Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence Number	L9084/2017/1
Licence Holder	Bituminous Products Pty Ltd
ACN	106 887 094
Registered business address	33 Violet Street REVERSBY NSW 2212
File Number	DER2017/001403
Duration	23/10/2017 to 20/10/2027
Date of issue	23 October 2017
Prescribed Premises	Category 36 – Bitumen manufacturing
Premises	Bituminous Products 16 Ocean Street KWINANA BEACH WA 6167 Part Lot 419 on Plan 3837 Certificate of Title Volume 2218 Folio 511

This Licence is granted to the Licence Holder, subject to the following conditions, on 23 October 2017, by:

Date signed: 23 October 2017

Paul Byrnes
Manager – Licensing (Process Industries)

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

Explanatory notes

These explanatory notes do not form part of this Licence.

Defined terms

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

Department of Water and Environmental Regulation

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

Licence

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

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

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

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

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

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

Responsibilities of a Licence Holder

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

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

Strict penalties apply for offences under the EP Act.

Reporting of incidents

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

Offences and defences

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

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

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

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

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

Authorised Emissions and Discharges

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

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

Amendment of licence

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

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

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

Duration of Licence

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

Suspension or revocation

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

Fees

The Licence Holder must pay an annual licence fee. Late payment of annual licence fees may result in the licence ceasing to have effect. A licence that has ceased to have effect due to non-payment of annual licence fees continues to exist; however, it ceases to provide a defence to an offence under s.74A of the EP Act.

Late fees are a component of annual licence fees and should a Licence Holder fail to pay late fees within the time specified the licence will similarly cease to have effect.

Definitions and interpretation

Definitions

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

Table 1: Definitions

Term	Definition
AACR	means an Annual Audit Compliance Report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO (guidelines and templates may be available on the Department's website).
ACN	Australian Company Number
Annual Period	means a 12 month period commencing from 1 January until 31 December.
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the *Environmental Protection Act 1986* Locked Bag 33 Cloisters Square PERTH WA 6850 info-der@dwer.wa.gov.au
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
Department Request	means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Licence Holder in writing and sent to the Licence Holder's address for notifications, as described at the front of this Licence, in relation to: (a) compliance with the EP Act or this Licence; (b) the Books or other sources of information maintained in accordance with this Licence; or (c) the Books or other sources of information relating to Emissions from the Premises.
DWER	Department of Water and Environmental Regulation.
EP Act	means the *Environmental Protection Act 1986* (WA).
EP Regulations	means the *Environmental Protection Regulations 1987* (WA).
Primary Activities	refers to the Prescribed Premises activities listed in the Licence as described in Schedule 2, at the locations shown in Schedule 1.

Interpretation

In this Licence:

(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;
(d) any reference to an Australian or other standard, guideline or code of practice in this Licence means the version of the standard, guideline or code of practice in force at the time of granting of this Licence and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the Licence; and
(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act.

Conditions

Emissions

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

Table 2: Authorised Emissions table

Column 1	**Column 2**
General emissions	**Exclusions/Limitations/Requirements**
Emissions which arise from the Primary Activities set out in Schedule 2	Emissions excluded from General Emissions are: • Unreasonable Emissions; or • Emissions that result in, or are likely to result in, Pollution, Material Environmental Harm or Serious Environmental Harm; or • Discharges of Waste in circumstances likely to cause Pollution; or • Emissions or Discharges which do not comply with an Approved Policy; or • Emissions or Discharges which do not comply with a prescribed standard; or • Emissions or Discharges the subject of offences under regulations prescribed under the EP Act, including materials discharged under the Environmental *Protection (Unauthorised Discharges) Regulations 2004*.

Infrastructure and equipment

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

Table 3: Infrastructure and equipment controls table

Column 1	**Column 2**
Site infrastructure and equipment	**Operational requirements**
Hardstand	Sealed such that all spills are prevented from entering the environment and stormwater managed such that this is not contaminated prior to leaving the premises.
30,000L self-contained isotainers for storage and heating of bitumen concentrate.	Bitutainers will be stored on hardstand within the premises at any given time. Designed and operated such that no venting of bitumen odours occurs from the Bitutainers.
Trailer-mounted enclosed bitumen mixing tank	Includes 2 diesel burners per bitutainer, a diesel generator and diesel fuel storage (3,000L capacity) Designed and operated such that no venting of bitumen odours occurs.

Record-keeping

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

(a) the calculation of fees payable in respect of this Licence;
(b) the maintenance of infrastructure required to ensure that it is kept in good working order in accordance with Condition 2 of this Licence;
(c) complaints received under Condition 4 of this Licence; and
(d) any Material Change.

In addition, the Books must:

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

4. The Licence Holder must record the number and details of any complaints received by the Licence Holder relating to its obligations under this Licence and its compliance with Part V of the EP Act at the Premises, and any action taken by the Licence Holder in response to the complaint. Details of complaints must include:

(a) an accurate record of the concerns or issues raised, for example a copy of any written complaint or a written note of any verbal complaints made;
(b) the name and contact details of the complainant, if provided by the complainant;
(c) the date of the complaint; and
(d) the details and dates of the actions taken by the Licence Holder in response to the complaints.

