Concrete waste: no more than 12,000 tonnes per year shall be accepted. Pit waste: no more than 24,000 tonnes per year shall be accepted.
Processed RAP	30,000 tonnes per year	The Licensee shall ensure that Processed RAP does not contain any of the following materials: • granular pavement materials, clay, soil or organic matter; • bricks, concrete, glass or building materials; or • tar based products, geotextile fabrics, raised pavement markers or surface treatments such as high friction surfacings.

Note 1: Additional requirements for the acceptance of controlled waste (including asbestos) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

1.2.2 The Licensee shall ensure that where waste does not meet the waste acceptance criteria set out in condition 1.2.1 it is removed from the Premises by the delivery vehicle or, where that is not possible, stored in a quarantined storage area or container and removed to an appropriately authorised facility as soon as practicable.

1.2.3 The licensee shall ensure that automatic safeguards are incorporated within the process to prevent the ignition of bitumen within the drum.

1.2.4 The Licensee shall ensure that bulk materials are stored in a manner which avoids the generation of airborne dust.

1.2.5 No raw materials, materials or fuels other than those listed in Table 1.2.2 and which comply with any specification stated shall be subjected to the relevant process in that table.

Table 1.2.2: Processing of materials

Material	Process	Specification
Processed RAP	Storage	None specified
Granular Raw Materials	Transfer	The Licensee shall ensure that all conveyors are enclosed with windshields, or otherwise appropriately designed to avoid the generation of airborne dust.

1.2.6 The Licensee shall ensure that treated water from triple interceptors is only discharged into the final transfer dam as specified in Table 1.2.3 and identified in Schedule 1.

Table 1.2.3: Containment infrastructure		
Containment cell or dam number	**Material**	**Infrastructure requirements**
Transfer dam	Treated water from triple interceptors.	None specified

2 Emissions

2.1 General

2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit specified in any part of section 2 of this Licence.

2.2 Point source emissions to air

2.2.1 The Licensee shall ensure that where waste is emitted to air from the emission points in Table 2.2.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.2.1: Emission points to air			
Emission point reference and location on Map of emission points	**Emission Point**	**Emission point height (m)**	**Source, including any abatement**
A1	Stack	15.5	Drum mixer/dryer via baghouse dust collector

2.2.2 The Licensee shall not cause or allow point source emissions to air greater than the limits listed in Table 2.2.2.

Table 2.2.2: Point source emission limits to air			
Emission point reference	**Parameter**	**Limit (including units)[1,2]**	**Averaging period**
A1	PM	50 mg/m^3	Stack test (Minimum 60 minute average)
	Sulfur dioxide	350 mg/m^3	Stack test (Minimum 30 minute average)
	Nitrogen oxides	350 mg/m^3	Stack test (Minimum 30 minute average)
	Total Volatile Organic Compounds (as n-hexane)	100 mg/m^3	Stack Test (Minimum 30 minute average)
	Carbon monoxide	1000 mg/m^3	Stack test (Minimum 30 minute average)
	Stack velocity	>20m/s	Stack test (Minimum 30 minute average)

Note 1: All units are referenced to STP dry
Note 2: Concentration units for A1 are referenced to 17% O_2.

2.3 Fugitive emissions

2.3.1 The Licensee must ensure dust emissions are managed in accordance with the documents, or parts of documents, specified in Table 2.3.1.

Table 2.3.1: Management Plans

Management Plan Reference	Parts	Date of Document
Boral Resources (WA) Orange Grove Quarry – Environmental Management Plan (*Ref QUA-OG-EMP-DUST01 Revision 1.0 26/02/2016*)	Section 1.5 (Dust) Monitoring and remedial measures	26/02/2016

2.4 Odour

2.4.1 The Licensee must ensure odour emissions are managed in accordance with the documents, or parts of documents, specified in Table 2.4.1.

Table 2.4.1: Management Plans

Management Plan Reference	Parts	Date of Document
Boral Resources (WA) Orange Grove Quarry – Environmental Management Plan (*Ref QUA-OG-EMP-ODOUR01 Revision 1.0 26/02/2016*)	Section Section 1.5 (Odour) Monitoring and Remedial Measures	26/02/2016

2.5 Noise/Vibration

2.5.1 The licensee shall manage emissions such that they do not cause an exceedance of the limits in Table 2.5.1.

Table 2.5.1: Noise/Vibration Emission limits

Monitoring point reference and location on Premises map	Parameter	Limit (including units)	Reference period
Blast Monitoring Sites BM1 and BM2 (as depicted in Schedule 1)	Peak particle velocity	10 mm/sec	Any single blast
		5 mm/sec	No more than one blast in ten consecutive blasts (regardless of interval between blasts)

