Government of Western Australia
Department of Environment Regulation

Licence

Licence Number	L9021/2016/1
Licence Holder	Matera Environmental (WA) Pty Ltd (ACN 169 020 811)
Registered business address	23 Lionel Street NAVAL BASE WA 6165
Duration	03/07/2017 to 03/07/2037
Prescribed Premises Categories	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.
Premises	Matera Environmental Glass Recycling 23 Lionel Street NAVAL BASE WA 6165 CITY OF KWINANA Being Lot 543 on Plan 3638
Granted	29 June 2017

This Licence is granted to the Licence Holder, subject to the following conditions, on 29-06-2017, by:

Date signed: 29 June 2017
Steve Checker
MANAGER LICENSING (WASTE INDUSTRIES)

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

Conditions

Emissions

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

If the Licence Holder proves that it has acted in accordance with this Condition, it may be a defence under s 74A of the EP Act to proceedings for offences under the EP Act (including offences under section 56).

Table 1: Authorised Emissions Table

Column 1	**Column 2**
Emission Type	**Exclusions/ Limitations/ Requirements**
General Emissions	
Emissions which: • arise from the activities on the Premises through matters set out in, or incidental to the matters set out in, the General Description 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 that result, or are likely to result in, the Discharge or abandonment of Waste in water to which the public has access; or • Emissions or Discharges which do not comply with an Approved Policy; or • Emissions or Discharges which do not comply with prescribed standard; or • Emissions or Discharges which do not comply with the Conditions in an Implementation Agreement or Decision; or • Emissions or Discharges the subject of offences under regulations prescribed under the EP Act, including materials discharged under the *Environmental Protection (Unauthorised Discharges) Regulations 2004*.

Waste acceptance restrictions

2. The Licence Holder must only accept Wastes onto the Premises for storage, sorting or crushing:

(a) of the type specified in column 1;

(b) at a quantity not greater than the limit specified in column 2; and

(c) that meet the specifications in column 3,

of Table 2.

Table 2: Waste acceptance

Column 1	Column 2	Column 3
Type	**Maximum quantity**	**Specifications**
Putrescible Waste	55,000 tonnes per Annual Period	**(a)** Glass only, permitted to contain minor unavoidable quantities (<5%) of other putrescible or inert wastes such as paper, aluminium, plastics and steel. **(b)** Each load is unloaded directly onto the Glass Unloading Hardstand.

3. The Licence Holder must monitor and record the volumes of incoming Waste at the Premises for the parameter stipulated in column 1 of Table 3, using the units specified in column 2 of Table 3 at the frequency specified in column 3 of Table 3.

Table 3: Monitoring of inputs

Column 1	Column 2	Column 3
Parameter	**Units**	**Frequency**
Putrescible Waste (glass) accepted in accordance with Condition 2	m^3 and calculated tonnes – a conversion factor of 0.347 tonnes in every m^3 must be used to calculate tonnage where weighbridge data is not available.	Each load arriving at the Premises.

Infrastructure and equipment

4. The Licence Holder must ensure that the infrastructure and equipment specified in column 1 of

5. Table 4 are maintained in good working order and operated in accordance with the requirements specified in column 2 of

6. Table 4.

Table 4: Infrastructure and equipment controls

	Column 1	Column 2
	Site infrastructure and equipment	**Operational requirements**
1	Hopper/ auger	None specified
2	Crusher	None specified
3	Screen	**(a)** Water sprays are turned on when screen is operating. **(b)** Waste is fully enclosed.
4	Conveyors	**(c)** Waste is fully enclosed.
5	Skip bins	**(d)** Kept closed at all times when containing Product.

	Column 1	Column 2
	Site infrastructure and equipment	**Operational requirements**
6	Glass Unloading Hardstand and sump	**(e)** All stormwater runoff and Leachate within the Glass Unloading Hardstand must be directed to and contained within the sump. **(f)** The sump must not overtop and result in a Discharge outside of the Glass Unloading Hardstand or sump.

Waste storage management

7. The Licence Holder must ensure that:

(a) all Waste that is not a Product is stored within the Glass Unloading Hardstand or enclosed and impermeable container; and

(b) all Product is stored within completely covered bins.

Information

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

(a) the maintenance of infrastructure required to ensure that it is kept in good working order in accordance with Condition 4 of this Licence;

(b) monitoring undertaken in accordance with Condition 3 of this Licence; and

(c) complaints received under Condition 8 of this Licence.

and the Books must:

(d) be legible;

(e) if amended, be amended in such a way that the original and subsequent amendments remain legible and are capable of retrieval;

(f) be retained for at least 3 years from the date the Books were made; and

be available to be produced to an Inspector or the CEO.

9. The Licence 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.

10. The Licence Holder must record the number and details of any complaints received by the Licence Holder relating to 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.

11. The Licence Holder must submit to the CEO within 90 days after the Anniversary Date, a Compliance Report indicating the extent to which the Licence Holder has complied with the Conditions in this Licence for the Annual Period.

Definitions and Interpretation

Definitions

In this Licence, the following terms have the following meanings:

Amendment Notice refers to a notice issued under section 59B(9) of the EP Act to amend the Licence issued under the EP Act .

Anniversary Date means 1 February of each year.

Annual Period means a 12 month period commencing from 1 January until 31 December in that year.

Approved Policy has the same meaning given to that term under the EP Act.

CEO for the purposes of notification means:

Chief Executive Officer
Department Div. 3 Pt. V EP Act
Locked Bag 33 Cloisters Square
Perth WA 6850
info@der.wa.gov.au

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

(a) information, records or reports in relation to specific matters in connection with this Licence 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 Licences granted under the EP Act; or

(ii) which apply to specified categories of Licences within which this Licence falls.

Compliance Report means a report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO from time to time.