Annual Reporting

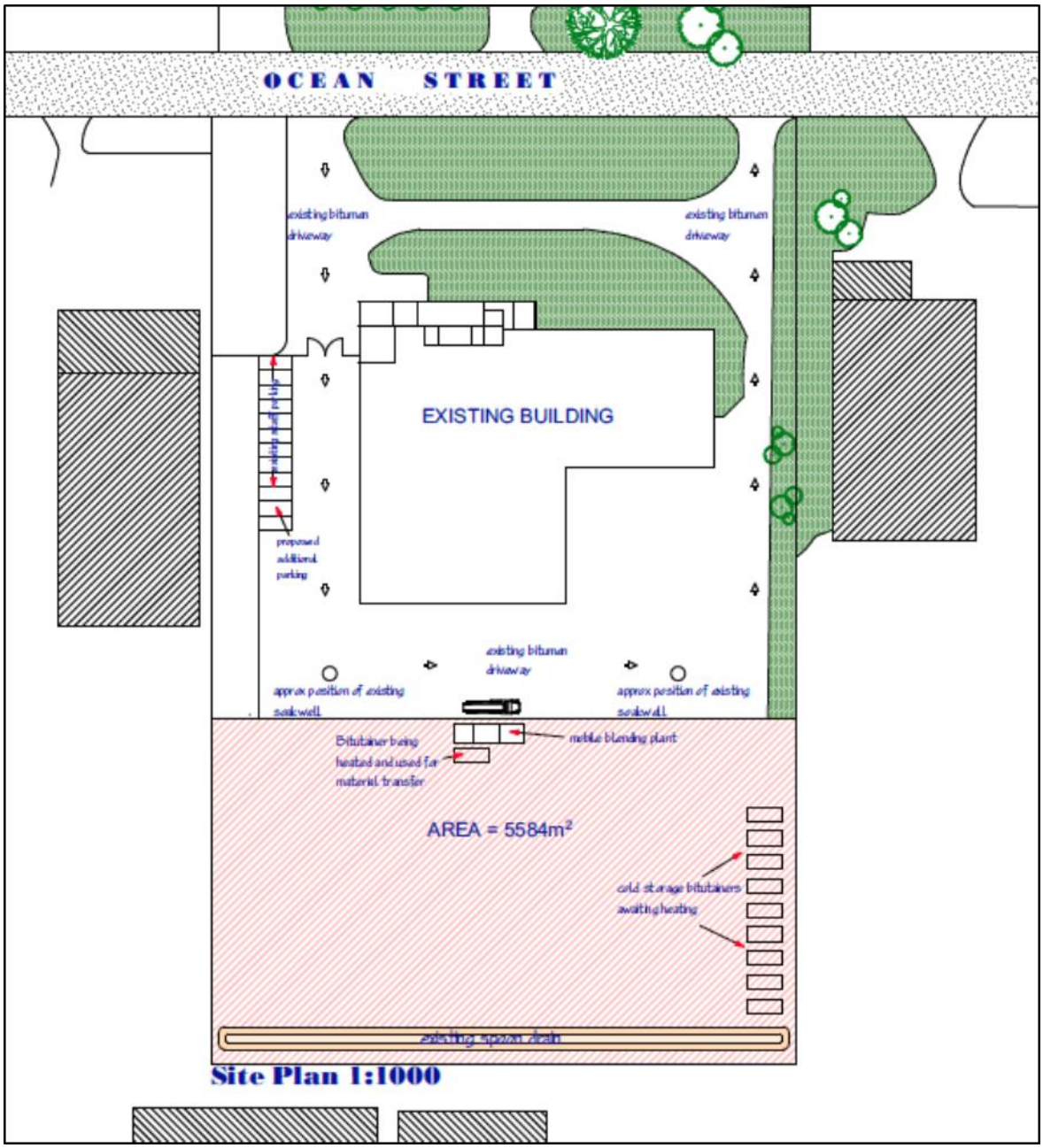
5. The Licence Holder must submit to the CEO, no later than 1 March each year, an AACR indicating the extent to which the Licence Holder has complied with the Conditions in this Licence for the preceding Annual Period.

Schedule 1: Maps

Premises map

The Premises are shown in the map below. The pink line depicts the boundary of the premises.

Site Plan


OCEAN STREET
existing bitumen driveway
existing bitumen driveway
EXISTING BUILDING
proposed additional parking
existing bitumen driveway
approx position of existing soakwell
approx position of existing soakwell
Bitutainer being heated and used for material transfer
mobile blending plant
AREA = 5584m²
cold storage bitutainers awaiting heating
existing riparian drain
Site Plan 1:1000

Schedule 2: Primary Activities

At the time of assessment, Emissions and Discharges from the following Primary Activity were considered in the determination of the risks and subsequent conditions attached to the licence.

The Primary Activity is listed in Table 4:

Table 4: Primary Activities

Primary Activity	Premises production or design capacity
Category 36 - Bitumen manufacturing: premises on which bitumen is mixed or prepared for use at places or premises other than those premises.	*50,960 tonnes per annum*

Infrastructure and equipment

The Primary Activity's infrastructure and equipment situated on the Premises are listed in Table 5.

Table 5: Infrastructure and equipment

Item	Works	Specifications/Drawings
1	Hardstand area for outdoor storage of 30,000L bitutainers, positioned as indicated on the Site Plan.	Site Plan as per Schedule 1
2	Trailer-mounted enclosed bitumen mixing tank used for heating bitutainers. Mixing tank is fitted with two diesel burners to facilitate heating.	
3	30,000L bitutainers fitted with two heater tubes each.	
4	Pipework and pumps for transfer of bitumen to and from road tankers to be fixed and tested.	

Site Plan

The Primary Activity's infrastructure and equipment are set out on the Premises in accordance with the Site Plan specified in Schedule 1.

Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application for Licence

Division 3, Part V *Environmental Protection Act 1986*

Licence Number	L9084/2017/1
Applicant	Bituminous Products Pty Ltd
ACN	106 887 094
File Number	DER2017/001403
Premises	Bituminous Products 16 Ocean Street KWINANA BEACH WA 6167 Part Lot 419 on Plan 3837 Certificate of Title Volume 2218 Folio 511
Date of Report	23 October 2017
Status of Report	Final

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List of Tables

1. Definitions of terms and acronyms

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

Table 1: Definitions

Term	Definition
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
Category Threshold	means the production or design capacity threshold for the prescribed premises category as defined under Schedule 1 of the *Environmental Protection Regulations 1987*
Delegated Officer	an Officer under section 20 of the EP Act.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	means the *Environmental Protection Act 1986*
EP Noise Regulations	Means the *Environmental Protection (Noise) Regulations 1997*
EP Regulations	means the *Environmental Protection Regulations 1987*
EP Unauthorised Discharge Regulations	Means the *Environmental Protection (Unauthorised Discharges) Regulations 2004*
m^3	cubic metres
NEPM	National Environmental Protection Measure
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)
PM	Particulate Matter
PM_{10}	used to describe particulate matter that is smaller than 10 microns (µm) in diameter
Review	this Licence review
Risk Event	As described in *Guidance Statement: Risk Assessment*
UDR	*Environmental Protection (Unauthorised Discharges) Regulations 2004* (WA)
$\mu g/m^3$	micrograms per cubic metre
µg/L	micrograms per litre

2. Purpose and scope of assessment

Bituminous Products Pty Ltd (the Applicant) lodged a licence application (the Application) on 26 July 2017 for its recently constructed bitumen products manufacturing plant at 16 Ocean Street, Kwinana Beach. The Application follows on from the works approval granted in respect of recently completed construction of the bitumen products manufacturing plant. This Decision Report assesses the Application.