3 Monitoring

3.1 General monitoring

3.1.1 The Licensee shall ensure that six monthly monitoring is undertaken at least five months apart.

3.1.2 The Licensee shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications and the requirements of the Licence.

3.1.3 The Licensee shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

3.2 Monitoring of point source emissions to air

3.2.1 The Licensee shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.

Table 3.2.1: Monitoring of point source emissions to air

Emission point reference	Parameter	Units[1, 2]	Frequency[3]	Method	Averaging period
A1	PM	mg/m^3 g/s	Six monthly	USEPA Method 5 or USEPA Method 17	Stack test (Minimum 60 minute average)
A1	Sulfur dioxide	mg/m^3	Six monthly	USEPA Method 6	Stack test (Minimum 30 minute average)
A1	Nitrogen oxides	mg/m^3 g/s	Six monthly	USEPA Method 7E or 7D	Stack test (Minimum 30 minute average)
A1	Polycyclic Aromatic Hydrocarbons (as BaP-TEQ)	$\mu g/m^3$ mg/s	Six monthly	SW846 Method 0010	Stack test (minimum 120 minute average)
A1	Total Volatile Organic Compounds	mg/m^3 g/s	Six monthly	USEPA Method 18	Stack Test (Minimum 30 minute average)
	Benzene				
	Toluene				
A1	Carbon monoxide	mg/m^3 g/s	Six monthly	USEPA Method 10	Stack test (Minimum 30 minute average)
A1	Odour	ou $ou.m^3/s$	Six monthly	AS 4323.3	Stack test (method specific)
A1	Stack velocity	m^3/s	Six monthly	USEPA Method 2	Stack test (method specific)

Note 1: All units are referenced to STP dry except for Odour.
Note 2: Monitoring shall be undertaken to reflect normal operating conditions and any limits or conditions on inputs or production.
Note 3: Concentration units for A5 are referenced to 17% O_2 except for Odour
Note 4: Odour is referenced to STP wet.

3.2.2 The Licensee shall ensure that sampling required under Condition 3.2.1 of the Licence is undertaken at sampling locations in accordance with the AS 4323.1 or relevant part of the CEMS Code.

3.2.3 The Licensee shall ensure that all non-continuous sampling and analysis undertaken pursuant to condition 3.2.1 is undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.

3.3 Monitoring of inputs and outputs

3.3.1 The Licensee shall undertake the monitoring in Table 3.3.1 according to the specifications in that table.

Table 3.3.1: Monitoring of inputs and outputs

Input/Output	Parameter	Units	Averaging period	Frequency
Waste Inputs	Inert Waste Type 1	tonnes (where a weighbridge is present on the site) m^3 (where no weighbridge is present)	N/A	Each load arriving at the Premises
	Processed RAP			
Waste Outputs	Waste type as defined in the Landfill Definitions			Each load leaving or rejected from the Premises

3.4 Process monitoring

3.4.1 The Licensee shall ensure that a broken bag detector is continuously operated to monitor pressure changes within the baghouse.

3.5 Ambient monitoring

3.5.1 The Licensee shall undertake the monitoring in Table 3.5.1 according to the specifications in that table.

Table 3.5.1: Monitoring of ambient air quality

Monitoring point reference and location on Premises map	Parameter	Averaging period	Frequency	Method
AQ1 on Dust Monitor Map in Schedule 1	Particulates as PM_{10}	24 hours	Continuous	AS 3580.9.11

Note 1: All units are referenced to STP dry

3.6 Noise/Vibration

3.6.1 The Licensee shall undertake the monitoring specified in Table 3.6.1.

Table 3.6.1 Noise/Vibration Emissions monitoring

Monitoring point reference	Parameter	Units	Frequency
Blast Monitoring Sites BM1 and BM2 (as depicted in Schedule 1)	Airblast	dB	Each blast
	Peak particle velocity	mm/sec	

4 Information

4.1 Records

4.1.1 All information and records required by the Licence shall:
- (a) be legible;
- (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
- (c) except for records listed in 4.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
- (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
  - (i) off-site environmental effects; or
  - (ii) matters which affect the condition of the land or waters.

4.1.2 The Licensee shall ensure that:
- (a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
- (b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.

4.1.3 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.

4.1.4 The Licensee shall:
- (a) implement a complaints management system that shall record the following information (if known or provided) about complaints received at the Premises concerning any environmental impact of the activities undertaken at the Premises:
  - (i) name and address of the complainants (if consented);
  - (ii) date and time of complaint;
  - (iii) date and time of alleged incident;
  - (iv) alleged source of the incident;
  - (v) general description of the alleged incident, including any environmental or health impacts reported by the complainant;
  - (vi) wind direction, wind speed and temperature at time of alleged incident;
  - (vii) likely source of the alleged incident; and
  - (viii) actions taken by the Licensee to address the complaint, including the outcome of any investigation(s) and action(s) to verify any impacts.
- (b) complete an annual analysis and review of complaints recorded under 4.1.4(a) to identify any common factors and root cause of complaints and proposals to address these.