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

Discharge has the same meaning given to that term under the EP Act.

Emission has the same meaning given to that term under the EP Act.

Environmental Harm has the same meaning given to that term under the EP Act.

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

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

General Description means the description of activities and operations carried out on the Premises as set out in Schedule 2 of this Licence.

General Emission has the meaning set out in Condition 1 of this Licence.

Glass Unloading Hardstand means the hardstand for the unloading and storage of Waste as defined in Table 5 of the General Description in Schedule 2.

Implementation Agreement or Decision has the same meaning given to that term under the EP Act.

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

Leachate means liquid released by or water that has percolated through waste and which contains some of its constituents.

Licence refers to this document as amended from time to time including by way of an Amendment Notice, which evidences the grant of Licence by the CEO under s 57 of the EP Act, subject to the Conditions.

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

Material Environmental Harm has the same meaning given to that term under the EP Act.

Pollution has the same meaning given to that term under the EP Act.

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

Product refers to Wastes that have undergone crushing, processing or screening to create a useable recycled granular glass Product.

Putrescible Waste has the meaning defined in the Landfill Definitions.

Serious Environmental Harm has the same meaning given to that term under the EP Act.

Site Plan means the plan specifying the location of some equipment and infrastructure at the Premises as shown on the Site Plan in Schedule 1 to this Licence.

Specified Emission has the meaning set out in Condition 40 of this Licence.

Unreasonable Emission has the same meaning given to that term under the EP Act.

Waste has the same meaning given to that term under the EP Act.

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;

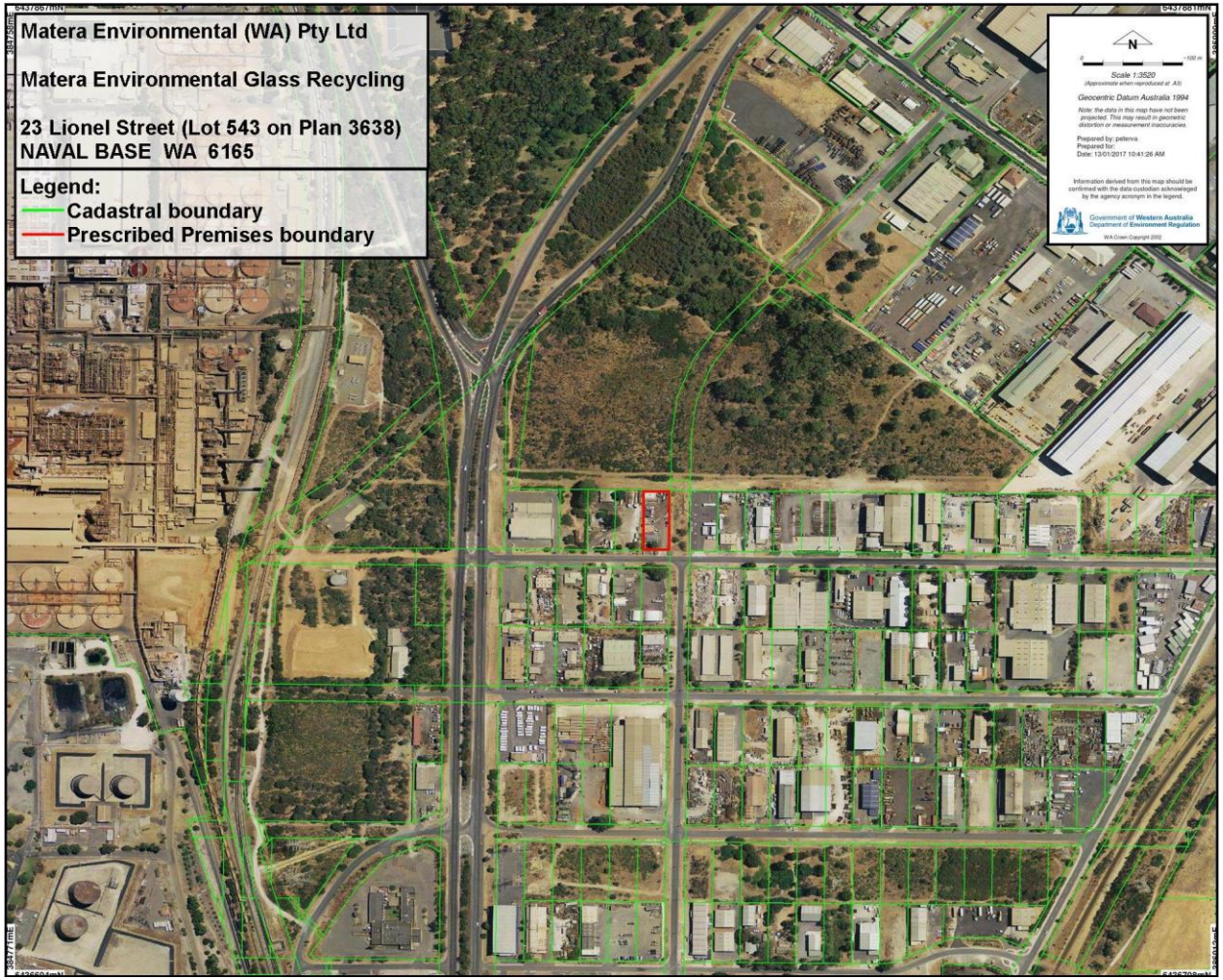
(c) where tables are used in a Condition, each row in a table constitutes a separate Condition; and

(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.