3. Background

On 26 October 2016 the Applicant was granted a Works Approval for the construction of a bitumen products manufacturing plant (Category 36) at 16 Ocean Street, Kwinana Beach. The Applicant proposes to operate the newly constructed manufacturing plant. The front part of the cadastral lot is, and will continue to be used for fertiliser manufacturing. As such the Applicant will only use the back part of the cadastral lot and this licence will as such only apply for that part of the cadastral lot (see the Map with the boundary of the premises).

Table 2 lists the prescribed premises category that has been applied for in the Application.

Table 2: Prescribed Premises Categories in the Licence

Classification of Premises	**Description**	***Approved Premises production or design capacity or throughput***
Category 36	Bitumen manufacturing: premises on which bitumen is mixed or prepared for use at places or premises other than those premises.	50,960 tonnes per annum (tpa)

4. Overview of Premises

4.1 Operational Aspects

The principal product that the Applicant is planning to manufacture is intermediate paving class bitumen, made to various grades to meet customer requirements, by altering the ratio of heavy and light bitumen fractions.

Bitumen concentrate is to be transported to the site and stored in specialist isotainers called *bitutainers* that enable the heating of bitumen inside the containers. The containers will be stored on a hardstand in the eastern portion of the premises.

A light grade of bitumen is to be supplied, preheated, in a tanker vehicle arriving on an “as required” basis. The tanker is to be unloaded and loaded next the mixing unit.

A bitumen container is to be carried by a forklift to the mixing unit and heated by two diesel burners to the handling temperature of approximately 190°C. The required amount of heated bitumen concentrate will be transferred to the mobile mixing plant. The light bitumen is to be pumped into the mixing plant from the tanker and mixed with the bitumen concentrate.

After quality assurance testing, the mixture is to be transferred back to the road tanker for delivery off-site to the customer.

There are no wastes generated by this process.

4.2 Infrastructure

The bitumen products manufacturing facility’s infrastructure, as it relates to Category 36 activities, is detailed in Table 3 and with reference to the Site Plan. The *bitutainers* and tanks are to be connected by a series of pipes.

Table 3: Bitumen Products Manufacturing Facility Category 36 Infrastructure

	Infrastructure
1	Existing concrete hardstand yard and drainage system.
2	Up to ten 30,000L capacity, self-contained isotainers for storage and heating of bitumen concentrate (*bitutainers*). Each bitutainer is fitted with two heater tubes for the placement of diesel fuelled burners for heating of bitumen.
3	Trailer-mounted enclosed bitumen mixing tank including two diesel burners (17kg/hr fuel rate) and a diesel generator with noise suppression and diesel fuel storage (3,000L capacity).
4	Sealed and rated pipework and pumps for transfer of bitumen to and from bitutainers, mixing tank, and road tanker.

5. Legislative context

5.1 Other relevant approvals

5.1.1 Planning approval

The proposal for the manufacturing plant was approved by the City of Kwinana on 29 September 2016 (DA8687), prior to commencement of construction of the premises.

5.2 Part V of the EP Act

5.2.1 Applicable regulations, standards and guidelines

The overarching legislative framework of this assessment is the EP Act and EP Regulations. DWER Guidance Statements that inform this assessment are listed in Appendix 1.

5.2.2 Works approval history

A Works Approval was granted on 26 October 2016 (W5981/2016/1) for the construction of the manufacturing plant.

On Thursday 15 June 2017, the Applicant notified the Department that the works have been completed.

6. Consultation

The Application was advertised in the West Australian on 4 September 2017 for a comment period ending on 25 September 2017. A letter inviting comment was also sent to the City of Kwinana on 4 September 2017.

DER did not receive any submissions regarding the application.

7. Location and siting

7.1 Siting context

The bitumen products manufacture facility is located at 16 Ocean Street, Kwinana Beach, inside the Kwinana Beach industrial area (refer to Schedule 1). The site has previously been used for industrial activities and has been subject to a registration issued by DER for a metal finishing business. The front portion of the site is currently occupied by a liquid fertiliser manufacturing premises.

The site adjoins industrial premises including two other fertiliser plants, a scrap metal yard, a chemical manufacturing operation, and fuel storage facility. There are two other business premises within 150 metres of the premises in the industrial area: an equipment hire firm and a petrol station.

7.2 Residential and sensitive Premises

The distances to residential and sensitive receptors are detailed in Table 4.

Table 4: Receptors and distance from activity boundary

Sensitive Land Uses	Distance from Prescribed Activity
Residential Premises	The nearest residential premises are 2.6 km to the south-west in East Rockingham and 2.7 km to the east in Medina.
Sensitive commercial land use	The nearest sensitive commercial premises (outside the immediate industrial area) is a liquor store 1.2 km to the west in Kwinana Beach.

7.3 Specified ecosystems

Specified ecosystems are areas of high conservation value and special significance that may be impacted as a result of activities at or Emissions and Discharges from the Premises. The distances to specified ecosystems are shown in Table 5. Table 5 also identifies the distances to other relevant ecosystem values which do not fit the definition of a specified ecosystem.

Table 5: Environmental values

Specified ecosystems	Distance from the Premises
Cockburn Sound marine environment used for recreation and food production	1.6km to the west
Conservation category sumpland	1.2km to the east

7.4 Groundwater and water sources

The Department of Water's Perth Groundwater Atlas (atlases.water.wa.gov.au/idelve/gwa) states that groundwater varies from 0.5 to 3.0 metres below the surface and is not suitable for use as a potable or industrial water source. Groundwater flow is towards the west and Cockburn Sound which is located 1.6km from the premises.

