



Works Approval Number	W5993/2016/1	
Works Approval Holder	Asphaltech Pty Ltd	
Works Approval Holder ACN Number	064520869	
Registered business address	12 St Georges Tce PERTH WA 6000	
Address for notifications	415 Victoria Rd MALAGA WA 6090	
Duration	Commencement date	Expiry Date
	24 April 2017	23 April 2020
Prescribed Premises	Category 61A: Solid Waste Facility	
Premises	69 Mather Drive NEERABUP WA 6031 Lot 2004 on Plan 70103	

This Works Approval is granted to the Works Approval Holder, subject to the following conditions, on 24April 2017 by:

Date signed: 24 April 2017

Caron Goodbourn

A/MANAGER LICENSING (PROCESS INDUSTRIES)

an officer delegated under section 20 of the Environmental Protection Act 1986 (W

Premises Description

The Works Approval Holder is proposing to construct a solid waste facility at 69 Mather Road, Neerabup for the purpose of recycling reclaimed asphalt paving (RAP) by crushing and screening and mixing with bitumen emulsion to produce emulsion stabilised base-course (ESB).

The proposed facility will include activities which fall within Category 61A, and as such the Premises is deemed a Prescribed Premises under the EP Act.

Conditions

Environmental compliance

1. The **Works Approval Holder** must comply with the **EP Act** and all regulations prescribed under the **EP Act** applicable to the **Premises** including:
 - (a) The duties of an occupier under s 61;
 - (b) The duty to notify the **CEO** of **discharges** of waste under s 72; and
 - (c) Not causing, or doing anything that is likely to cause, an offence under the **EP Act**,

except where the **Works Approval Holder** does something in accordance with a **Condition** which expressly states that a defence under s 74A of the **EP Act** may be available.

Premises

2. The **Works Approval Holder** must carry out the Works within the **Premises** in accordance with the requirements set out in Schedule 2.
3. This **Works Approval** applies to the **Premises** defined in the *Premises Description Table* and as depicted in the Premises Map in Schedule 1.

Premises Description Table	
General Location	Legal land description, reserve or tenement (all or part)
69 Mather Road NEERABUP WA	Lot 2004 on Plan 383770103

Location of Works

4. The **Works Approval Holder** must locate the Works generally in accordance with the Site Plan in Schedule 3.

Infrastructure and Equipment

5. The **Works Approval Holder** must maintain and use a water truck on site during construction activities likely to cause dust emissions.
6. Key items of infrastructure which are required to be built are listed in the *Infrastructure Requirements Table*. The **Works Approval Holder** must not depart from the requirements specified in column 2 of the *Infrastructure Requirements Table* except:
 - (a) where such departure is minor in nature and does not materially change or affect the infrastructure; or

- (b) where such departure improves the functionality of the infrastructure and does not increase risks to public health, public amenity or the environment;
- and all other **Conditions** in this Works Approval are still satisfied.

Infrastructure Requirements Table	
Infrastructure	Requirements (Design and Construction)
Internal access roads and hardstand	Made from asphalt and graded to allow drainage of stormwater away from the process and stockpile area and towards the landscaped area.
Hardstand for RAP and product storage	Made from ESB and graded to allow drainage of excess stormwater away from the process and stockpile areas, and towards the landscaped area
Hardstand for future bitumen emulsion production plant.	Made from concrete.
Mobile wet-mixer	Compliant with <i>Environmental Protection (Noise) Regulations 1997</i> .
Landscaped area	To have sufficient area and permeability of soil to capture stormwater that falls on the whole site area.
Compensating Basin	380 m ² earth-lined compensating basin, at least 1.3m deep.
Sprinklers for stockpile area	Sprinklers to have sufficient throw to cover stockpiles as required to suppress dust.

7. On completion of the Works, the **Works Approval Holder** must provide to the **CEO** a compliance document confirming the construction of the facility in accordance with the works approval.
8. If any departures to the specified Works have occurred, the **Works Approval Holder** must provide the **CEO** with a list of departures which are certified as complying with Condition 5 at the same time, and from the same engineer, as the certification under Condition 6.

Records and Information

9. The **Works Approval Holder** must maintain accurate records including information, reports and data in relation to the Works.
10. All information and records required under this **Works Approval** must:
- be legible;
 - if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval; and
 - be retained for 6 years after the expiry of this **Works Approval**.

Reports

11. If requested by the **CEO** from time to time, the **Works Approval Holder** must provide the **CEO** with reports or information relating to the Works, the **Premises** or any **condition** in this Works Approval (including data from any monitoring conditions or environmental risk assessment studies).
12. Reports or information must be in such form as the **CEO** may require in a **CEO Request**.

Requests for Information

13. The **Works Approval Holder** must comply with a **CEO Request**, within 7 days from the date of the **CEO Request** or such other period specified in the **CEO Request**.

Definitions and Interpretation

Definitions

In this Works Approval, the following terms have the following meanings:

CEO Request means a request made by the CEO to the Works Approval Holder in writing, sent to the Works Approval Holder's address for notifications, as described at the front of this Works Approval, in relation to:

- (a) information, records or reports in relation to specific matters in connection with this Works Approval including in relation to compliance with any conditions and the calculation of fees (whether or not a breach of condition or the EP Act is suspected); or
- (b) reporting, records or administrative matters:
 - (i) which apply to all Works Approvals granted under the EP Act; or
 - (ii) which apply to specified categories of Works Approvals within which this Works Approval falls.

Condition means a condition to which this Works Approval is subject under s 62 of the EP Act.

Discharge has the same meaning given to that term under the EP Act and, in relation to waste or other matter, includes deposit it or allow it to escape, or cause or permit it to be, or fail to prevent it from being, discharged, deposited or allowed to escape.

ESB means emulsion stabilized base material.

EP Act means the *Environmental Protection Act 1986* (WA).

EP Regulations means the *Environmental Protection Regulations 1987* (WA).

Premises refers to the premises to which this Works Approval applies, as specified at the front of this Works Approval and as shown on the map in Schedule 1 to this Works Approval.

RAP means reclaimed asphalt pavement.

Works Approval refers to this document, which evidences the grant of Works Approval by the CEO under s 57 of the EP Act, subject to the conditions.

Works Approval Holder refers to the occupier of the Premises being the person to whom this Works Approval has been granted, as specified at the front of this Works Approval.

Interpretation

In this Works Approval:

- (a) the words 'including,' 'includes' and 'include' will be read as if followed by the words 'without limitation';
- (b) 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;
- (c) where tables are used in a Condition, each row in a table constitutes a separate Condition; and
- (d) any reference to an Australian or other standard, guideline or code of practice in this Works Approval means the version of the standard, guideline or code of practice in force at the time of granting of this Works Approval and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the Works Approval.

Works Approval document history

Where this Works Approval has been amended, and revised Works Approvals have been issued, the document history is set out below.