Schedule 1: Maps

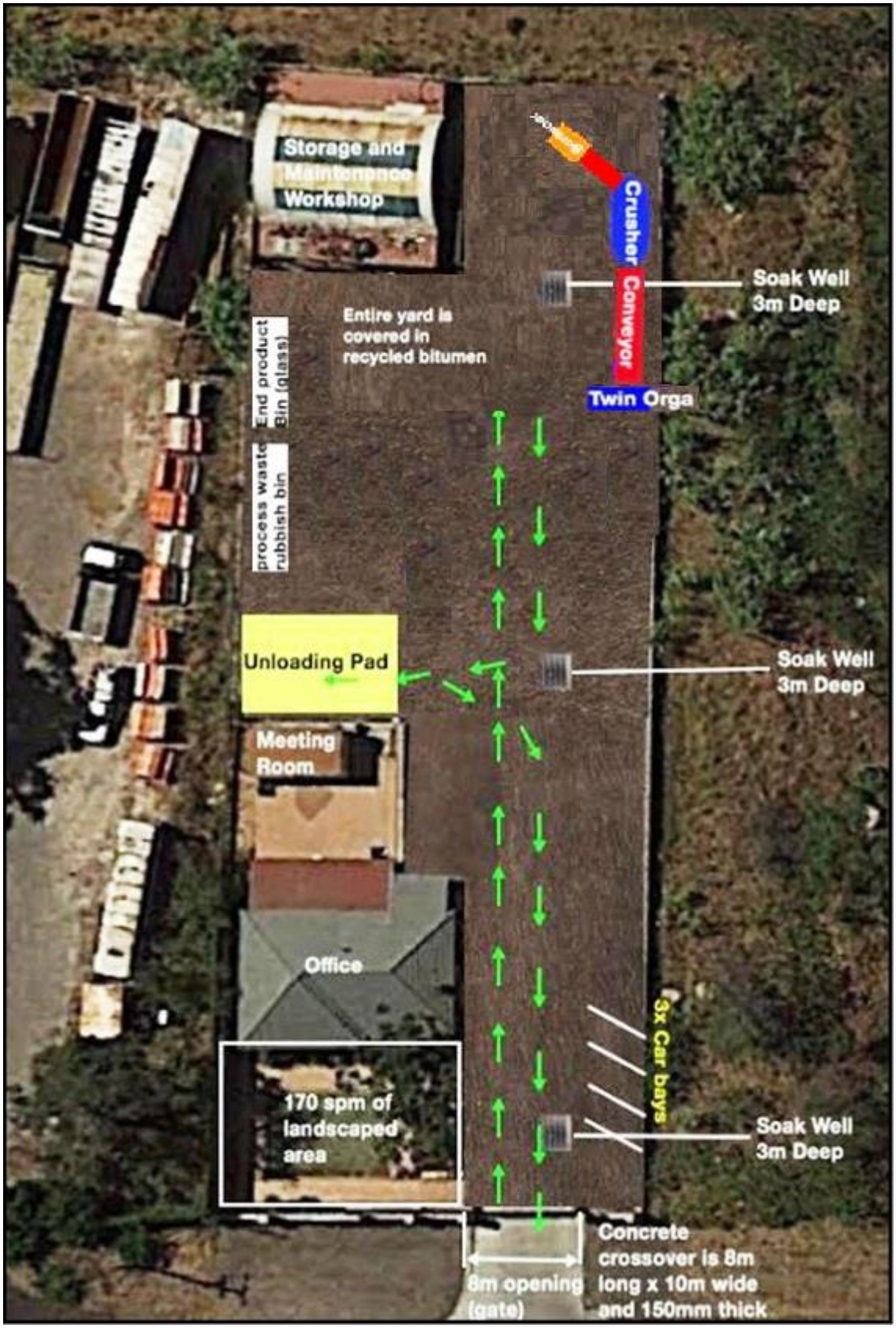
Premises Map

The Premises is shown in the map below. The red line depicts the boundary of the Premises.



Site Plan

The Premises is depicted in the Site Plan below. The Glass Unloading Hardstand is labelled ‘Unloading pad’. The location of infrastructure and equipment is indicated by the labels on the Site Plan.



Schedule 2: General Description

At the time of assessment, the following activities and operations were considered in the determination of the risk and related Conditions for the Premises.

The Licence Holder is carrying out activities at the Premises which fall within the meaning of Prescribed Premises under the EP Act. The Premises constitute:

- 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.

Infrastructure and equipment

The infrastructure and equipment listed in Table 5 are situated on the Premises:

Table 5: Infrastructure and equipment

Infrastructure and Equipment		**Plan Reference**
1	Hopper/ auger (hopper mouth: L 2.0m – W 1.0m – H 1.9m; auger (3 kilowatt motor; L 3.0m – W 0.4m)	**Schedule 1: Site Plan**
2	Crusher (22 kilowatt motor; L 2.0m – W 1.2m – H 2.3m)	**Schedule 1: Site Plan**
3	Screen (waste sprays and enclosed; 3 kilowatt motor; L 1.5m – W 4.5m – H 3.3m)	**Schedule 1: Site Plan**
4	3 x Conveyors (all enclosed; 2.2 KW; 2 x L 7.5m – W 0.5-0.6m and 1 x L 1.5m – W 5.0m)	**Schedule 1: Site Plan**
5	Skip bins	**Schedule 1: Site Plan**
6	Glass Unloading Hardstand (L8 m x W8 m x H200 mm with 1 m walls on all sides), drain and sump (1.4 m^3 capacity)	**Schedule 1: Site Plan**
7	Diesel generator	N/A
8	Bobcat	N/A
Other Infrastructure		
9	Storage and maintenance workshop	**Schedule 1: Site Plan**
10	Office	**Schedule 1: Site Plan**
11	Soak wells (stormwater)	**Schedule 1: Site Plan**

Site layout

The infrastructure and equipment are set out on the Premises in accordance with the site layout specified on the Site Plan in Schedule 1.