7.5 Soil type

The Perth Groundwater Atlas describes the soil beneath the site as the Safety Bay Sand formation consisting of aeolian and lime sand deposits. The soil is highly porous, and liquids will infiltrate freely.

DER's Geographical Information System (GIS) identifies the soil in the area to be in the broad category of A13 which is coastal dune formations backed by the low-lying deposits of inlets and estuaries: chief soils are calcareous sands (Uc1.11) on the dunes.

7.6 Meteorology

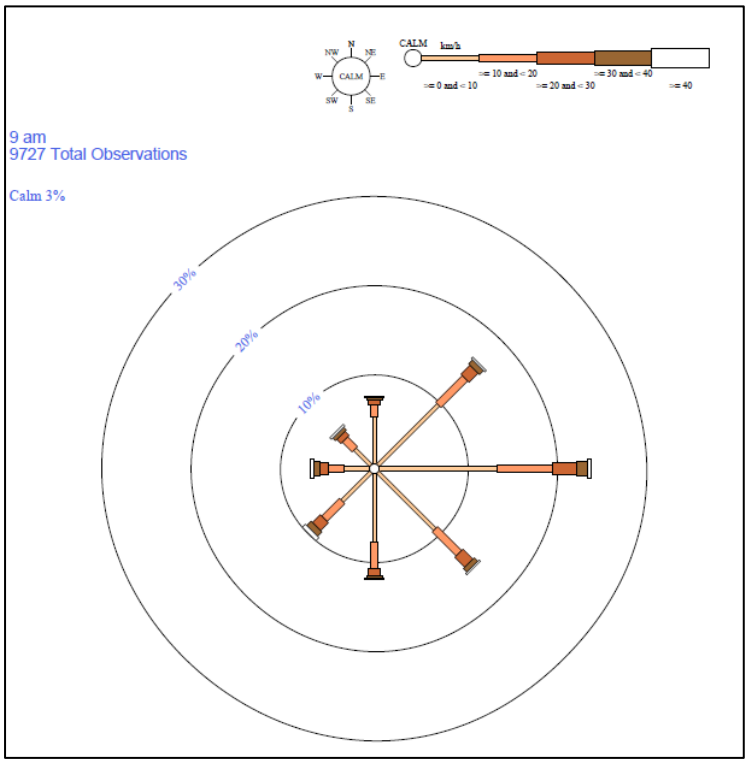
Climate statistics for the proposed facility are illustrated in the figures below.

Wind roses in Figures 1 and 2 are from observations taken at the Medina Research Station, which is approximately 4.2 km north east of the proposed facility. Rainfall and temperature data in Figure 3 and

Figure 4 are from observations at the BP Refinery Kwinana, which is approximately 2.5 km north-west of the proposed facility.