Amendment Description	Date	Revision No
First issue	24 April 2017	0

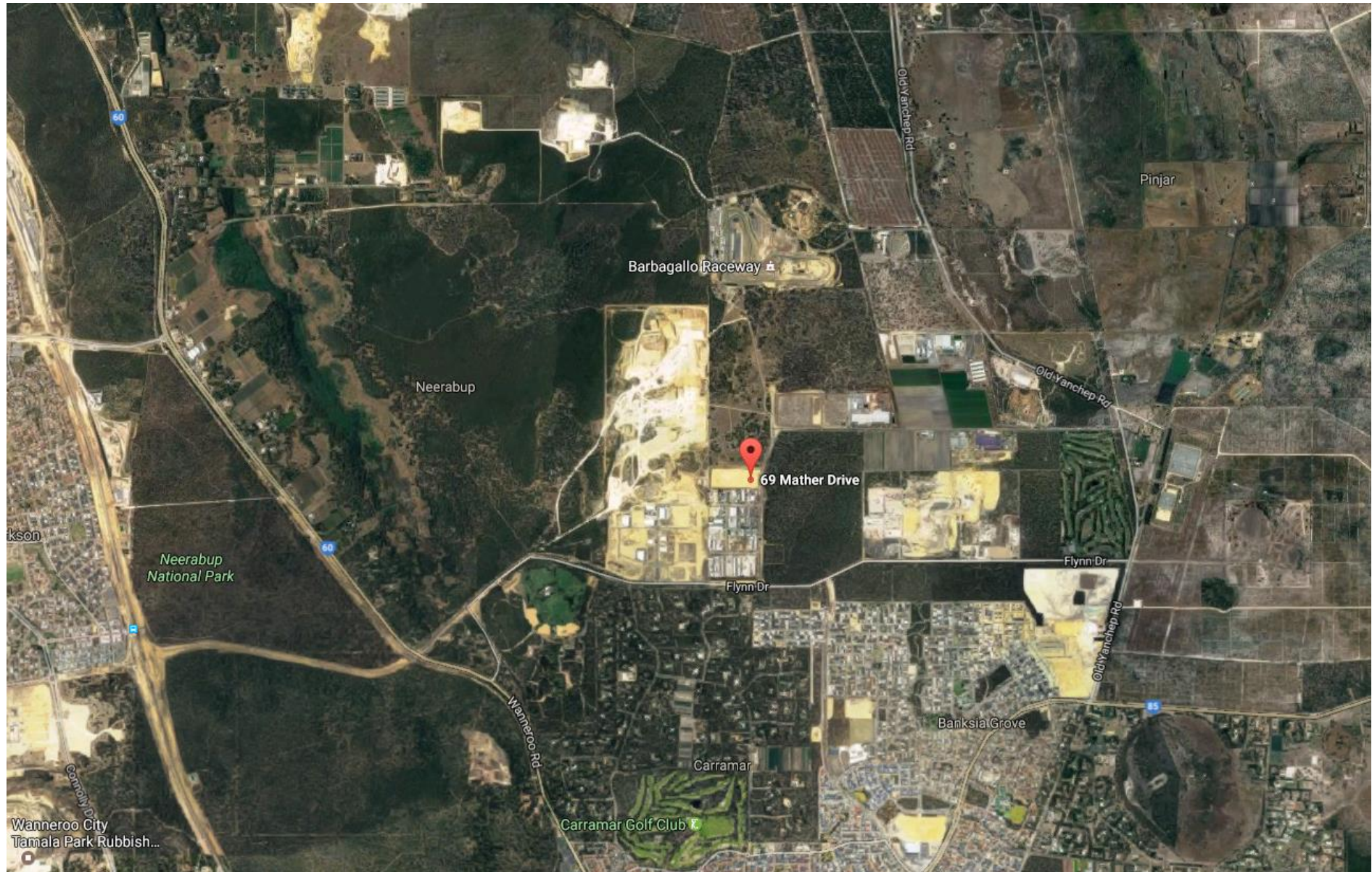
Schedule 1: Maps

Premises Map

The **Premises** is shown in the map(s) below. The pink line depicts the boundary to the **Premises**.



Location Map

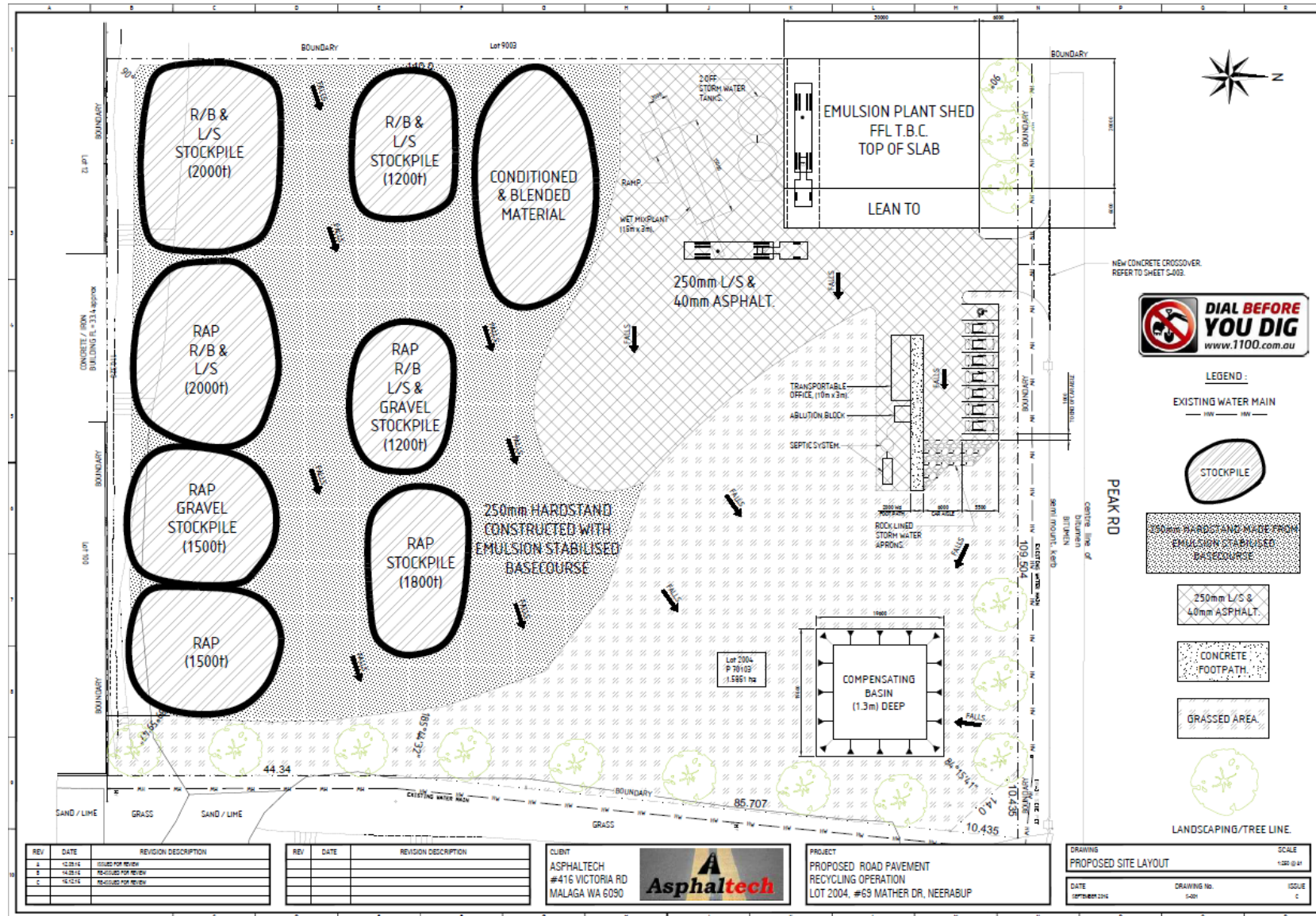


Schedule 2: Works

The Works to be carried out on the Premises are specified in the table below:

Item	Works	Specifications/Drawings
1	Earth works for graded hardstands and utilities.	Site Plan- Schedule 3
2	Construct concrete hardstand for future emulsion plant.	
3	Construct bitumen access roads and graded hardstand apron.	
4	Install mobile wet mixing plant including pipework and pumps for transfer of bitumen emulsion.	
5	Construct graded ESB hardstand for stockpile area.	
6	Construct landscaped area including a 380 m ² compensating basin (at least 1.3 m deep) for capture of stormwater run-off.	