Waste acceptance

The Premises accepts glass waste for sorting, crushing and screening to produce Products in the form of granular glass. Table 6includes the volumes of Waste material that has been considered for this assessment.

Waste is received predominantly by trucks that are owned by third parties. Upon arrival, each load is tipped onto the glass unloading hardstand. The waste is processed and placed within covered bins.

Undesirable or non-reusable Wastes are separated and loaded into bins during processing and/or crushing. Once the non-reusable Waste bin is full, it is removed from the Premises for disposal to a licensed facility.

The Product is resold.

Table 6: Bulk material volumes assessed

Waste Type	Volume (annual)
Putrescible Waste (glass)	55,000 tonnes

Government of Western Australia
Department of Environment Regulation

Decision Report

Application for Works Approval and Licence

Division 3, Part V *Environmental Protection Act 1986*

Applicant:	**Matera Environmental (WA) Pty Ltd**
ACN:	**169 020 811**
Works Approval	**W6018/2016/1**
Licence	**L9021/2016/1**
File Number:	**DER2016/002323 and DER2016/002324**
Premises:	**Matera Environmental Glass Recycling** **23 Lionel Street** **NAVAL BASE WA 6165** **Lot 543 on Plan 3638**
Date of report:	**29/06 /2017**
Status of Report	**FINAL**

Table of Contents

Appendix 1: Key Documents

Appendix 2: Summary of Applicant's Comments on Risk Assessment and Draft Conditions

Definitions of terms and acronyms

Term	Definition
AACR	Annual Audit Compliance Report
AER	Annual Environment Report
Applicant	Matera Environmental (WA) Pty Ltd
Category/Categories (Cat.)	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
DER	Department of Environment Regulation
Decision Report	this document
Delegated Officer	An officer under section 20 of the EP Act.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
Kwinana EPP	*Environmental Protection (Kwinana) (Atmospheric Wastes) Policy Approval Order 1999*
Kwinana EPP Regulations	*Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992*
NEPM	National Environmental Protection Measure
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)
Premises	Matera Environmental Glass Recycling, located on Lot 543 on Plan 3638, NAVAL BASE WA 6165
PM	Particulate Matter
PM_{10}	Used to describe particulate matter that is small than 10 microns (µm) in diameter.
Prescribed Premises	Premises prescribed under Schedule 1 to the EP Regulations
TSP	Total suspended particulates
UDR	*Environmental Protection (Unauthorised Discharges) Regulations 2004* (WA)

1. Purpose and scope of assessment

On 16 November 2016, Matera Environmental (WA) Pty Ltd (**Applicant**) applied concurrently for a Works Approval and subsequent Licence to operate a glass waste recycling facility (**Application**) at 23 Lionel Street, being Lot 543 on Plan 3638, Naval Base (**Premises**).

This Decision Report presents an assessment of potential environmental and public health risks from emissions and discharges from the construction and operation of the glass waste recycling facility.

Note: Following the findings of a noise report required under Condition 4 of Works Approval W6018/2016/1 (granted on 9 May 2017) the initial proposed layout of the facility has been changed slightly. Further details are provided in Section 10. Applicant Comments.

2. Background

The Applicant sought approval to operate a facility that accepts up to 55,000 tonnes per annual period (see Section 3.2 below for calculation detail) of glass, being Putrescible Waste as defined by the **Landfill Definitions**. Pre-sorted glass will be accepted from third parties, cracked via auger and then crushed and screened into a granular glass product for temporary storage in covered bulk bins to then be on sold for reuse by third parties. All waste and infrastructure will be contained within the Premises on approximately 300 m^2 of land area.

The Premises is located within the City of Kwinana in an area zoned 'General Industry' under the Town Planning Scheme No. 2. Ms. Sonja Markotich is listed as the proprietor of 23 Lionel Street, Lot 534 on Plan 3638, Naval Base.

Table 1 describes the Prescribed Premises Categories applicable to the Premises.

Table 1: Prescribed Premises Categories

Classification of Premises	Description	*Approved premises production or design capacity or throughput*
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.	55,000 tonnes per annual period

3. Overview of Premises

3.1 Infrastructure

The Matera Environmental Glass Recycling facility infrastructure, as it relates to Category 61A activities, is detailed in Table 2 and with reference to the Site Plan (attached to the Works Approval).

Table 2: Matera Environmental Glass Recycling facility Category 61A infrastructure

	Prescribed Activity Category 61A Infrastructure
1	Glass unloading hardstand (L8 m x W8 m x H200 mm with 1 m walls on all sides), drain and sump (1.4 m^3 capacity)
2	Hopper/ auger (hopper mouth: L 2.0m – W 1.0m – H 1.9m; auger (3 kilowatt motor; L 3.0m – W 0.4m)
3	Crusher (22 kilowatt motor; L 2.0m – W 1.2m – H 2.3m)

	Prescribed Activity Category 61A Infrastructure
4	Screen (water sprays and enclosed; 3 kilowatt motor; L 1.5m – W 4.5m – H 3.3m)
5	3 x Conveyors (all enclosed; 2.2 KW; 2 x L 7.5m – W 0.5-0.6m and 1 x L 1.5m – W 5.0m)
6	Skip bins
7	Diesel generator
8	Bobcat

The Applicant has developed a purpose built the hopper/ auger, crusher and screener for reprocessing the waste glass. The hopper/ auger, crusher and screener are yet to be mobilised on the Premises. The glass unloading hardstand and associated sump are yet to be constructed. Construction is expected to take approximately 2 weeks.