4.2 Reporting

4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 28 calendar days after the end of the annual period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual Environmental Report

Condition or table (if relevant)	Parameter	Format or form[1]
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified

Table 1.2.3	Approximate volumes and dates of transfer dam overflows	None specified
Table 3.2.1	A summary of point source air emissions monitoring results outlining trends and comparisons against limits and the previous monitoring period data.	None specified
4.1.3	Compliance	AACR
4.1.4	Complaints summary	None specified
Table 3.6.1	A summary of blast monitoring results outlining trends and comparison against limits.	
-	Measures taken to suppress dust	
-	Measures taken to minimise noise	

Note 1: Forms are in Schedule 2

4.2.2 The Licensee shall ensure that the Annual Environmental Report also contains an assessment of the information contained within the report against previous monitoring results and Licence limits.

4.2.3 The Licensee shall submit the information in Table 4.2.2 to the CEO according to the specifications in that table.

Table 4.2.2: Non-annual reporting requirements

Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form[1]
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties
Table 3.2.1	Stack velocity, Particulates, Sulfur dioxide, Nitrogen oxides, Polycyclic Aromatic Hydrocarbons, Volatile Organic Compounds, Carbon monoxide, Odour, Benzene, Toluene	Six monthly	28 calendar days	AR1
Table 3.6.1	Blast monitoring Report			None specified

Note 1: Forms are in Schedule 2

4.3 Notification

4.3.1 The Licensee shall ensure that the parameters listed in Table 5.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 5.3.1: Notification requirements

Condition or table (if relevant)	Parameter	Notification requirement[1]	Format or form[2]
2.1.1	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable	N1
-	Any exceedance of air-blast level requirements outlined in *Environmental Protection (Noise) Regulations 1997*		

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act
Note 2: Forms are in Schedule 2