Schedule 3: Site Plan





Application for Works Approval

Division 3, Part V *Environmental Protection Act 1986*

Applicant:	Asphaltech Pty Ltd
ACN:	064520869
Works Approval Number:	W5993/2016/1
File Number:	DER2016/001894
Premises:	Asphaltech Road Pavement Recycling Operation 69 Mather Drive, NEERABUP, WA, 6031 Lot 2004 on Deposited Plan 70103 Certificate of Title Volume 2765 Folio 588
Date of report:	Thursday, 20 April 2017
Status of Report	Final

Table of Contents

Definitions of terms and acronyms	iv
1. Purpose and scope of assessment	1
2. Background	1
3. Overview of the Road Pavement Recycling Operation.....	2
3.1 Infrastructure	2
3.2 Construction	2
3.3 Operational aspects	2
4. Legislative context.....	4
4.1 Other relevant approvals	4
4.1.1 Planning approvals.....	4
4.1.2 Department of Water	4
4.2 Part V of the EP Act	4
4.2.1 Guidance Statements.....	4
5. Assessment of operator	4
6. Consultation	4
7. Location and siting	5
7.1 Siting context.....	5
7.2 Residential and sensitive premises.....	6
7.3 Specified ecosystems.....	6
7.4 Groundwater and water sources.....	7
7.5 Soil type	7
7.6 Meteorology	8
7.6.1 Wind direction and strength.....	8
7.6.2 Rainfall and temperature	9
8. Risk assessment.....	10
8.1 Confirmation of potential impacts	10
8.2 Risk Criteria.....	14
8.3 Risk Treatment.....	15
8.4 Risk Assessment – Dust.....	15
8.4.1 General hazard characterisation and impact	15
8.4.2 Criteria for assessment.....	15
8.4.3 Applicant controls	16
8.4.4 Key findings.....	16
8.4.5 Consequence	16
8.4.6 Likelihood of consequence	17

8.4.7	Overall rating.....	17
8.5	Risk Assessment - Contaminated Runoff	17
8.5.1	General hazard characterisation and impact	17
8.5.2	Criteria for assessment.....	17
8.5.3	Applicant controls.....	17
8.5.4	Key findings.....	18
8.5.5	Consequence.....	18
8.5.6	Likelihood of consequence	18
8.5.7	Overall rating.....	18
8.6	Summary of risk assessment and acceptability	19
9.	Determined Regulatory Controls.....	20
9.1	Works Approval Controls.....	20
9.1.1	Specified actions during construction	20
9.2	Potential Licence Controls.....	20
9.2.1	Specified infrastructure for control of dust	20
9.2.2	Specified Infrastructure for control of contaminated run-off.....	21
9.2.3	Specified actions	21
10.	Appropriateness of Works Approval conditions	21
11.	Applicant's comments.....	21
12.	Conclusion	21
Appendix 1: Key Documents		
Appendix 2: Summary of Applicant's Comments on Risk Assessment and Draft Conditions		
Attachment 1: Issued Works Approval W5993/2016/1		

Definitions of terms and acronyms

Term	Definition
Category/Categories (Cat.)	categories of prescribed premises as set out in Schedule 1 of the EP Regulations
CS Act	<i>Contaminated Sites Act 2003 (WA)</i>
DER	Department of Environment Regulation
Decision Report	this document
Delegated Officer	An officer under section 20 of the EP Act.
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
m ³	cubic metres
Minister	the Minister responsible for the EP Act and associated regulations
mtpa	million tonnes per annum
NEPM	National Environmental Protection Measure
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
Occupier	is defined in the EP Act to mean a person who is in occupation or control of a premises, or part of a premises, whether or not that person is the owner of the premises or part of the premises.
OEPA	Office of the Environment
Premises	Asphaltech Road Pavement Recycling Operation Lot 2004 on Deposited Plan 70103
Prescribed Premises	Premises prescribed under Schedule 1 to the EP Regulations
prescribed premises	premises prescribed under Schedule 1 to the EP Regulations.
RAP	Reclaimed Asphalt Pavement
UDR	<i>Environmental Protection (Unauthorised Discharge) Regulations 2004 (WA)</i>
Works Approval Holder	Asphaltech Pty Ltd

1. Purpose and scope of assessment

An application for a Works Approval and concurrent Licence was received from Asphaltech Pty Ltd (the Applicant) for a new prescribed premises that will produce emulsion stabilised base-course (ESB) through a mobile wet-mixer using reclaimed asphalt pavement (**RAP**), recycled and blended granulated materials and bitumen emulsion.

It is planned that the premises will manufacture both bitumen emulsion and ESB in the future, and *Category 61A Solid waste processing* and *Category 36 Bitumen manufacturing* will apply. In the short-term, however, it is proposed by the Applicant that only ESB will be manufactured using bitumen emulsion which is purchased and RAP which is obtained from other sources.

This Decision Report presents an assessment of potential environmental and public health risks from emissions and discharges from the construction and operation of the activities related to the production of ESB (no bitumen emulsion production).

2. Background

The Applicant is an Australian proprietary company limited by shares. The holding company is Balacre Pty Ltd, which is the legal owner of the premises that has provided legal access to the site to the Applicant.

The proposed premises will be located at 69 Mather Drive, Neerabup, within a relatively new industrial area. The premises will function primarily as a Road Pavement Recycling Operation in which road pavement materials such as RAP (recycled asphalt product) and other recycled materials will be brought to site and mixed with a bitumen emulsion to produce the ESB, which is used in the construction of roads.

The proposed site is already cleared and ready for construction for the premises.

Table 1 describes the premises categories applicable to the premises, based on the production of ESB only.

Table 1: Prescribed Premises Categories

Classification of Premises	Description	<i>Premises production or design capacity or throughput</i>
Category 61A	Solid waste facility: premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto land.	160,000 tonnes per annual period

3. Overview of the Road Pavement Recycling Operation

3.1 Infrastructure

The facility's infrastructure, as it relates to Category 61A activities, is detailed in Table 2 and with reference to the Site Plan (provided in Attachment 1).

Table 2: Proposed premises infrastructure

Infrastructure	
Prescribed Activity Category 61A	
The premises accepts solid waste (RAP and other recycled and blended granulated materials) and mixes these with bitumen emulsion in a mobile wetmixer to produce ESB. The ESB is used at locations other than the premises.	
1	Internal access roads made from asphalt
2	Concrete hardstand for future bitumen emulsion plant and transportable office
3	Mobile wetmixer
4	Stockpile area with hardstand made from ESB
5	Landscaped area of for infiltration of stormwater falling on the site
6	380 m ² earth-lined compensating basin at least 1.3 m deep

3.2 Construction

The premises will be constructed on an already cleared, vacant site with a top layer of sand. The Applicant proposes to install a fence around the perimeter; a groundwater bore and reticulation will also be installed.