3.2 Operational aspects

The Applicant intends to turn waste glass into a reusable granular product through a process that takes less than 1 minute from input to output, summarised as follows:

- Accept pre-sorted waste glass from third parties that has largely had contaminant materials removed (other inert wastes and putrescible wastes). Delivery will be via truck and waste deposited within the glass unloading hardstand. Storage will only occur when waste cannot be processed at the time of delivery (during operating hours).
- The bobcat front end loader will place waste glass into the hopper, supported by manual pickup. The hopper mouth is approximately 2 m^2 in area and feeds waste glass into a twin auger (L3.0m x W0.4m) that cracks the glass and helps remove any contaminants that are subsequently disposed of.
- A conveyer (L7.5m x W0.6m) then feeds cracked glass into the crusher (L2.0m x W1.3m). Within the crusher a series of blades crush glass into a homogenous material approximately the size of a sand grain.
- A conveyer (L7.5m x W0.6m) then feeds crushed glass into the vibrating screen (L4.5m x W1.5m x H3.3m). The screen helps remove any residual contaminants that are subsequently disposed of.
- A conveyer (L7.5m x W0.6m) then feeds crushed and screened glass into 12.5 m^3 storage bins that are kept securely covered.
- The diesel generator provides all electrical power for operating the infrastructure. The Applicant has stated that the diesel generator has '*a maximum decibel level of 71 dB(A) at a distance of 7m*'.

The capacity of the process is up to 150 tonnes/ day. This is equivalent to 54,750 tonnes per annual period.

The Applicant does not propose to store raw waste glass for extended periods (exceeding two days) and has not applied to accept other types of waste.

The Applicant has not specified operating hours. Any determination on operating hours requirements in the Licence will give consideration to any restrictions within the Planning Approval and the Noise Regulations.

4. Legislative context

4.1 Applicable standards and Guidelines

4.1.1 *Environmental Protection (Kwinana) (Atmospheric Waste) Policy 1999*

Environmental Protection Policies (EPPs) are statutory policies developed under Part III of the EP Act.

The *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy Approval Order 1999* (**Kwinana EPP**) and the *Environmental Protection Kwinana) (Atmospheric Wastes) Regulations 1992* (**Kwinana EPP Regulations**) provide ambient air quality standards and ambient air quality limits for Sulphur dioxide and particulates.

The Kwinana EPP defines three areas (Areas A, B and C) where:

- Area A is the area of land on which heavy industry is located;
- Area B is outside Area A and is zoned for industrial purposes from time to time under a Metropolitan Region Scheme or a town planning scheme;
- Area C is beyond Areas A and B, predominantly rural and residential.

The Premises falls within Area A. Schedule 2 of the Kwinana EPP Regulations provide emissions standards and limits identified in Table 3.

Table 3: Ambient air quality standards and ambient air quality limits – total suspended particulates Table.

Item	Area	Standard (µg/m^3)	Limit (µg/m^3)	Averaging period
1	Policy Area	-	1,000	15 minutes
2	Area A	150	260	24 hours

The Kwinana EPP defines 'standard' as the "*concentration of an atmospheric waste which it is not desirable to exceed"* and 'limit' as the *"concentration of an atmospheric waste which is not to be exceeded".*

This assessment has had regard to the Kwinana EPP and Kwinana EPP Regulations in assessing the risk of particulate emissions from the Premises.

4.1.2 *Environmental Protection (Noise) Regulations 1997*

Under the *Environmental Protection (Noise) Regulations 1997* (Noise Regulations), the Premises is located within the Kwinana Industrial Area. The Kwinana Industrial Area is defined within the Noise Regulations as premises that fall within Area A of the Kwinana EPP. The excerpt below (Table 4) from Table 1 in Regulation 8 of the Noise Regulations defines the assigned levels for noise emissions in the Kwinana Industrial Area.

Table 4: Assigned levels in the Kwinana Industrial Area.

Type of premises receiving noise	Time of day	Assigned level (dB)		
		$L_{A\ 10}$	$L_{A\ 1}$	$L_{A\ max}$
Industrial and utility premises in the Kwinana Industrial Area	All hours	75	85	90

4.2 Planning Approvals

The Applicant was granted Planning Approval for the Premises by the City of Kwinana on 13 April 2017. A building permit was also granted to the Applicant under S25 of the *Building Act 2011*. Permit number 4.2017.274.1 was issued on 20 April 2017 for a period of two years.

4.3 Part V of the EP Act

4.3.1 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: Setting Conditions (October 2015)*
- *Guidance Statement: Land Use Planning (October 2015)*
- *Guidance Statement: Licence Duration (November 2015)*
- *Guidance Statement: Publication of Annual Audit Compliance Reports (May 2016)*
- *Guidance Statement: Decision Making (November 2016)*
- *Guidance Statement: Risk Assessment (November 2016)*
- *Guidance Statement: Environmental Siting (November 2016)*

The Application is for a new Prescribed Premises, subsequently there are no historical documents relating to Part V of the EP Act for the Application.

5. Consultation

The Application was advertised in the West Australian Newspaper on the 26 December 2016. No submissions were received.

The Application was referred to the City of Kwinana on 26 December 2016.

No comments were received.

6. Location and siting

6.1 Siting context

The Premises is located on the Swan Coastal Plain in the City of Kwinana approximately 29 km south-south-west of the Perth City centre and 1 km inland from Cockburn Sound. Surrounding land uses comprise of:

- Except as detailed below, land within a 1500 m radius of the Premises is zoned 'General industry', 'Service commercial', 'Primary regional roads', 'Railways' and 'Public purposes: Water supply sewerage and drainage'.
- Zoning of land located approximately 600 m southeast of the Premises under the City of Kwinana is not currently defined. Subject land is located within the Latitude 32 industry zone which is currently going through various stages of planning. The Latitude 32 area is established under the *Hope Valley – Wattleup Redevelopment Act 2000*.

6.2 Residential and sensitive premises

The distances to residential and sensitive receptors are shown in Table 5 below.