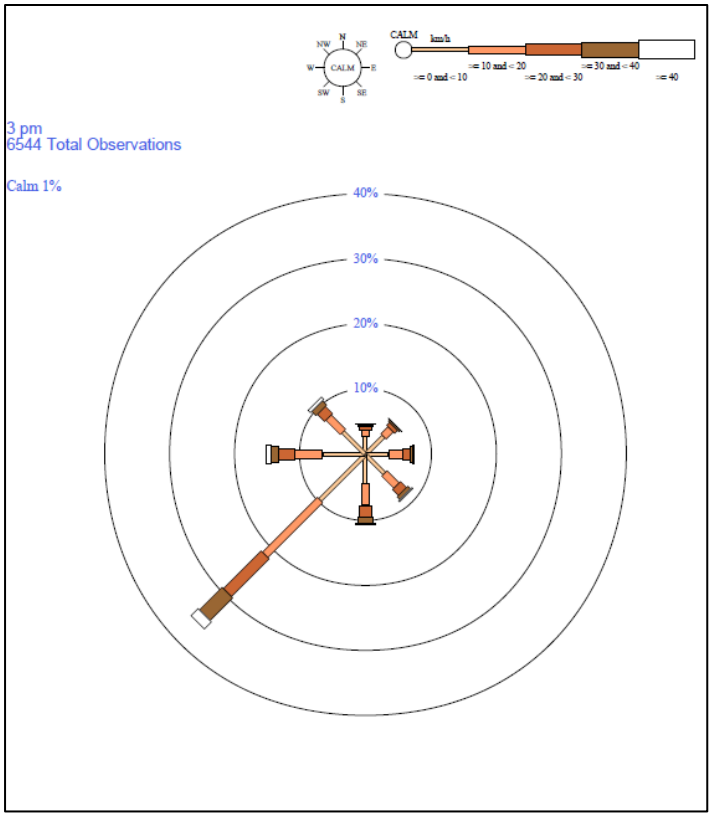
7.6.1 Wind direction and strength

Figure 1: Annual wind rose for 9 am Medina Research Station



Source: Bureau of Meteorology website www.bom.gov.au

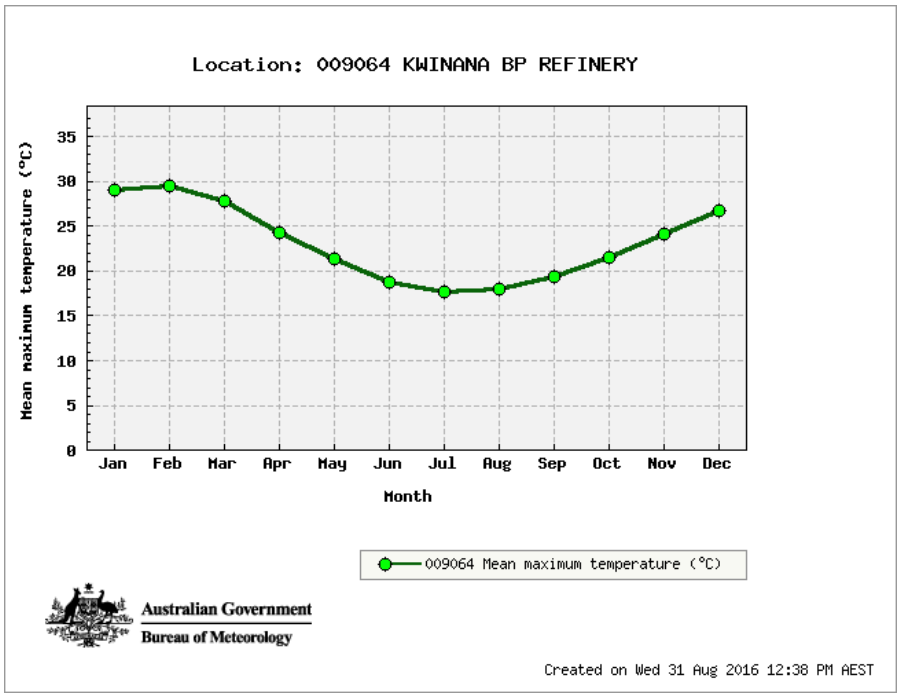
Figure 2: Annual wind rose for 3 pm Medina Research Station



Source: Bureau of Meteorology website www.bom.gov.au

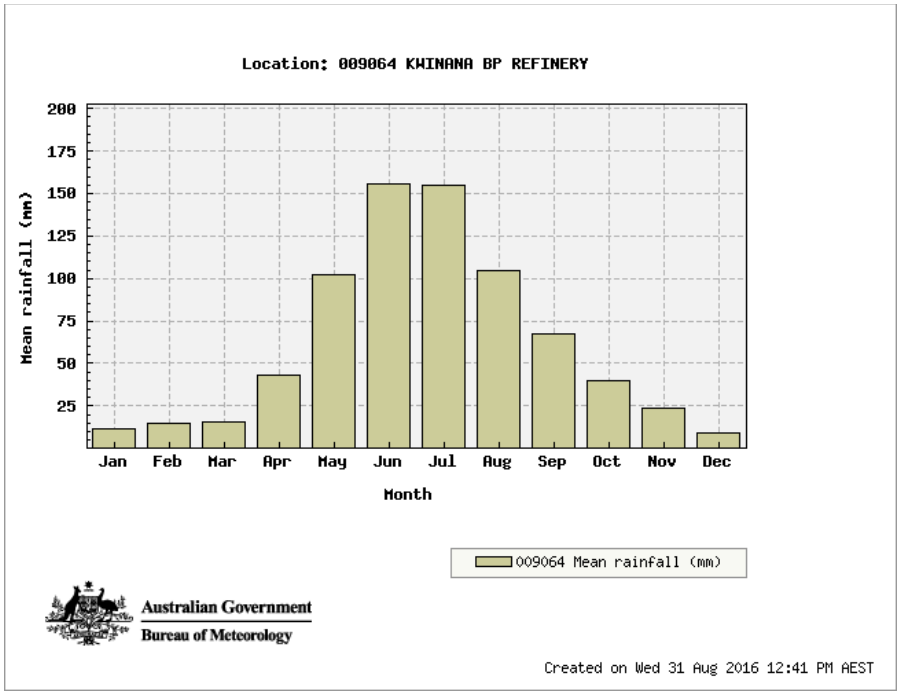
7.6.2 Rainfall and temperature

Figure 3: Monthly average temperatures BP Refinery Kwinana



Source: Bureau of Meteorology website www.bom.gov.au

Figure 4: Monthly average rainfall at BP Refinery Kwinana



Source: Bureau of Meteorology website www.bom.gov.au

8. Risk assessment

8.1 Determination of emission, pathway and receptor

In undertaking its risk assessment, DWER will identify all potential emissions pathways and potential receptors to establish whether there is a Risk Event which requires detailed risk assessment.

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission. Where there is no actual or likely pathway and/or no receptor, the emission will be screened out and will not be considered as a Risk Event. In addition, where an emission has an actual or likely pathway and a receptor which may be adversely impacted, but that emission is regulated through other mechanisms such as Part IV of the EP Act, that emission will not be risk assessed further and will be screened out through Table 6.

Table 6: Identification of emissions, pathway and receptors *during operation*

Risk Events						Continue to detailed risk assessment	Reasoning
Sources/Activities		**Potential emissions**	**Potential receptors**	**Potential pathway**	**Potential adverse impacts**		
Storage of fuel and bitumen concentrate	Storage of bitumen and other fuels. Mixing and transfer of bitumen.	Leaks or spills of hazardous liquids (fuel and bitumen) outside of containment	Land and groundwater and Cockburn Sound.	**Land and groundwater**: direct infiltration into ground and groundwater **Surface water**: Stormwater runoff into drainage systems prior to discharge to Cockburn Sound	Land and groundwater contamination	Yes	See Section 8.4
Blending and dispatch of bitumen	Heating of bitumen concentrate	Emissions from diesel burners (2 x burners per *bitutainer*)	Residential premises 2.6 km to the south-west in East Rockingham and 2.7 km to	Air / wind dispersion	Health and amenity impacts	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

Risk Events						Continue to detailed risk assessment	Reasoning
Sources/Activities		Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts		
		Noise from burners	the east in Medina				established industrial area. The EP Noise Regulations apply to noise emissions. The burners are relatively small (17hg/hr; 202kW capacity) and would operate in limited numbers (two at a time).
Blending and dispatch of bitumen	Mixing of bitumen grades and transfer to and from *bitutainers*, mixing unit and road tankers	Odours from heated bitumen	Residential premises 2.6 km to the south-west in East Rockingham and 2.7 km to the east in Medina. Commercial premises located 1.2km to the west.	Air / wind dispersion	Amenity impacts	Yes	See Section 8.5
		Noise from pumps				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 established industrial area. The EP Noise Regulations apply.

8.2 Consequence and likelihood of risk events

A risk rating will be determined for risk events in accordance with the risk rating matrix set out in Table 7 below.