Driveways, carparks and the operational area for the wetmixer will be constructed from asphalt pavement. The stockpile areas will be covered with ESB.

Water sprinklers connected to the onsite bore or a water truck will be used to suppress fugitive dust generated during construction. Landscaping will also be created around the premises to assist with dust control.

It is expected that site works will be conducted during daytime hours.

3.3 Operational aspects

The proposed premises will be located at 69 Mather Drive, Neerabup, within a relatively new industrial area (see Works Approval Schedule 1).

It is planned that the facility will operate between the hours of 6:00am and 5:00pm weekdays. However there may be periods of increased 24/7 operation due to the requirements of specific projects.

There are three stages to the production process conducting on site:

1. Screening, crushing and stockpiling;
2. Manufacture of ESB; and
3. Transport or temporary storage of ESB.

Screening, Crushing and Stockpiling

The stockpiling and raw materials handling process is shown in Figure 1.

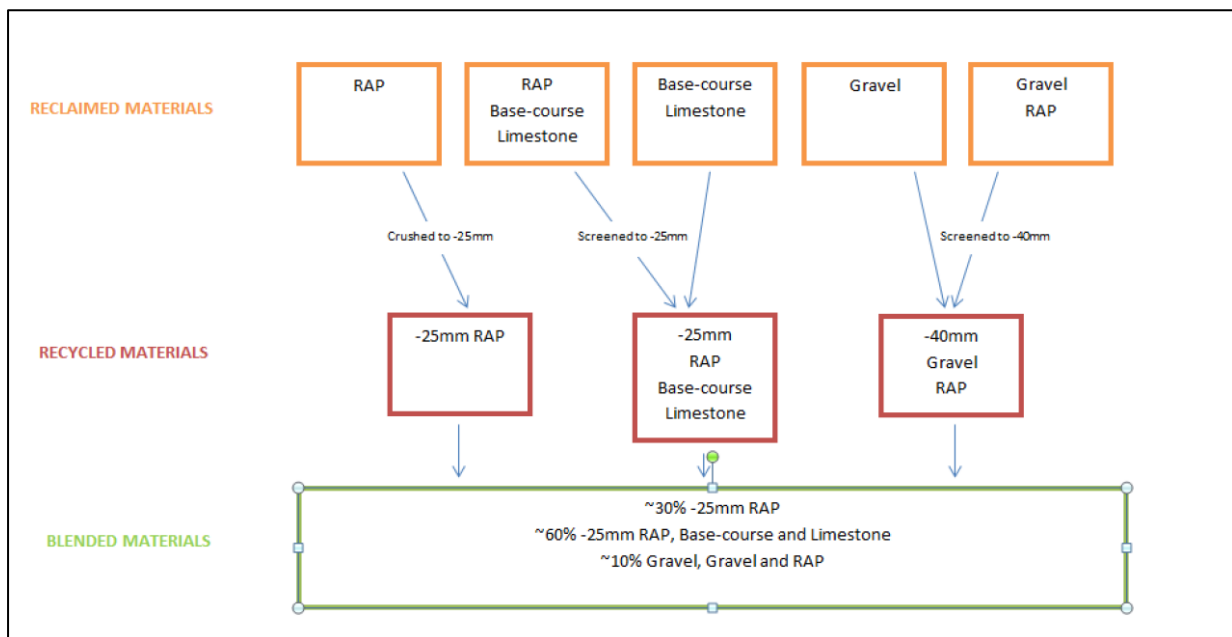
RAP and other granular reclaimed materials (such as base-course granite, gravel and limestone) will be received by truck from various sites and stored within the premises in up to five 'reclaimed material stockpiles'. These stockpiles will be created upon a layer of ESB to reduce dust lift off from the area and to better manage stormwater.

The materials will then be crushed, screened and mixed in the stockpiling area. The crushing and screening activities will be conducted by external contractors who will bring their equipment to the premises, crush and screen the materials and then remove the equipment off site. This crushing and screening will occur on an as needed basis.

The 'recycled materials' generated by the crushing and screening processes are stored in the stockpiling area in 3 different stockpiles: -25mm RAP, -25mm RAP base-course limestone, and -40mm Gravel RAP. Material from each of the three recycled materials stockpiles is then used to create a blend for the mobile wetmixer. This blend is stored in the 'blended materials stockpile' which is the feed stockpile for solid material used in the manufacture of ESB.

Although the materials within the stockpiles are not known to generate significant amounts of fugitive dust due to their particle size, the stockpiles will be managed with sprinklers to keep the stockpile material moist and reduce emissions.

Figure 1 Stockpiling and raw materials handling process



Manufacture of ESB

ESB is manufactured at the premises within a mobile wet-mixer, using a batch process.

Bitumen emulsion will be delivered by covered truck to the premises and will be directly transferred from the truck to the wetmixer using a hose and pump arrangement. The transfer process will be conducted on asphalt.

A measured amount of blended material will be transferred from the stockpile into the hopper of the wet-mixer using a front end loader. ESB will be produced by mixing the blended material with bitumen emulsion within the wet-mixer. No heating will be used.

Transport or Storage of ESB

The moist ESB is transported from the wet-mixer via a conveyor belt into another hopper. The hopper provides temporary storage for the ESB which is then transferred under controlled release into a truck. The ESB can either be directly transported offsite for use or transferred to a day-to-day surge stockpile for temporary storage.

4. Legislative context

4.1 Other relevant approvals

4.1.1 Planning approvals

The City of Wanneroo granted a development approval on 5 April 2017 (DA2016/1312).

4.1.2 Department of Water

The Applicant has obtained a 26(D) licence from the Department of Water to construct or alter a well (CAW183325(1)), and a 5C licence to take groundwater for use as dust suppression and site maintenance (GWL183328(1)).

4.2 Part V of the EP Act

4.2.1 Guidance Statements

The overarching legislative framework of this assessment is the EP Act and EP Regulations.

DER Guidance Statements which inform this assessment are:

- Guidance Statement: Regulatory Principles (July 2015)
- Guidance Statement: Licence and works approval process (September 2015)
- Guidance Statement: Setting Conditions (October 2015)
- Guidance Statement: Land Use Planning (October 2015)
- Guidance Statement: Licence Duration (November 2015)

5. Assessment of operator

The Applicant is the holder of Licence L8447/2010/3 for an asphalt manufacturing premises at 416 Victoria Road in Malaga. DER's Incidents and Complaints Management System has 8 entries that have a reference to Asphaltech Pty Ltd. None of these entries are of such nature that it would prevent the issue of a new instrument to Asphaltech Pty Ltd.

6. Consultation

The application for a Works Approval was advertised on 17 October 2016 and a letter was sent to the City of Wanneroo seeking comments on the application on the same day.

The application for a Licence was advertised on 17 October 2016 and a letter was sent to the City of Wanneroo seeking comments on the application on the same day.

No comments were received from the general public or from the City of Wanneroo regarding either the Works Approval or the Licence.

7. Location and siting

7.1 Siting context

The premises is located within a relatively new industrial area in Neerabup. Some premises have already been constructed and are operational; there are still a large number of lots available for other industrial premises.