Table 5: Receptors and distance from activity boundary

Sensitive Land Uses	Distance from Prescribed Activity
Residential premises	No residential premises are identified within a 2 km radius of the Premises.

6.3 Specified ecosystems

The distances to specified ecosystems are shown in Table 6.

Table 6: Specified ecosystems

Specified ecosystems	**Distance from the Premises**
State Environment (Cockburn Sound) Policy 2005	Premises located within the policy area and 1 kilometre east of Cockburn Sound.
Bush Forever Site 346: Brownman Swamp, Mount Brown Lake and Adjacent Bushland, Henderson/Naval Base	~880 meters north of the Premises
Threatened ecological site (500 buffer edge)	~380 meters north of the Premises
Resource enhancement wetland area (sumpland)	~220 meters north of the Premises
Other relevant ecosystem values	**Distance from the Premises**
Groundwater (The Premises is located within the Perth Groundwater area *Rights in Water Irrigation Act 1914* groundwater area)	The Department of Water Perth Groundwater Map identifies that the natural ground level at the Premises is ~17.7 mAHD and that groundwater is ~1.0 mAHD (16.7 mBGL).

6.4 Groundwater and water sources

The distances to groundwater and water sources are shown in Table 7.

Table 7: Groundwater and water sources

Groundwater and water sources	**Distance from Premises**	**Environmental Value**
Groundwater	The Department of Water Perth Groundwater Map identifies that the natural ground level at the Premises is ~17.7 mAHD and that groundwater is ~1.0 mAHD (16.7 mBGL). Ten groundwater bores were identified proximate to the Premises using the Department of Water's *Water Information Reporting* data set. No bores had data available after 1996.	Department of Water's Perth Groundwater Atlas indicates that groundwater in the area is 500-1000 TDS mg/L which is considered marginal. Groundwater has potential beneficial use for commercial and bore water use.

6.5 Soil type

The geology of the Premises is comprised of Tamala Limestone. Tamala Limestone is creamy white to yellow or light grey calcareous eolianite. It contains various proportions of quartz to fine sand, fine to medium grained shell fragments and clayey lenses. The quartz sand varies from fine to coarse grained but is predominantly medium grained.

The risk of acid sulfate soils is identified as low to no risk in DER's mapping system.

6.6 Meteorology

6.6.1 Wind direction and strength

The Bureau of Meteorology provides the 9am and 3pm wind speed and direction for the Medina Research Centre area, located approximately 6.0 kilometers southeast of the Premises, see Figure 1 and Figure 2 below. It is important to note that these wind roses shows historical wind speed and wind direction data for the Medina Research Centre area and should not be used to predict future data.

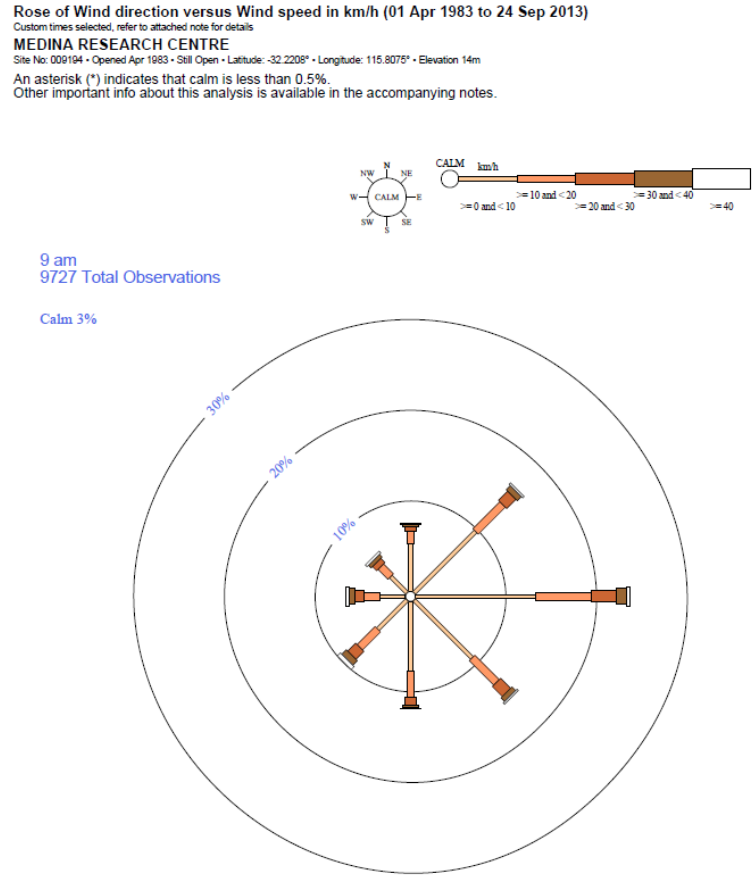


Figure 1: Medina Research Centre 9 am average wind speed and direction.