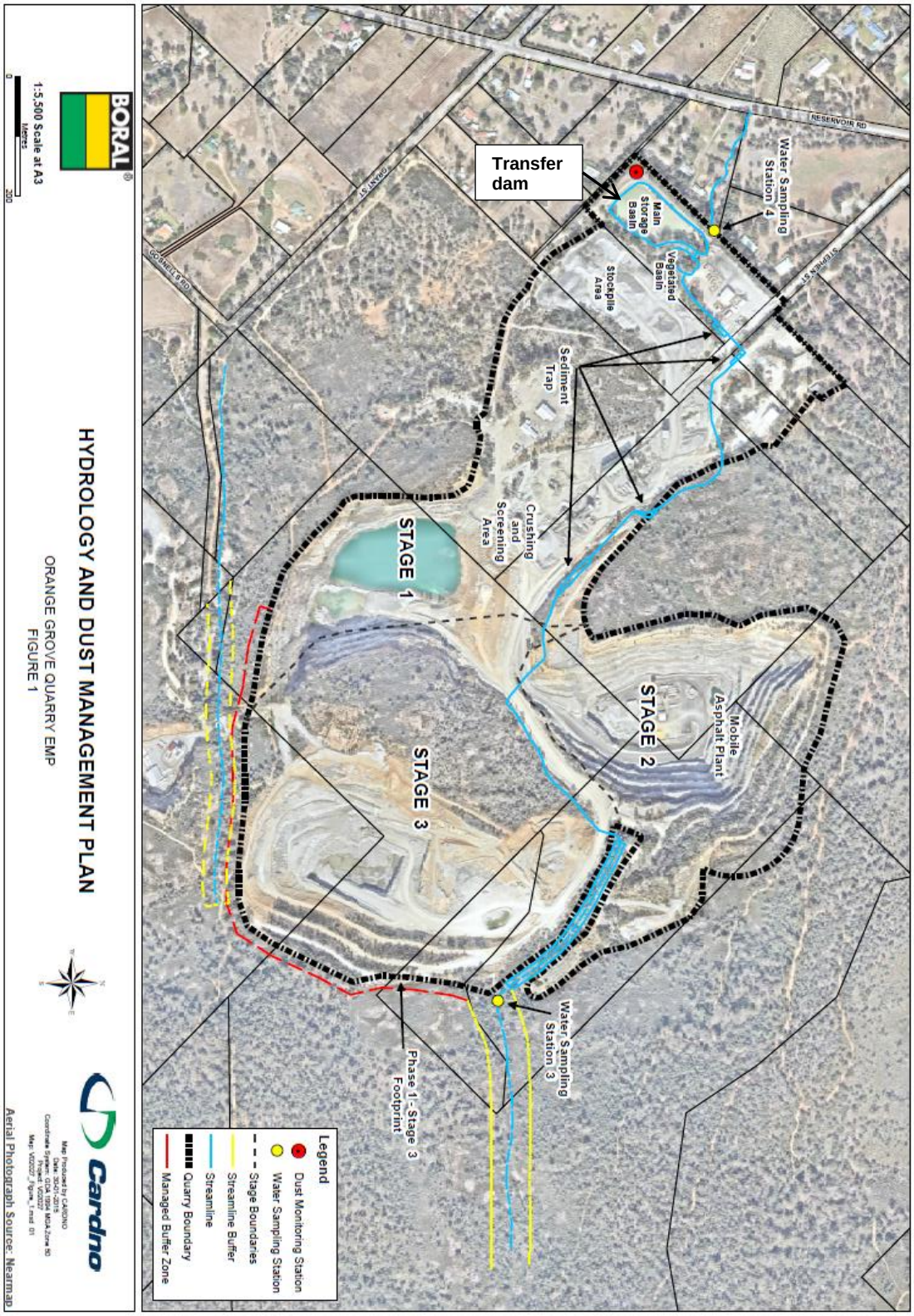
Schedule 1: Maps

Premises map

The Premises is shown in the map below. The red line depicts the Premises boundary. The locations of the emission point defined in Table 2.2.2 and monitoring points defined in Tables 3.5.1 and 3.6.1 are shown below.

Containment infrastructure

The location of containment infrastructure defined in Table 1.2.3 is shown below.



Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A

LICENCE DETAILS

Licence Number:	Licence File Number:
Company Name: Trading as:	ABN:
Reporting period: _____ to _____	

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

1. Were all conditions of the Licence complied with within the reporting period? (please tick the appropriate box)

Yes ☐ Please proceed to Section C

No ☐ Please proceed to Section B

Each page must be initialled by the person(s) who signs Section C of this Annual Audit Compliance Report (AACR).

Initial:

SECTION B

DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each Licence condition that was not complied with.

a) Licence condition not complied with:	
b) Date(s) when the non-compliance occurred, if applicable:	
c) Was this non-compliance reported to DER?:	
☐ Yes ☐ Reported to DER verbally Date _____ ☐ Reported to DER in writing Date _____	☐ No
d) Has DER taken, or finalised any action in relation to the non-compliance?:	
e) Summary of particulars of the non-compliance, and what was the environmental impact:	
f) If relevant, the precise location where the non-compliance occurred (attach map or diagram):	
g) Cause of non-compliance:	
h) Action taken, or that will be taken to mitigate any adverse effects of the non-compliance:	
i) Action taken or that will be taken to prevent recurrence of the non-compliance:	

Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:

SECTION C

SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) may only be signed by a person(s) with legal authority to sign it. The ways in which the AACR must be signed and certified, and the people who may sign the statement, are set out below.

Please tick the box next to the category that describes how this AACR is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

If the licence holder is		The Annual Audit Compliance Report must be signed and certified:
An individual	□	by the individual licence holder, or
	□	by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the licensee's behalf.
A firm or other unincorporated company	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A corporation	□	by affixing the common seal of the licensee in accordance with the *Corporations Act 2001*; or
	□	by two directors of the licensee; or
	□	by a director and a company secretary of the licensee, or
	□	if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or
	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A public authority (other than a local government)	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
a local government	□	by the chief executive officer of the licensee; or
	□	by affixing the seal of the local government.

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of $50,000 for an individual or body corporate.

I/We declare that the information in this annual audit compliance report is correct and not false or misleading in a material particular.

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SEAL (if signing under seal)

Licence: L6822/1967/13 Licensee: Boral Resources (W.A.) Ltd
Form: AR1 Period :
Name: Monitoring of point source emissions to air

Form AR1: Monitoring of point source emissions to air						
Emission point	**Parameter**	**Limit**	**Result**[1]	**Averaging period**	**Method**	**Sample date & times**
A1	PM	50 mg/m3	mg/m^3	Stack test (Minimum 60 minute average)	USEPA Method 5 or USEPA Method 17	
A1	Sulfur dioxide	350 mg/m3	mg/m^3	Stack test (method specific)	USEPA Method 6	
A1	Nitrogen oxides	350 mg/m3	mg/m^3	Stack test (Minimum 30 minute average)	USEPA Method 7E or 7D	
A1	Polycyclic Aromatic Hydrocarbons as BaP-TEQ	N/A	µg/m3 mg/s	Stack test (Minimum 120 minute average)	SW846 Method 0010	
A1	Total Volatile Organic Compounds (as n-hexane)	100 mg/m3	mg/m3	Stack Test (Minimum 30 minute average)	USEPA Method 18	
A1	Carbon monoxide	1000 mg/m3	mg/m3	Stack test (Minimum 30 minute average)	USEPA Method 10	
A1	Odour	N/A	ou ou.m3/s	Stack test (method specific)	AS 4323.3	
A1	Stack velocity	>20m/s	m/s	Stack test (method specific)	USEPA Method 2	
A1	Benzene	N/A	mg/m3	Stack test (Minimum 30 minute average)	USEPA Method 18	
A1	Toluene	N/A	mg/m3	Stack test (Minimum 30 minute average)	USEPA Method 18	