A location map is presented in

Figure 2.

7.2 Residential and sensitive premises

The distances to residential and sensitive receptors are as follows:

Table 3: Receptors and distance from activity boundary

Sensitive Land Uses	Distance from Prescribed Activity
Residential Premises	850m to the south-southwest (Special Rural Area, suburb of Carramar) 950m to the south-southeast (residential suburb of Banksia Grove)

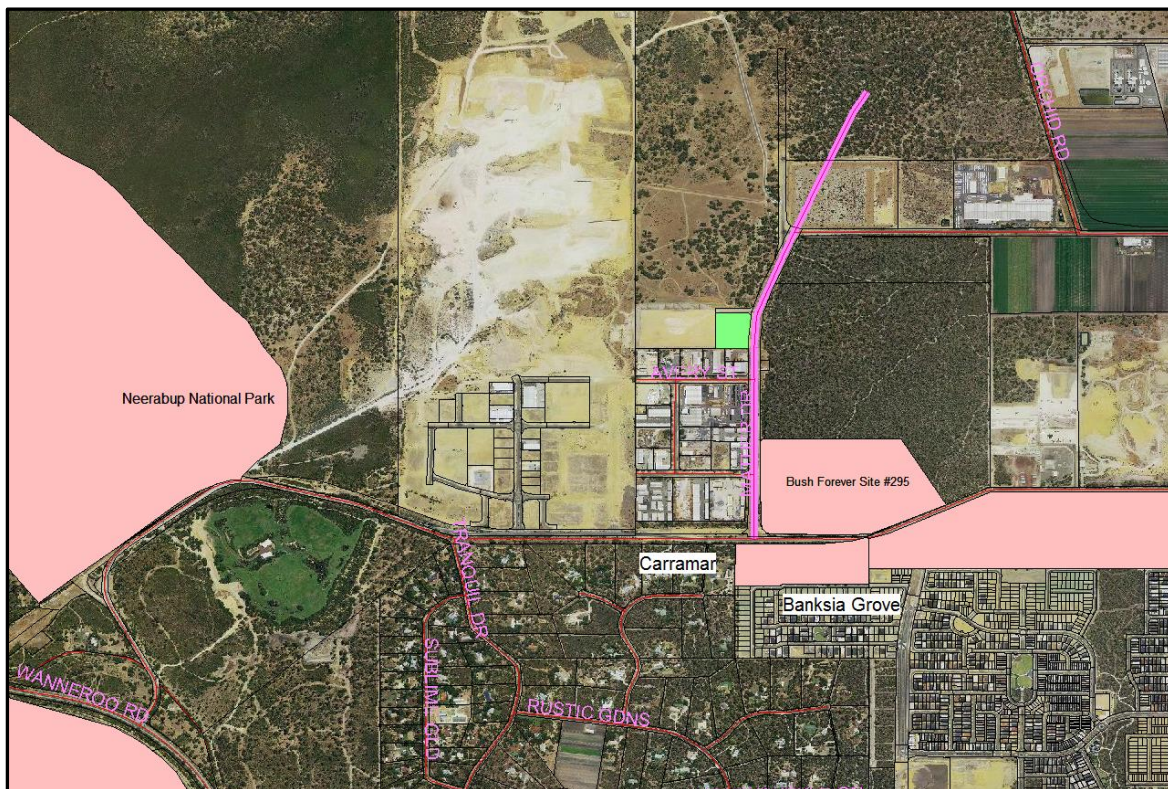
7.3 Specified ecosystems

The distances to specified ecosystems are shown in Table 4 and displayed in Figure 2.

Table 4: Specified ecosystems

Specified ecosystems	Distance from the Premises
Bush Forever Area #295, Flynn Drive Bushland, Neerabup	365m to the south east
Neerabup National Park	1.5km to the west

Figure 2: Map showing location of specified ecosystems



7.4 Groundwater and water sources

The distances to groundwater and water sources are shown in Table 5.

Table 5: Groundwater and surface water sources

Groundwater and water sources	Distance from Premises	Environmental Value
Groundwater	Depth to groundwater is approximately 34mbgl, with a variation of 3m between historic minimum and maximum. ^(Note 1) Within a radius of about 900m, and within the industrial area, there are 9 groundwater bores.	The groundwater is likely to have a salinity level between 500-1000mg/L. The groundwater is deemed suitable for Garden Bores. ^(Note 2)
Neerabup Lake	Approximately 2.4km to the west as part of the larger bush forever site #384 (boundary is approximately 1.5km to the west of the premises).	Neerabup Lake is part of Neerabup National Park and has a high environmental value. It is a reserve with a conservation purpose. ^(Note 3)

¹ Source: DER's GIS information

² Source: Perth Groundwater Atlas as available on www.water.wa.gov.au

³ Source: Bush Forever, Volume 1 Policies, Principles and Processes, December 2000, WA Government.

7.5 Soil type

The surface geology type of the premises is Tamala Limestone, predominantly calcarenite. There is a low risk of iron staining and there is no known risk of acid sulfate soils. The groundwater salinity is expected to be in the range of 500-1000 mg/L as Total Dissolved Solids and as such the groundwater is suitable for use as proposed by the Applicant.

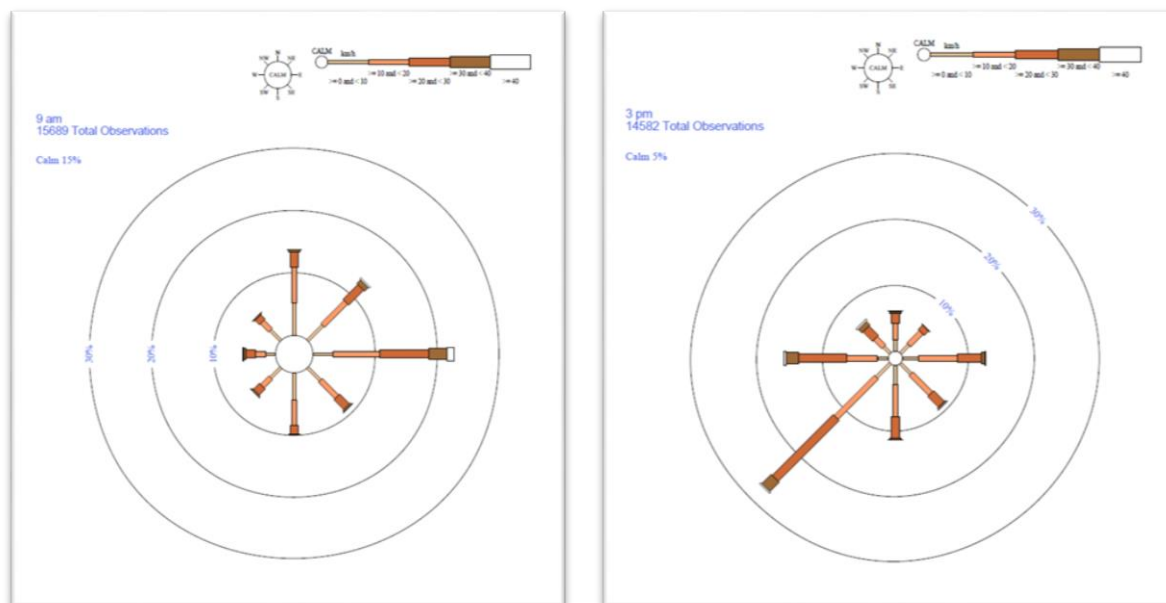
7.6 Meteorology

The premises is located on the Swan Coastal Plain in the Perth Region. The Perth Region experiences a Mediterranean climate characterised by mild and wet winters and warm to hot dry summers. Highest temperatures occur between December to March with average monthly maximum ranging from 30°C in December to 34°C in January. The summer period also experiences heat waves that can last for four to five days. Most rainfall occurs during winter in association with cold fronts from the south-west.