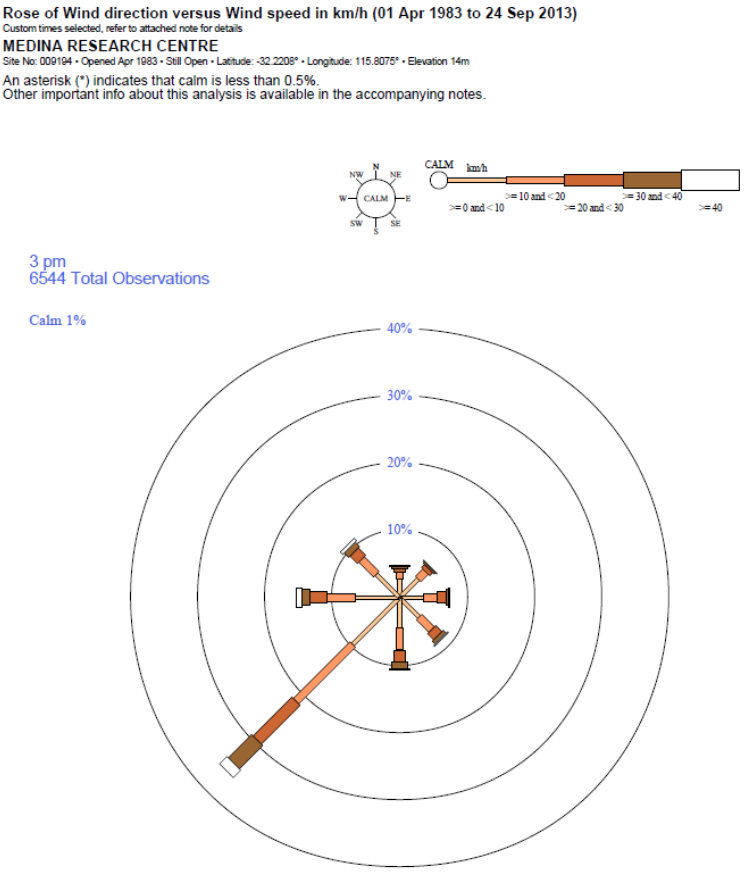


Figure 2: Medina Research Centre 3 pm average wind speed and direction.

6.6.2 Rainfall and temperature

The Perth Metro area is characterised by cool wet winters and warm dry summers. Rainfall occurs predominantly over the months of May through to September. The Bureau of Meteorology provides the mean rainfall and maximum temperatures for the Perth Metro area as depicted in Figure 3 (mean maximum temperature 1994 to 2016 and mean rainfall 1993 to 2016).

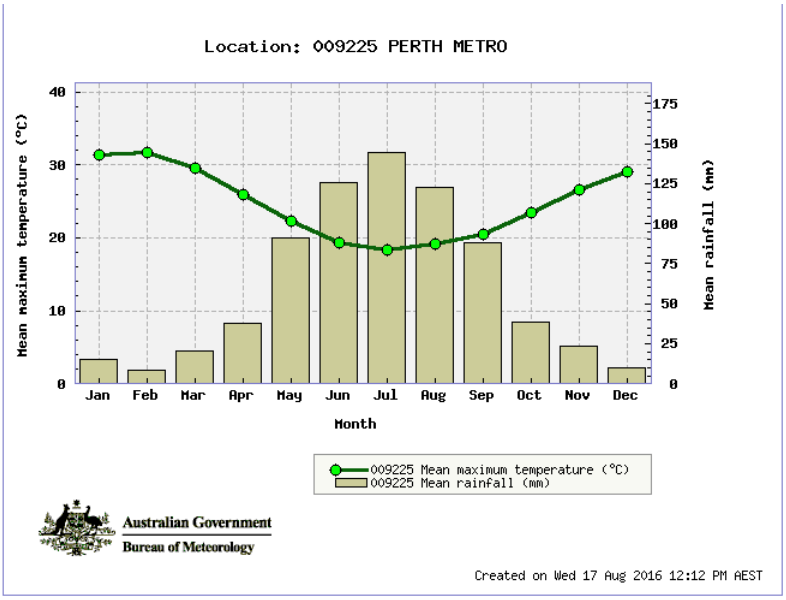


Figure 3: Mean maximum temperature and mean rainfall for Perth Metro area.

7. Risk assessment

7.1 Confirmation of potential impacts

Identification of key potential emissions, pathways, receptors and confirmation of potential impacts are set out in Table 8 and Table 9 below. Table 8 and Table 9 also identify the potential emissions that 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 8: Identification of key emissions during construction

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
Source (see Section 3.1 for infrastructure references)	***Construction, mobilisation and positioning of infrastructure***	Vehicular movement	Noise	Adjacent commercial premises and vacant 'General industry' land.	Air / wind dispersion	Amenity impacts; mental health impacts	No	Premises located in industrial area. No sensitive receptor present; short term duration of works, potential emissions can be adequately regulated by Section 49 EP Act, Kwinana EPP, EP Noise Regulations and UDR
		Construction of hardstand and sump, mobilisation of processing infrastructure	Contaminated stormwater/ hydrocarbons spills	Groundwater Cockburn Sound	Land infiltration to groundwater and overland flow to surface water	Contamination of groundwater or Cockburn Sound marine environment	No	
			Dust	Adjacent commercial premises and vacant 'General industry' land.	Air / wind dispersion	Amenity impacts; physical health impacts	No	
			Noise			Amenity impacts; mental health impacts	No	

Table 9: Identification of key emissions during operation

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
Source (see Section 3.1 for infrastructure references)	**Diesel generator**	Power generation	Contaminated stormwater/ hydrocarbons spills	Groundwater Cockburn Sound	Land infiltration to groundwater and overland flow to surface water	Contamination of groundwater and/ or Cockburn Sound marine environment	No	Low volumes of material at source of possible emissions. Distance to Cockburn Sound and groundwater/ receptors. Potential emissions can be adequately regulated by general provisions of EP Act and UDR
			Fugitive air emissions	Adjacent commercial premises and vacant 'General industry' land.	Air / wind dispersion	Physical health impacts	No	Lack of foreseeable impact. Low volumes and concentrations of emissions, emissions of this type are considered common place within the area. Potential emissions can be adequately regulated by Section 49 EP Act and Kwinana EPP Regulations
			Noise		Air / wind dispersion	Amenity impacts; mental health impacts	Yes	Refer to Section 7.7
	Vehicle Movements	Vehicular movement	Dust	Adjacent commercial premises and vacant 'General industry' land.	Air / wind dispersion	Amenity impacts; physical health impacts	No	Lack of foreseeable impact. Emissions of this type are considered common place within the area. Potential emissions can be adequately regulated by Section 49 EP Act, Kwinana EPP Regulations and Noise Regulations
			Noise			Amenity impacts; mental health impacts	No	