Note 1: All units are referenced to STP dry and relevant Oxygen Correction in Table 2.2.2

Signed on behalf of Boral Resources (W.A.) Ltd: …….. Date: …….

Licence: L6822/1967/13 Licensee: Boral Resources (W.A.) Ltd
Form: N1 Date of breach:

Notification of detection of the breach of a limit.

These pages outline the information that the operator must provide.
Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

Licence Number	
Name of operator	
Location of Premises	
Time and date of the detection	

Notification requirements for the breach of a limit	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission.	
The dates of any previous N1 notifications for the Premises in the preceding 24 months.	

Name	
Post	
Signature on behalf of Boral Resources (W.A.) Ltd	
Date	

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Licensee: Boral Resources (W.A.) Ltd

Licence: L6822/1967/13

Registered office: Level 3
40 Mount Street
NORTH SYDNEY NSW 2060

ACN: 008 686 904

Premises address: Boral Quarries – Orange Grove
ORANGE GROVE WA 6109
Being Lots 453, 457, 465, 466 and 467 on Plan 3327; Lot 50 on Plan 42517; Lot 101 on Diagram 90993; Lot 113 on Plan 248353; and Lot 181 on Plan 250164 as depicted in Schedule 1.

Issue date: Wednesday, 12 December 2012

Commencement date: Wednesday, 12 December 2012

Expiry date: Monday, 30 June 2025

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue an amended licence. DER considers that in reaching this decision, it has taken into account all relevant considerations.

Decision Document prepared by: Peter Knol / Clarrie Green
Licensing Officer

Decision Document authorised by: Tim Gentle
Delegated Officer

Contents

1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

2 Administrative summary

<table>
<tr><th colspan="4">Administrative details</th></tr>
<tr><td>Application type</td><td colspan="3">Works Approval ☐
New Licence ☐
Licence amendment ☒
Works Approval amendment ☐</td></tr>
<tr><td rowspan="5">Activities that cause the premises to become prescribed premises</td><td>Category number(s)</td><td colspan="2">Assessed design capacity</td></tr>
<tr><td>12</td><td colspan="2">2,000,000 tonnes per annual period</td></tr>
<tr><td>13</td><td colspan="2">36,000 tonnes per annual period</td></tr>
<tr><td>35</td><td colspan="2">300,000 tonnes per annual period</td></tr>
<tr><td>61A</td><td colspan="2">30,000 tonnes per annual period</td></tr>
<tr><td>Application verified
Application fee paid</td><td colspan="3">Date: N/A
Date: N/A</td></tr>
<tr><td>Works Approval has been complied with
Compliance Certificate received</td><td colspan="3">Yes☐ No☐ N/A☒
Yes☐ No☐ N/A☒</td></tr>
<tr><td>Commercial-in-confidence claim</td><td colspan="3">Yes☐ No☒</td></tr>
<tr><td>Commercial-in-confidence claim outcome</td><td colspan="3"></td></tr>
<tr><td>Is the proposal a Major Resource Project?</td><td colspan="3">Yes☐ No☐</td></tr>
<tr><td>Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?</td><td>Yes☐ No☒</td><td colspan="2">Referral decision No:
Managed under Part V ☐
Assessed under Part IV ☐</td></tr>
<tr><td>Is the proposal subject to Ministerial Conditions?</td><td>Yes☐ No☒</td><td colspan="2">Ministerial statement No:
EPA Report No:</td></tr>
</table>

Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the *Environmental Protection Act 1986*)?	Yes☐ No☒ Department of Water consulted Yes ☐ No ☐
Is the Premises within an Environmental Protection Policy (EPP) Area Yes☐ No☒ If Yes include details of which EPP(s) here.	
Is the Premises subject to any EPP requirements? Yes☐ No☒ If Yes, include details here, eg Site is subject to SO_2 requirements of Kwinana EPP.	