7.6.1 Wind direction and strength

The closest Bureau of Meteorology monitoring station is located at Pearce RAAF. The average wind direction in Perth region at 9am and 3pm is presented in Figure 4.

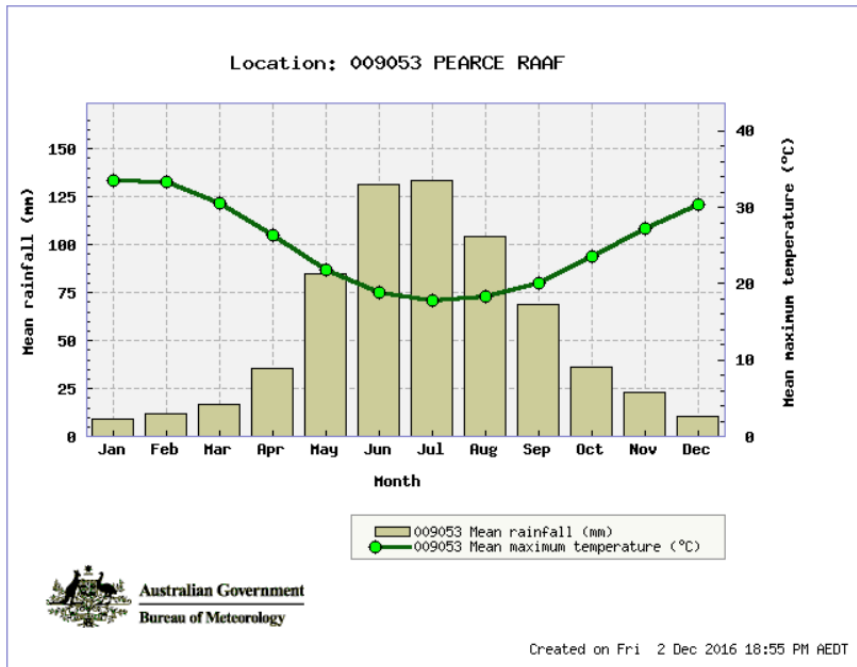
Figure 3: Wind Roses, Pearce RAAF 1940-2011 annual average at 9am and 3pm



7.6.2 Rainfall and temperature

The mean rainfall and mean maximum temperature are presented in Figure 4.

Figure 4: Mean rainfall and mean maximum temperature Pearce RAAF



8. Risk assessment

8.1 Confirmation of potential impacts

Identification of key potential emissions, pathways, receptors and confirmation of potential impacts are set out in Table 6 and Table 7. These tables also identify which potential emissions will be progressed to a full risk assessment. Some potential emissions/impacts may not receive a full risk assessment where a potential receptor or pathway cannot be identified or where the emission/impacts are regulated under a Ministerial Statement.

Table 6: Identification of key emissions during construction

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
Source (see Section 3.3 for infrastructure references)	Construction, mobilisation and positioning of infrastructure	Vehicle movements on unsealed areas of the site.	Noise	Special Rural premises located approximately 685m SSW of the premises.	Air / wind dispersion	Amenity	No	The Delegated Officer considers that the separation distance between the source and potential receptors is sufficient and the activity will be carried out in an industrial area. Construction will be conducted over a short-term period. The EP Noise Regulations apply to noise emissions.
			Dust	Residential premises located approximately 850m SSE of the premises.		Amenity and health impacts	No	The Delegated Officer considers that the separation distance between the source and potential receptors is sufficient to minimise dust impacts. Existing industrial premises may provide a barrier for fugitive dust emissions reaching nearest residences. Construction will be conducted over a short-term period.

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
		Construction of new buildings, plant and infrastructure	Noise	Special Rural premises located approximately 685m SSW of the premises. Residential premises located approximately 850m SSE of the premises.	Air / wind dispersion	None	No	The Delegated Officer considers that the separation distance between the source and potential receptors is sufficient and the activity will be carried out in an industrial area. Construction activities are limited, mainly restricted to construction of paved areas, concrete hardstand and ESB areas. Construction will be conducted over a short-term period. The EP Noise Regulations apply to noise emissions.
			Dust			None	No	The Delegated Officer considers that the separation distance between the source and potential receptors is sufficient to minimise dust impacts. Existing industrial premises may provide a barrier for fugitive dust emissions reaching nearest residences. Construction will be conducted over a short-term period.

Table 7: Identification of key emissions during operation

		Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning	
Source (see Section 3.3 for infrastructure references)	Raw Materials Handling	Truck movement and unloading of RAP	Dust	Special Rural premises located approximately 685m SSW of the premises. Residential premises located approximately 850m SSE of the premises	Air / wind dispersion	Amenity and public health	Yes	See section 8.4
			Noise			Amenity impacts	No	The Delegated Officer considers that the operating hours of the premises and the separation distance between the premises and potential receptors is sufficient. Premises activities will be conducted in an industrial area. The EP Noise Regulations apply to noise emissions.
		Stockpiling	Dust	Special Rural premises located approximately 685m SSW of the premises. Residential premises located approximately 850m SSE of the premises.	Air / wind dispersion	Amenity and public health	Yes	See section 8.4
			Noise			Amenity impacts	No	The Delegated Officer considers that the operating hours of the premises and the separation distance between the premises and potential receptors is sufficient. Premises activities will be conducted in an established industrial area. The EP Noise Regulations apply to noise emissions.
		Crushing and screening	Dust	Special Rural premises located approximately 685m SSW of the premises. Residential premises located approximately 850m SSE of the premises	Air / wind dispersion	Amenity and public health	Yes	See Section 8.4
			Noise			Amenity impacts	No	The Delegated Officer considers that the operating hours of the premises and the separation distance between the premises and potential receptors is sufficient. Premises activities will be conducted in an established industrial area. The EP Noise Regulations apply to noise emissions.

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
		Stormwater	Contaminated stormwater	Soil and groundwater local government drainage network	Over land to stormwater gullies	Contamination of soil or groundwater and build-up of sediment in drains.	Yes	See section 8.4
	Wetmixing	Wetmixing	Noise	Special Rural premises located approximately 685m SSW of the premises. Residential premises located approximately 850m SSE of the premises.	Air / wind dispersion	Amenity impacts	No	The Delegated Officer considers that usual operating hours of the premises and the separation distance between the premises and potential receptors is sufficient. Premises activities will be conducted in an established industrial area. The EP Noise Regulations apply to noise emissions.
			Odour/ Emissions of VOC to air (fugitive)			Odour impact and potential health impact	No	The emission of VOCs is expected to be low as the bitumen emulsion is mixed with cold materials and there is no heating involved in the process.

8.2 Risk Criteria

During the assessment the risk criteria in Table 10 below will be applied to determine a risk rating set out in this section 8.