Table 7: Risk rating matrix

Likelihood	Consequence				
	Slight	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

DWER will undertake an assessment of the consequence and likelihood of the Risk Event in accordance with Table 8 below.

Table 8: Risk criteria table

Likelihood		Consequence		
The following criteria has been used to determine the likelihood of the Risk Event occurring.		The following criteria has been used to determine the consequences of a Risk Event occurring:		
			Environment	Public health* and amenity (such as air and water quality, noise, and odour)
Almost Certain	The risk event is expected to occur in most circumstances	Severe	• **onsite impacts**: catastrophic • **offsite impacts local scale**: high level or above • **offsite impacts wider scale:** mid-level or above • Mid to long-term or permanent impact to an area of high conservation value or special significance^ • Specific Consequence Criteria (for environment) are significantly exceeded	• Loss of life • **Adverse health effects:** high level or ongoing medical treatment • Specific Consequence Criteria (for public health) are significantly exceeded • **Local scale impacts:** permanent loss of amenity
Likely	The risk event will probably occur in most circumstances	Major	• **onsite impacts**: high level • **offsite impacts local scale**: mid-level • **offsite impacts wider scale**: low level • Short-term impact to an area of high conservation value or special significance^ • Specific Consequence Criteria (for environment) are exceeded	• **Adverse health effects:** mid-level or frequent medical treatment • Specific Consequence Criteria (for public health) are exceeded • **Local scale impacts**: high level impact to amenity
Possible	The risk event could occur at some time	Moderate	• **onsite impacts**: mid-level • **offsite impacts local scale**: low level • **offsite impacts wider scale**: minimal • Specific Consequence Criteria (for environment) are at risk of not being met	• **Adverse health effects:** low level or occasional medical treatment • Specific Consequence Criteria (for public health) are at risk of not being met • **Local scale impacts:** mid-level impact to amenity
Unlikely	The risk event will probably not occur in most circumstances	Minor	• **onsite impacts**: low level • **offsite impacts local scale**: minimal • **offsite impacts wider scale**: not detectable • Specific Consequence Criteria (for environment) likely to be met	• Specific Consequence Criteria (for public health) are likely to be met • **Local scale impacts:** low level impact to amenity

Likelihood		Consequence		
The following criteria has been used to determine the likelihood of the Risk Event occurring.		**The following criteria has been used to determine the consequences of a Risk Event occurring:**		
			Environment	**Public health* and amenity (such as air and water quality, noise, and odour)**
Rare	The risk event may only occur in exceptional circumstances	Slight	• **onsite impact**: minimal • Specific Consequence Criteria (for environment) met	• **Local scale**: minimal to amenity • Specific Consequence Criteria (for public health) met

^ Determination of areas of high conservation value or special significance should be informed by the *Guidance Statement: Environmental Siting.*
* In applying public health criteria, DWER may have regard to the Department of Health's *Health Risk Assessment (Scoping) Guidelines.*

8.3 Acceptability and treatment of Risk Event

DWER will determine the acceptability and treatment of Risk Events in accordance with the Risk treatment table 9 below:

Table 9: Risk treatment table

Rating of Risk Event	Acceptability	Treatment
Extreme	Unacceptable.	Risk Event will not be tolerated. DWER may refuse application.
High	May be acceptable. Subject to multiple regulatory controls.	Risk Event may be tolerated and may be subject to multiple regulatory controls. This may include both outcome-based and management conditions.
Medium	Acceptable, generally subject to regulatory controls.	Risk Event is tolerable and is likely to be subject to some regulatory controls. A preference for outcome-based conditions where practical and appropriate will be applied.
Low	Acceptable, generally not controlled.	Risk Event is acceptable and will generally not be subject to regulatory controls.

8.4 Risk Assessment – Leaks or Spills of Hazardous Materials

8.4.1 Description of Risk Event 1

Risk Event 1 is described as follows:

The storage or handling of hazardous materials leaks or spills such that the hazardous materials enters the environment and causes contamination of the soil and or groundwater.

8.4.2 Identification and general characterisation of emission

There is diesel and bitumen within the premises. The diesel is stored in a 3000 L storage tank that complies with the relevant Australian Standard. Diesel is a hazardous material.

The bitumen will be stored in so called Bitutainers. Bitumen when spilled is not very viscous and as such does not penetrate deeply into soil. It will harden under normal atmospheric conditions.

8.4.3 Description of potential adverse impact from the emission

When diesel enters the environment it will contaminate the soil and make groundwater

unsuitable for drinking water. A discharge of bitumen will cause the top layer of the soil to become contaminated and in need of remediation.

8.4.4 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.

8.4.5 Applicant/Licence Holder controls

The Applicant's controls to reduce and manage spills, leaks and stormwater contamination are set out in Table 10.

Table 10: Applicant's proposed controls for Risk Event 1

Site infrastructure	Description	Operation details	Reference
Controls for Leaks and Spills of Hazardous Materials			
Hardstand	Concrete hardstand	All operations are conducted on a concrete hardstand	Site Plan, Schedule 1
Drainage systems	The concrete hardstand area is graded so that the southern side of the site drains to a spoon drain along the southern boundary of the premises. The northern side drains to two soak wells located within the hardstand area.	Spills of hot bitumen rapidly solidify at ambient temperatures preventing it flowing and allowing easy clean-up	
Bitumen concentrate containers	Self-contained *bitutainers*	Bitumen concentrate is in solid form until heated for transfer and mixing	
Spill Kit	3M Spill Kit with absorbent pads and petroleum double booms.	In the event of a diesel spill, isolate soak wells with booms and remove contaminated soil if any.	NA

8.4.6 Consequence

If leaks or spills of hazardous materials cause a discharge to the environment, then the Delegated Officer has determined that the impact of this event can be classified as of a local scale with mid-level environmental impact. Therefore, the Delegated Officer considers the consequence of to be **Minor**.

8.4.7 Likelihood of Risk Event

The Delegated Officer has determined that the likelihood of leaks or spills of hazardous materials causing contamination of the soil or groundwater is **Rare**.