3 Executive summary of proposal and assessment

Boral Resources (W.A.) Ltd (Boral) is an international building and construction materials group, with headquarters in North Sydney, Australia. Boral produces and distributes a broad range of construction materials, including quarry products, cement, fly ash, pre-mix concrete and asphalt; and building products, including clay bricks and pavers, clay and concrete roof tiles, concrete masonry products, plasterboard, windows and timber. Boral is currently accredited with AS/NZS ISO 9001:2008.

Boral holds numerous licences across the State under the *Environmental Protection Act 1986*. Boral is currently licensed under L6822/1967/13 for prescribed premises categories 12 and 13 to operate the Orange Grove Quarry which is located on Stephen Street in Orange Grove. The premises is located along the Darling Scarp in the suburb of Orange Grove approximately 18km south-east of Perth CBD in the City of Gosnells.

The nearest sensitive receptors are residences located immediately adjacent to the premises boundary of quarry, and approximately 750 metres from the location of the asphalt plant.

The premises is located within an area zoned General Rural. Planning approval has been granted by the Western Australian Planning Commission.

The asphalt plant is an ASTEC T400 which includes the following main components:

- Compartment cold feeds
- Raw material conveyor
- Double barrel drying drum mixer
- Recycled asphalt product feeder system
- Bitumen storage kettles
- Hot bin storage system
- Dust silo
- Baghouse exhaust and air emission stack
- Waste bin
- Self bunded fuel storage tank (65,000L capacity)
- Control centre and onsite laboratory

The plant can operate at a capacity of 350 tonnes per hour with an anticipated throughput of 300 tonnes per hour averaging 500,000 tonnes over the life of the project. The annual throughput value has been set at 300,000 tonnes however the overall project capacity will not exceed 500,000 tonnes. The main emissions anticipated from the asphalt plant are point source air emissions, dust and odour.

This Decision Document assesses an amendment request by the Licensee to allow for the acceptance of waste in the form of Processed Reclaimed Asphalt Pavement (RAP) and its use in the asphalt manufacturing process. As part of this amendment, DER has not reassessed the acceptability or impacts or existing emissions and discharges from the premises or re-visited any existing emission control levels. Where conditions have been added or removed in the existing Licence these have been justified in Section 4.

4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	**Condition number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
General conditions	NA L1.2.6 – L1.2.7	Conditions 1.2.1 – 1.2.4 in the previous licence have been removed as part of a licence format update. The potential discharge of hazardous materials, unreasonable emissions and discharge of waste from this operation would be captured by the *Environmental Protection Act 1986* and associated Regulations and is not required to be included in this licence. As a consequence, this general condition has been removed. **Stormwater management** DER's assessment and decision making is provided in Appendix A.	*Environmental Protection Act 1986* *Orange Grove Quarry Environmental Management Plan (January 2015)*
Premises operation	L1.2.1 L1.2.5	Processed RAP as waste accepted from off site is proposed to be used. Waste acceptance and storage specifications for Processed RAP have been included in L1.2.1 and L1.2.5, consistent with a similar site accepting Processed RAP for asphalt manufacturing.	Application supporting documentation
Point source emissions to air including monitoring	L2.2.2 L3.2.1	DER's assessment and decision making is provided in Appendix B.	Application supporting documentation

Point source emissions to surface water including monitoring	N/A	There are no point source emissions to surface water associated with the addition of using processed RAP as an aggregate. No conditions are required.	N/A
Point source emissions to groundwater including monitoring	N/A	There are no point source emissions to groundwater associated with the addition of using processed RAP as an aggregate. No conditions are required.	N/A
Emissions to land including monitoring	N/A	There are no emissions to land associated with the addition of using processed RAP as an aggregate. No conditions are required.	N/A
Fugitive emissions	L2.3.1	DER's assessment and decision making is provided in Appendix C.	Boral Resources (WA) Orange Grove Quarry – Environmental Management Plan Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992

Odour	2.4.1	DER's assessment and decision making is provided in Appendix D.	General provisions of the *Environmental Protection Act 1986*. Boral Resources (WA) Orange Grove Quarry – Environmental Management Plan Boral Resources (WA) Ltd *Quarterly Field Odour Survey Plan* authored by Emission Assessments, dated 9 January 2015.
Noise	N/A	The Licensee has implemented the recommendations made in a cumulative noise assessment conducted under Improvement condition 4.1.2 of the previous Licence. No changes to noise conditions are required and conditions for blast noise limits remain.	*Environmental Protection (Noise) Regulations 1997*
Monitoring of inputs and outputs	L3.3.1	Requirement to monitor input of processed RAP has been added.	N/A
Ambient quality monitoring	L3.5.1	L3.5.1 requires continuous monitoring of ambient particulates (see Appendix B). The dust monitor has been relocated to a location in accordance with AS3580.1.1 and as required by the previous licence improvement conditions IR1 and IR2.	Application supporting documentation AS3580.1.1
Meteorological monitoring	N/A	There are no conditions regarding meteorological monitoring proposed.	N/A
Improvements	N/A	All improvement conditions have been complied with and these have now been removed from the Licence.	N/A
Information	L4.2.1	Reporting of target exceedances have been removed. All 24 hour averages of the dust ambient monitoring with a summary report is required to be submitted to DER with the annual report.	N/A
Licence Duration	N/A	The licence expiry date has been extended to align with the EIL.	N/A