Table 8: Risk Criteria

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

Likelihood		Consequence		
The following criteria has been used to determine the likelihood of the risk / opportunity occurring.		The following criteria has been used to determine the consequences of a risk occurring:		
			Public Health	Ecosystem/ Environmental
Almost Certain	The event is expected to occur in most circumstances	Severe	<ul style="list-style-type: none"> Loss of life Exposure to hazard with permanent prolonged adverse health effects expected to large population Health criteria is significantly exceeded 	<ul style="list-style-type: none"> Irreversible impact to significant high value or sensitive ecosystem expected Irreversible and significant impact on a wide scale Total loss of a threatened species expected Ecosystem criteria is significantly exceeded
Likely	The event will probably occur in most circumstances	Major	<ul style="list-style-type: none"> Exposure to hazard with permanent prolonged adverse health effects expected to small population Significant impact to amenity for extended periods expected to large population Health criteria is exceeded 	<ul style="list-style-type: none"> Long-term impact to significant high value or sensitive ecosystem expected Long-term impact on a wide scale Adverse impact to a listed species expected Ecosystem criteria is exceeded
Possible	The event could occur at some time	Moderate	<ul style="list-style-type: none"> Exposure to hazard with short-term adverse health effects expected requiring treatment Impact to amenity expected for short periods to large population Health criteria is at risk of not being met 	<ul style="list-style-type: none"> Minor and short-term impact to high value or sensitive ecosystem expected Off-site impacts at a local scale Ecosystem criteria is at risk of not being met
Unlikely	The event is unlikely to occur	Minor	<ul style="list-style-type: none"> Exposure to hazard with short-term adverse health effects expected Impact to amenity expected for short periods to small population Health criteria are likely to be met 	<ul style="list-style-type: none"> Moderate to minor impact to ecosystem component (physical, chemical or biological) Minor off-site impacts at a local scale Ecosystem criteria are likely to be met
Rare	The event may only occur in exceptional circumstances	Insignificant	<ul style="list-style-type: none"> No detectable impacts to health No detectable impacts to amenity Health criteria met 	<ul style="list-style-type: none"> None or insignificant impact to ecosystem component (physical, chemical or biological) expected with no effect on ecosystem function Ecosystem criteria met

8.3 Risk Treatment

DER will treat risks in accordance with the Risk Treatment Matrix in Table 9 below:

Table 9: Risk Treatment

Risk Rating	Acceptability	Treatment
Extreme	Unacceptable.	Risks will not be tolerated. DER will refuse proposals.
High	Acceptable subject to primary and secondary controls.	Risks will be subject to multiple regulatory controls including primary and secondary controls. This will include both outcome-based and management conditions.
Medium	Acceptable, generally subject to primary controls.	Risks will be subject to regulatory controls with a preference for outcome-based conditions where practical and appropriate.
Low	Acceptable, generally not requiring controls beyond the proponents controls.	Risks are acceptable and will generally not be subject to regulatory controls.

8.4 Risk Assessment – Dust

8.4.1 General hazard characterisation and impact

Construction

Dust can be released during construction activities particularly during earthworks on site. The dust is expected to be inert, mainly consisting of topsoil, and pose amenity issues only.

Operation

Dust may be released during the delivery and transfer of raw materials and recycled material, and during the crushing and screening operation. The dust is expected to be inert and only be an amenity issue, although in an extreme event it could cause issues for public health by the level of fine particulates.

8.4.2 Criteria for assessment

Fugitive dust from stockpiles or unsealed areas can cause complaints from neighbours if they are negatively impacted by (either directly through inhalation or indirectly through dust on property, such as a car). For fine dust particulates (smaller than 10 microns) the standards from the *National Environment Protection (Ambient Air Quality) Measure (NEPM) 2003* are used, if possible, to assess the impact.

8.4.3 Applicant controls

This assessment has reviewed the information regarding fugitive dust control within the application and summarised the controls set out in Table 10 below.

Table 10: Applicant infrastructure controls for fugitive dust emissions

Site Infrastructure	Infrastructure Details	Operational Details	Reference to Issued Works Approval
Controls for dust			
Stockpiles	<p>Stockpiles of raw material will be created by unloading trucks. Stockpiles of screened recycled product are created by the outfall from the screens.</p> <p>A sprinkler system will be installed that can be either manually or automatically triggered.</p>	Sprinklers to be used whenever dust lift off is occurring or likely to occur.	Works Approval Schedule 3: Site Plan
Crushing and screening of raw materials	<p>Crushing and screening will be undertaken by third party contractors using equipment brought on to the site periodically as required.</p> <p>Fine dust suppression sprinklers will be fitted on conveyor feed and discharge points of the crushing and screening machines.</p>	Raw materials will be kept moist to reduce fugitive dust during the crushing and screening of the raw materials	N/A

8.4.4 Key findings

The Delegated Officer has reviewed the information regarding the dust impacts from the premises and has found:

1. the fugitive dust generated by the premises both during construction and operation is expected to be inert (e.g. topsoil);
2. the particle size of the raw and blended materials is sufficiently large to limit the amount of fugitive dust generated by the raw material and blended stockpiles;
3. ESB temporarily stored in the day-to-day surge stockpile is moist and hence fugitive dust emissions from this stockpile is expected to be low; and
4. the Applicant has proposed controls to limit the amount of fugitive dust generated.

8.4.5 Consequence

Based upon the Applicant's proposed controls and the distance to sensitive receptors, the Delegated Officer has determined that the potential impact of dust emissions off-site will be minimal at a local scale. Therefore, the Delegated Officer considers the consequence to be **minor**.

8.4.6 Likelihood of consequence

Based upon the kind of dust, the distance to the nearest sensitive receptors, the land use in between, the Delegated Officer has determined that the likelihood of minor dust impacts off-site is unlikely. Therefore, the Delegated Officer considers the consequence to be **unlikely**.

8.4.7 Overall rating

The Delegated Officer has compared the consequence and likelihood ratings described above for the Risk Criteria (Table 8) and determined that the overall rating for the risk of fugitive dust from the premises on sensitive receptors during operation is **medium**.

8.5 Risk Assessment - Contaminated Runoff

8.5.1 General hazard characterisation and impact

Stormwater contaminated with fine particles of dust or RAP could flow off-site to the local drainage system causing sedimentation and consequent overflow of stormwater system. Direct discharge of bitumen emulsion could contaminate stormwater, however spills can be contained by soil or sand until product sets hard.

8.5.2 Criteria for assessment

Australian water quality guidelines (ANZECC and ARMCANZ 2000) provide recommended trigger values for freshwater and marine water. *DER Guideline: Assessment and Management of Contaminated Sites* provides ecological and human health assessment levels for soil. Sediment runoff is also proscribed by the *Environmental Protection (Unauthorised Discharge) Regulations 2004*.

8.5.3 Applicant controls

The controls proposed by the Applicant to reduce and manage contaminated stormwater runoff are set out in Table 11.