8.4.8 Overall rating of Leaks or Spills of Hazardous Materials

The Delegated Officer has compared the consequence and likelihood ratings described above with the risk rating matrix (Table 10) and determined that the overall rating for the risk of leaks or spills of hazardous materials casing contamination of the soil or groundwater is **Low**.

8.5 Risk Assessment – Odour impacts from heated bitumen

8.5.1 Description of Risk Event 2

Risk Event 2 is described as follows:

The mixing of heated bitumen and additives releases volatile organic compounds into the atmosphere that negatively impacts the health of people outside the premises.

8.5.2 Identification and general characterisation of emission

Bitumen has a characteristic odour which some people may find offensive. The odour is caused by volatile organic compounds emitted when the bitumen is heated.

8.5.3 Description of potential adverse impact from the emission

Volatile Organic Compounds (VOCs) from the bitumen can impact people adversely through inhalation. According to the National Pollutant Inventory website the following generic information about the health impacts of VOCs can be stated:

"The health effects depend on the specific composition of the volatile organic compounds (VOCs) present, their concentration and the length of exposure. General effects of exposure to VOCs include: irritation to the eyes, nose and throat; headaches; loss of coordination; nausea; and damage to the liver, kidney and central nervous system. Some VOCs can cause cancer in animals, and some are suspected or are known to cause cancer in humans."

8.5.4 Criteria for assessment

There are no set threshold or concentration criteria for odour assessment. The general provisions of the EP Act make it an offence to cause or allow unreasonable emissions which include emissions of odour that unreasonably interfere with the health, welfare, convenience, comfort or amenity of any person.

Although the odours are generated through the release of VOCs, these are not quantifiable and as such not able to be assessed (fugitive source).

8.5.5 Applicant/Licence Holder controls

The Applicant's controls are set out in Table 11.

Table 11: Applicant's proposed controls for Risk Event 2

Control	Description
Separation distance	The nearest residential property is 2.6 km away, and the nearest sensitive commercial premises is 1.2 km away.
Infrastructure	Bitumen concentrate will be stored in sealed 30,000L *bitutainers* at ambient temperature (bitumen concentrate does not emit strong odours at ambient temperature). Heating of bitumen concentrate will occur in the sealed *bitutainers*. Mixing of bitumen concentrate will take place in an enclosed and sealed mixing tank. Transfer of bitumen to and from the tanks and road tankers will take place via sealed and rated pipework, which will be maintained to prevent the escape of vapours.

8.5.6 Consequence

The Delegated Officer has had regard to the nature and scale of potentially odorous activities

on site and has determined that short-term impacts to a small population may be experienced. Therefore, the Delegated Officer considers the consequence to be **Minor**.

8.5.7 Likelihood of Risk Event

The Delegated Officer has determined that the impacts from odour will be **Unlikely** to occur.

8.5.8 Overall rating of Leaks or Spills of Hazardous Materials

The Delegated Officer has determined that the likelihood of odour emissions causing an unacceptable impact (*slight)* upon amenity is **Rare**.

8.6 Summary of acceptability and treatment of Risk Events

A summary of the risk assessment and the acceptability or unacceptability of the risk events set out above, with the appropriate treatment and control, are set out in Table 12 below. Controls are described further in section 11.

Table 12: Risk assessment summary

	Description of Risk Event	Applicant controls	Risk rating	Acceptability with controls (conditions on instrument)
1.	The storage or handling of hazardous materials leaks or spills such that the hazardous materials enters the environment and causes contamination of the soil and or groundwater.	Infrastructure	**Low**	Acceptable subject to Applicant controls conditioned
2.	The mixing of heated bitumen and additives releases volatile organic compounds into the atmosphere that negatively impacts the health of people outside the premises.	Infrastructure and distance to receptors.	**Low**	Acceptable subject to Applicant controls conditioned

9. Regulatory controls

A summary of regulatory controls determined to be appropriate for the Risk Event is set out in Table 13. The risks are set out in the assessment in section 10 and the controls are detailed in this section. DWER will determine controls having regard to the adequacy of controls proposed by the Applicant. The conditions of the Licence will be set to give effect to the determined regulatory controls.

Table 13: Summary of regulatory controls to be applied

Risk Items	Controls
	10.1.1 Infrastructure and equipment
Leaks and spills	●
Odour from heated bitumen	●

9.1 Licence controls

9.1.1 Leaks and spills infrastructure and equipment

The following environmental controls, infrastructure and equipment should be operated and maintained to prevent discharge of spills, leaks and contaminated stormwater to ground or groundwater.

Table 14: Containment infrastructure

Infrastructure	Requirements (Design and Construction)
Hardstand, drains and sumps	Existing concrete hardstand yard draining to two soakwells and a spoon drain
Fuel and oil spill kit	Minimum of 190L absorption capacity Including booms for isolation of soakwells and absorbent pads Available at all times during construction and operation

9.1.2 Odour infrastructure and equipment

Infrastructure which either contains or transfers heated bitumen concentrate or light grade bitumen is to be sealed. Seals should be maintained and operated for odour management. Specified infrastructure is stated below:

Table 15: Odour control infrastructure

Infrastructure	Requirements (Design and Construction)
Bitumen concentrate containers	30,000L capacity self-contained isotainers (*bitutainers*)
Bitumen mixing tank	Trailer-mounted enclosed bitumen mixing tank
Transfer pipework and pumps	Sealed and rated to prevent escape of vapours

10. Determination of Licence conditions

The conditions in the issued Licence in Attachment 1 have been determined in accordance with the *Guidance Statement: Setting Conditions*.

The *Guidance Statement: Licence Duration* has been applied. The Applicant stated to DWER that the premises will likely be occupied for a period longer than 10 years and as such the expiry date for the licence will be 10 years from issue.

Table 14 provides a summary of the conditions to be applied to this licence.

Table 16: Summary of conditions to be applied

Condition Ref	Grounds
Emissions Condition 1	This condition is applied to clarify that only emissions in relation to the activity that makes the premises prescribed and which activity has been assessed during the application process are approved.
Notification of Material Change Conditions 2, 3 and 4	These conditions are valid, risk-based and enable flexibility in operations.
Infrastructure and Equipment Condition 5	To ensure the environmental risk is contained the assessed infrastructure and equipment are prescribed.
Record-keeping Conditions 6 and 7	To enable assessment of compliance these conditions are deemed necessary.
Annual Reporting Condition 8	These conditions are valid, risk-based and consistent with the EP Act.