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
17/12/2015	Proponent sent a copy of draft instrument	Boral requested that Processed RAP only be required to be stored in accordance with Main Roads Specification 511 Materials For Bituminous Treatments, where Main Roads would be the customer.	Main Roads Specification 511 requirements have been removed.
22/02/2016	Proponent sent a copy of the second draft instrument	1) Request to remove containment infrastructure condition. 2) Request to remove maintenance of triple interceptor condition.	1) Containment infrastructure condition authorises the storage of potentially contaminated stormwater and bears no ongoing requirement on the Licensee. The condition retained but no construction requirement specified as is existing infrastructure which has been in place for many years. 2) Removed as risk is assessed as low.

6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High

Appendix A

Stormwater management

Emission Description
Emission: Hydrocarbon-contaminated and sediment laden stormwater running off into nearby surface water drainage lines.

Impact: Suspended solids within stormwater have the potential to increase the turbidity of nearby surface waters and drainage areas, reducing the ability for aquatic vegetation to photosynthesise. Hydrocarbons may reduce the transpiration of vegetation and are known to be toxic to all forms of life if absorbed at the cellular level and may seep to groundwater if not contained appropriately. There are no Public Drinking Water Source Areas in the vicinity of Orange Grove making the risk of human consumption highly unlikely. A Priority Ecological Community intersects the sites' boundary and stormwater may runoff into other surrounding vegetation during periods of heavy rainfall although it is unlikely that the concentrations of hydrocarbons and sediments would be significant at these times.

Controls: Boral Orange Grove has triple interceptors onsite to treat potentially contaminated stormwater prior to discharge to a final transfer dam. The interceptors are used to remove sediment and hydrocarbons from potentially contaminated stormwater captured from high risk areas such as vehicle washdown bays and pre-coating facilities. Boral contract controlled waste carriers to empty all interceptors regularly to ensure their performance. The natural lithology in the area and the deposition of fine sediment in the dam over time has created a low permeability liner that allows for water retention and prevents seepage to groundwater.

Water is stored within the transfer dam for use in the process for dust suppression. However, during periods of heavy rainfall, the dam is expected to overflow to a vegetated drainage channel where it will infiltrate to groundwater and disperse into the local drainage network.

Boral has advised that they have strict procedures in place regarding storage of hazardous substances and spill response. These procedures ensure that potential sources of contamination are eliminated. Boral inspect and maintain the interceptors to ensure they operate effectively. Hydrocarbons in stormwater are therefore not expected to be present in concentrations which pose a threat to the environment.

Risk Assessment
Consequence: Insignificant
Likelihood: Unlikely
Risk Rating: Low

Regulatory Controls
Former condition 1.2.5 relating to stormwater management has been removed from the Licence as it is unclear and unenforceable.

Condition L1.2.6 replaces former condition L1.2.5 and authorises the discharge of treated water from triple interceptors to the site transfer dam. Storage of potentially contaminated stormwater from site drainage may also be stored in this dam. Based on Boral's controls to regularly inspect and maintain triple interceptors, the risk of contaminated stormwater entering the environment is low.

Appendix B

Point source emissions to air including monitoring

The Licence already includes conditions for use of RAP waste products from the asphalt plant itself. However, processed RAP as waste accepted from off site is proposed to be used requiring the authorisation of the solid waste acceptance. Throughput of processed RAP is likely to be increased, increasing the risk of localised impacts from point source air emissions at the asphalt plant.

Emission Description
Emission:
Volatile Organic Compounds (VOCs) from the use of RAP in asphalt production
Impact: Reduced local air quality and potential health impacts to nearby residents. Residences are located immediately adjacent to the premises boundary of quarry, but approximately 750 metres from the location of the asphalt plant.
Controls
The asphalt plant is a counter flow drum mix plant and is specifically designed for the using high percentage of RAP (up to 50%). RAP is introduced into the outing mixing shell separate from the inner drying drum. This significantly reduces the emission of VOCs compared with units that introduce the RAP into the drying drum. Further, steam generated in the outer mixing shell aids in capturing retention of VOCs within the mix. VOCs escaping the outer shell must pass back through the inner drying drum and flame which burns off VOCs before entering the baghouse and stack.