Table 11: Applicant infrastructure for contaminated runoff control

Site Infrastructure	Infrastructure Details	Operational Details	Reference to Issued Works Approval (Schedule 3)
Controls Contaminated Run-off			
Hardstand – Trafficable areas around buildings, carpark and wet mixer output.	Bitumen hardstand.	Bitumen graded to drain to the landscaped area at the eastern part of the premises.	Works Approval Schedule 3: Site Plan
Hardstand – Stockpile area.	Hardstand area for stockpiles constructed from emulsion stabilised base materials.	Hardstand graded to drain to the landscaped area at the eastern part of the premises.	Works Approval Schedule 3: Site Plan
Landscaped area and compensating basin	Tree lined landscaped area on eastern part of premises. Compensating basin is 380 m ² and at least 1.3 m deep.	Area to be inspected and maintained to ensure no surface run-off.	Works Approval Schedule 3: Site Plan

Site Infrastructure	Infrastructure Details	Operational Details	Reference to Issued Works Approval (Schedule 3)
	Landscaped area and compensating basin to be of a sufficient area and to have sufficiently permeable soil to allow infiltration of rain water and stormwater runoff from the rest of the site.		

8.5.4 Key findings

The Delegated Officer has reviewed the information regarding contaminated run-off from the premises and has found:

1. the most likely contaminant in stormwater runoff will be minor amounts of particulate matter collected from the raw material and blended stockpiles;
2. the site will be graded so that excess stormwater will run into a landscaped area located on the eastern boundary of the site and infiltrate into the ground; and
3. the landscape area will provide a mechanism by which particulates will be filtered from the run-off.

8.5.5 Consequence

Based upon the type of contamination likely to be present in the stormwater and the protection of the local authority stormwater drainage by the landscape area, the Delegated Officer has determined that the potential impact of contaminated run-off will be minor off-site at a local scale. Therefore, the Delegated Officer considers the consequence to be **minor**.

8.5.6 Likelihood of consequence

Based upon Applicant's controls, the Delegated Officer has determined that the likelihood of contaminated runoff affecting off site infrastructure will only occur in exceptional circumstances. Therefore, the Delegated Officer considers the consequence to be **rare**.

8.5.7 Overall rating

The Delegated Officer has compared the consequence and likelihood ratings described above for the Risk Criteria (Table 12) and determined that the overall rating for the risk of contaminated stormwater run-off on sensitive receptors during operation is **Low**.

8.6 Summary of risk assessment and acceptability

A summary of the risk assessment and the acceptability of the risks with treatments are set out in below. Controls are described further in section 9.

Table 13: Risk assessment summary

	Emission		Pathway and Receptor	Applicant controls	Impact	Risk Rating	Acceptability with treatment (conditions on instrument)
	Type	Source					
1	Dust	<p>Machinery and land during construction</p> <p>Delivery and despatch of materials</p> <p>Stockpiles</p> <p>Crushing and screening of materials.</p>	<p>Air/wind dispersion to special rural areas and residential areas up to 850m away</p>	<p>Water Truck.</p> <p>Where possible, construction activities will take account of weather</p> <p>Retractable covers on delivery vehicles</p> <p>Sprinklers for keeping the materials moist</p> <p>Fine Dust suppression sprinklers fitted to conveyor feed and discharge points.</p> <p>Crushing and screening is infrequent and will be confined to periods of favourable weather conditions.</p>	<p>Amenity and health impacts.</p>	<p>Minor consequence</p> <p>Unlikely</p> <p>Medium risk</p>	<p>Acceptable, subject to primary and secondary controls conditioned</p>
2.	Contaminated stormwater	<p>Stormwater run-off from stockpile and hardstand areas</p>	<p>Direct from infrastructure.</p>	<p>Infrastructure and management controls.</p>	<p>Water quality impacts on off-site stormwater drainage network.</p>	<p>Minor consequence</p> <p>Rare</p> <p>Low risk</p>	<p>Acceptable subject to Applicant controls conditioned</p>

9. Determined Regulatory Controls

A summary of the risks with corresponding controls are set out in Table 14. The risks are set out in the assessment in section 8 and the controls are detailed in this section 9. Controls will form the basis of conditions in the works approval set out in Attachment 1.

Table 14: Summary of regulatory controls to be applied

		Controls (references are to sections below setting out details of controls)	
		9.1 Infrastructure and Equipment	9.3 Specified Action
Risk Items (see risk analysis in	1. Dust	•	•
	2. Contaminated stormwater runoff.	•	

9.1 Works Approval Controls

9.1.1 Specified actions during construction

The following actions will be taken to control dust during construction activities likely to generate dust:

- ensure that there is a water truck on site during construction, and;
- ensure that the water truck is used to suppress dust as necessary.

Condition: 5

9.2 Potential Licence Controls

The following sections summarise potential conditions which may be included in the licence for this premises. The conditions will be reviewed at the time of drafting the licence.

9.2.1 Specified infrastructure for control of dust

The following infrastructure and equipment should be maintained and operated onsite for dust management:

- paved hardstand on trafficable areas;
- sprinklers designed with sufficient throw to cover all stockpiles;
- fine sprinklers fitted to conveyor feed and discharge points of screens, and;
- ensure that crushing and screening plant coming on to the site comply with the requirements for controlling dust.

9.2.2 Specified Infrastructure for control of contaminated run-off

The following infrastructure and equipment should be maintained and operated onsite for control of contaminated stormwater runoff:

- paved and unpaved hardstand for process and trafficable areas graded to drain to the landscaped area, and;
- Compensating basin and landscaped area to allow the infiltration of stormwater from the site.

9.2.3 Specified actions

The following actions for the control of dust will be carried out by the Licence Holder:

- Ensure loads are covered when trucks are entering or leaving the site, and;
- Use sprinklers as required to prevent dust lift-off.

10. Appropriateness of Works Approval conditions

The conditions in the Issued Works Approval in Attachment 1 have been determined in accordance with DER's *Guidance Statement on Setting Conditions*. The works approval expires in 3 years.

Condition Ref	Grounds
Environmental Compliance Conditions 1, 2, 3 and 4	Environmental compliance is a valid, risk-based condition to ensure appropriate linkage between the works approval and the EP Act.
Infrastructure and Equipment Conditions 5, 6 and 7	These conditions are valid, risk-based and contain appropriate controls.
Departure from specified works Condition 8	This condition is valid, risk-based and enables flexibility in operations
Records and Information Conditions 9,10, 11 12 and 13	These conditions are valid and are necessary administration and reporting requirements to ensure compliance.

DER notes that it may review the appropriateness and adequacy of controls at any time, and that following a review, DER may initiate amendments to the Works Approval under the EP Act.

11. Applicant's comments

The applicant was provided with the draft decision report and draft works approval on 6 December 2016. The applicant provided updated site plans for inclusion in the works approval and endorsed the risk assessment and works approval.

12. Conclusion

This assessment of the risks of activities on the premises has been undertaken with due consideration of a number of factors, including the documents and policies specified in this decision report (summarised in Appendix 1).

Based on this assessment, it has been determined that the Issued Works Approval will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Caron Goodbourn
A/MANAGER LICENSING (PROCESS INDUSTRIES)
LICENSING AND APPROVALS
Delegated Officer
under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Key Documents

	Document Title	In text ref	Availability
1.	Asphaltec Works Approval and Licence Application with supporting documentation.	The Application	accessed at http://www.der.wa.gov.au
2	DER <i>Guidance Statement on Regulatory principles</i> , July 2015	DER 2015a	
3	DER <i>Guidance Statement on Setting conditions</i> , September 2015	DER 2015b	
4	DER <i>Guidance Statement on Licence duration</i> , November 2014	DER 2014	
5	DER <i>Guidance Statement on Licensing and works approvals processes</i> , September 2015	DER 2015c	

Attachment 1: Issued Works Approval W5993/2016/1