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

11. Applicant's comments

The Applicant was provided with the draft Decision Report and Licence on Friday 6 October 2017 for comments.

The Applicant provided some administrative comments on Monday 9 October 2017. These comments have been taken into consideration for the final documents.

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, the Application should be granted as set out in attachment 1, subject to the conditions as determined in this assessment and attached to the licence.

Paul Byrnes
Manager – Licensing (Process Industries)
Delegated Officer
under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Key documents

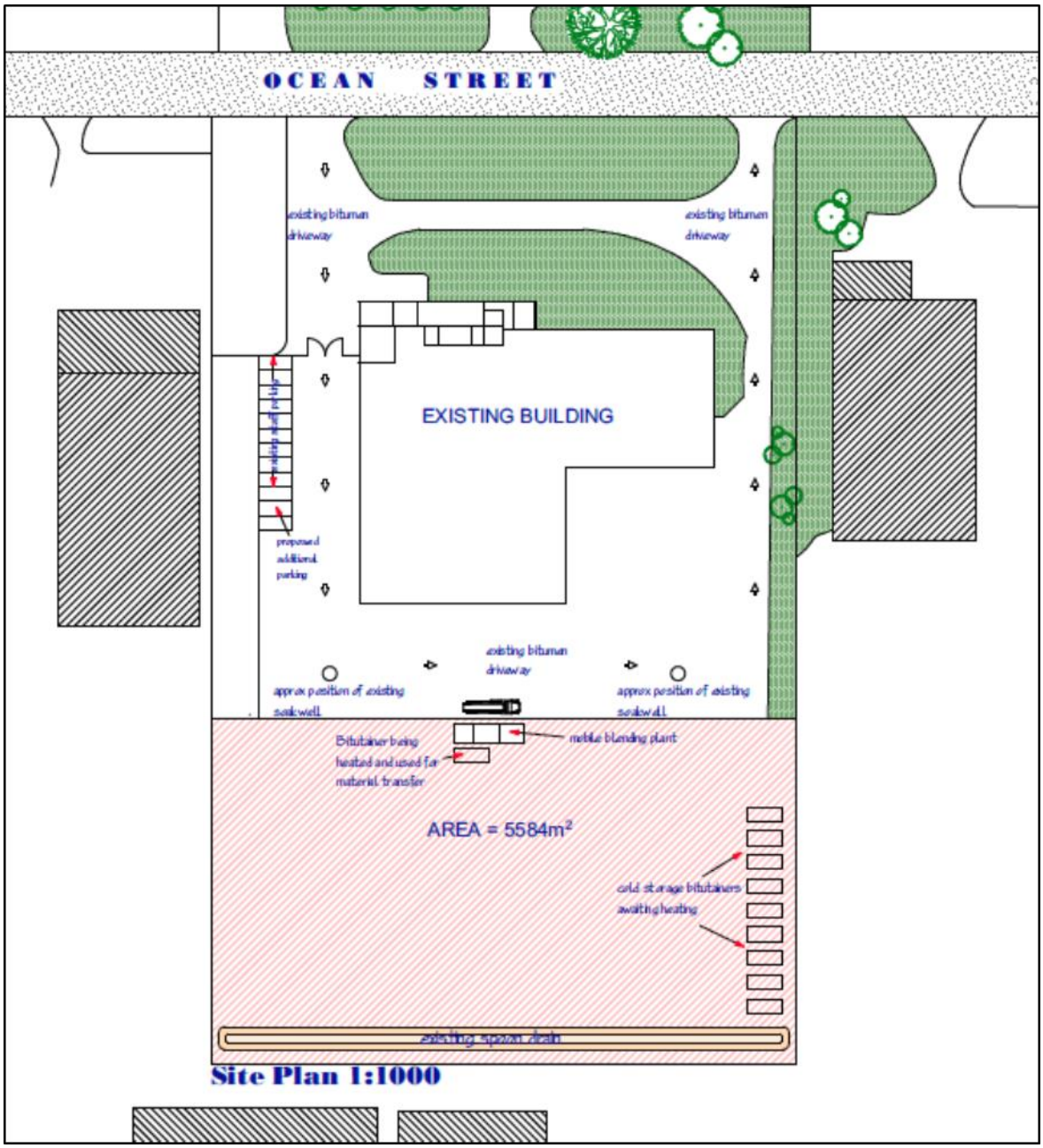
	Document title	In text ref	Availability
1.	Works Approval	W5981/2016/1	Available at www.dwer.wa.gov.au
2.	Licence Application	-	DWER records (A1489830)
3.	DER, July 2015. *Guidance Statement: Regulatory principles.* Department of Environment Regulation, Perth.	DER 2015a	Available at www.dwer.wa.gov.au
4.	DER, October 2015. *Guidance Statement: Setting conditions.* Department of Environment Regulation, Perth.	DER 2015b	
5.	DER, August 2016. *Guidance Statement: Licence duration.* Department of Environment Regulation, Perth.	DER 2016a	
6.	DER, November 2016. *Guidance Statement: Risk Assessments*. Department of Environment Regulation, Perth.	DER 2016b	
7.	DER, November 2016. *Guidance Statement: Decision Making*. Department of Environment Regulation, Perth.	DER 2016c	

Schedule 1: Maps

Premises map

The Premises are shown in the map below. The pink line depicts the boundary of the premises.

Site Plan


OCEAN STREET
existing bitumen driveway
existing bitumen driveway
EXISTING BUILDING
proposed additional parking
existing bitumen driveway
approx position of existing soakwell
approx position of existing soakwell
Bitutainer being heated and used for material transfer
mobile blending plant
AREA = 5584m²
cold storage bitutainers awaiting heating
existing spoon drain
Site Plan 1:1000

Attachment 1: Issued Licence L9084/2017/1