Risk Assessment
Consequence: Minor
Likelihood: Possible
Risk Rating: Moderate

Regulatory Controls
Surplus plant mix RAP is already used in processing of asphalt at the premises, and the current licence condition 2.2.2 includes a limit for VOC emission of 100 mg/m^3 as well as limiting CO emissions to 1,000 mg/m^3, with L3.2.1 requiring quarterly stack tests.

Risk Assessment
Consequence: Minor
Likelihood: Unlikely
Risk Rating: Moderate

Appendix C

Fugitive emissions – normal operations

Emission Description
Emission: Dust is generated from crushing and screening works and other quarry operations such as blasting.
Impact: Residences are located immediately adjacent to the premises boundary of quarry. Dust which travels across the premises boundary may result in amenity impacts, or, if severe dust emissions were to occur, human health effects. Impacts to human health are a risk particularly for dust particles finer than 10 microns (PM_{10}), which have the ability to be drawn deep within the lungs.
Controls: Processed RAP is screened to a fine grade (approximately 7 to 10 mm) however, when compacted, binds to itself and does not present a significant source of dust. In addition, stockpiles of Processed RAP are located within the quarry pit, approximately 90 metres below ground level and protected from easterly winds.

Boral has submitted an updated Environmental Management Plan (EMP) which includes improved dust emission management as required by Improvement Condition IR3. IR3 required the Licensee to implement the EMP upon submission. Boral are proposing to initiate a 100ug/m^3 real time trigger for PM_{10} whereby the operations manager is automatically notified (by SMS or equivalent system) to investigate conditions and, if dust is coming from the premises, activate further dust suppression measures.

Rigorous application of these management measures should minimise generation of fugitive dust.

Risk Assessment
Consequence: Moderate
Likelihood: Possible
Risk Rating: Moderate

Regulatory Controls
In this amended licence, the previous generic fugitive dust conditions L2.6.1 and L2.6.2 have been removed as they are not sufficiently clear or enforceable. Condition L2.3.1 replaces former generic conditions and requires Boral to manage dust in accordance with the Orange Grove Quarry Environmental Management Plan, specifically the management action commitments. Limits under condition 2.2.2 relating to particulate matter limits from the stack will remain on the Licence and are expected to assist in the regulation of ambient particulate concentrations beyond the premises boundary.

Further, targets under condition L3.5.1 have been removed as there were no specified management actions associated with exceedances and the condition was therefore not enforceable. Monitoring will still be required and assessed by DER during the review of Boral's Annual Environmental Report. DER reserves the right to initiate a licence amendment requiring further dust management should monitoring indicate excessive dust emissions.

Risk Assessment
Consequence: Moderate
Likelihood: Unlikely
Risk Rating: Moderate

Appendix D

Odour – normal operations

Emission Description
Emission: Asphalt/bitumen odour emissions from the asphalt plant and trucks carrying hotmix.
Impact: Odours can impact on the amenity of nearby sensitive receptors. The nearest residential dwelling is located approximately 750 m from the asphalt plant making it possible for receptors (i.e. nearby residents) to detect odours under worst case environmental conditions (still conditions particularly where a temperature inversion occurs, resulting in odours being trapped in the local area). The occasional complaint has been received by Boral in relation to odour.
Controls: Under the Orange Grove Quarry – Environmental Management Plan (EMP), Boral commits to controlling odours by:

- operating automatic temperature control devices and high-temperature alarms with automatic shut-offs on the hot oil system;
- maintaining gaskets and hinged flaps on kettle hatches and overflow outlets;
- maintaining enclosed conveyors and hotmix storage silos; and
- covering all trucks carrying hotmix with tarpaulins.

Risk Assessment
Consequence: Minor
Likelihood: Possible
Risk Rating: Moderate

Regulatory Controls
The generic odour condition in the previous licence has been removed as part of a licence format update to remove unclear and unenforceable conditions.

Boral has submitted a field odour survey plan as required by the previous licence improvement condition IR3. The improvement condition has been deleted through this amendment as field odour surveys were conducted in response to complaints. No direct correlation between the asphalt plant and odours was identified, and it was found that odours originating from the plant were insignificant for approximately 98% of survey results and low for the remainder.

Monitoring alone will not reduce the likelihood of odours and therefore commitments made by Boral in their EMP will form part of licence condition L2.4.1. Where odours are verified following a complaint as originating from the premises, or from trucks leaving the premises, Boral will immediately investigate and implement appropriate measures to reduce odour to acceptable levels as a requirement of condition L2.4.1.

The current Licence includes monitoring air emissions from the stack and reporting results, which will continue to limit odour emissions from the asphalt plant.

Residual risk
Consequence: Minor
Likelihood: Unlikely
Risk Rating: Moderate