			Potential Emissions	Potential Receptors	Potential Pathway	Potential Impacts	Continued to detailed risk assessment?	Reasoning
Source (see Section 3.1 for infrastructure references)	**Waste glass acceptance and handling**	Acceptance and handling of waste.	Dust	Adjacent commercial premises and vacant 'General industry' land.	Air / wind dispersion	Amenity impacts; physical health impacts	Yes	Refer to Section 7.5
			Noise			Amenity impacts; mental health impacts	Yes	Refer to Section 7.7
	Waste glass storage	Unprocessed and processed waste storage.	Contaminated stormwater/ leachate	Groundwater Cockburn Sound	Land infiltration to groundwater and overland flow to surface water	Contamination of groundwater and/ or Cockburn Sound marine environment	Yes	Refer to Section 7.4
			Dust	Adjacent commercial premises and vacant 'General industry' land.	Air / wind dispersion	Amenity impacts; physical health impacts	Yes	Refer to Section 7.5
			Odour		Air / wind dispersion	Amenity impacts; mental and physical health impacts	Yes	Refer to Section 7.6
	Waste glass processing (sorting, cracking, crushing, screening)	Operation of screening and crushing plant.	Dust	Adjacent commercial premises and vacant 'General industry' land.	Air / wind dispersion	Amenity impacts; physical health impacts	Yes	Refer to Section 7.5
			Noise		Air / wind dispersion	Amenity impacts; mental health impacts	Yes	Refer to Section 7.7

7.2 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 7.

Table 10: Risk Criteria

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

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:		
			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	• **on-site impacts**: catastrophic • **off-site impacts local scale**: high level or above • **off-site 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	• **on-site impacts**: high level • **off-site impacts local scale**: mid level • **off-site 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	• **on-site impacts**: mid level • **off-site impacts local scale**: low level • **off-site 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	• **on-site impacts**: low level • **off-site impacts local scale**: minimal • **off-site 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
Rare	The risk event may only occur in exceptional circumstances	Slight	• **on-site 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, DER may have regard to the Department of Health's, *Health Risk Assessment (Scoping) Guidelines* "on-site" means within the Prescribed Premises boundary.

7.3 Risk Treatment

DER will treat risks in accordance with the Risk Treatment Matrix in Table 11 below:

Table 11: Risk Treatment

Rating of Risk Event	Acceptability	Treatment
Extreme	Unacceptable.	Risk event will not be tolerated. DER may refuse application.
High	Acceptable subject to multiple regulatory controls.	Risk event will 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.

7.4 Risk Assessment – Contaminated stormwater/ leachate (Operation)

7.4.1 General hazard characterisation and impact

Contaminated stormwater/ leachate can be generated during rainfall events where contaminants within the glass waste are mobilised. Contaminants may be present within raw glass waste and may include a putrescible fraction (paper and sugars). Contaminants may be retained through the processing stages and may be present within the final glass product.

Contaminated stormwater/ leachate impacts could result in overland flow which may impact the Cockburn Sound marine environment. The health of Cockburn Sound is of state significance, and is subject to the *State Environmental (Cockburn Sound) Policy 2015* and associated water quality objectives and management plan. The policy was developed due to a history of significant nutrient pollution resulting in more than 75% of seagrass being lost from the early 1960s through to 2004. The overall objective of the policy is to establish the environmental values, objectives and criteria for Cockburn Sound, and ensure that these and the water quality of the Sound are maintained and/or improved resulting in no further net loss of seagrass area. Subsequently potential emissions must be considered in a cumulative context within the catchment.

Contaminated stormwater/ leachate impacts could also infiltrate to groundwater. Contaminants within the groundwater could impact adjacent users of groundwater.

7.4.2 Criteria for assessment

The *National Water Quality Management Strategy, Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC) and *National Environment Protection (Assessment of Site Contamination) Measure 1999, amended in 2013* provide assessment criteria.

7.4.3 Proponent controls

The Applicants controls to reduce and manage contaminated stormwater/ leachate are set out in Table 12.

Table 12: Applicant controls for contaminated stormwater/ leachate.

Control	Description
Waste acceptance	Glass waste will be '*reasonably homogenous state, free from major impurities such as metals, wood and paper*' (email correspondence dated 6 December 2016).
Raw glass waste unloading hardstand, storage and collection sump.	Glass unloading hardstand (surface area of 64m^2) that feeds any contaminated stormwater/ leachate into a sump with a capacity of approximately 1,400L. Therefore the sump has the theoretical capacity to hold a 22.5 mm rainfall event from the glass unloading hardstand catchment. Leachate within the sump will be periodically pumped out.
Final glass product storage	Final glass product will be stored in covered skip bins.

7.4.4 Key findings

The Delegated Officer has reviewed the information regarding the potential leachate impacts from the Premises and has found:

1. *The presence (quantity and type) of contaminants within the raw glass waste accepted at the Premises will be a critical control point for managing the risk of potential impacts from leachate.*
2. *Rainfall may result in leachate arising within the glass unloading hardstand that is contaminated by putrescible wastes.*
3. *The sump cannot foreseeably contain all rainfall arising, during foreseeable rainfall events >22.5 mm, within the glass unloading hardstand. The Applicant should consider managing rainfall arising within the glass unloading hardstand when waste is not present through the Premises stormwater system, incorporating a shelter over the glass unloading hardstand and/ or increasing the capacity of the proposed sump.*

7.4.5 Consequence

Based upon the likelihood of contaminants being mobilised and the distance the depth to groundwater and distance to Cockburn Sound, the Delegated Officer has determined that the impact of leachate to groundwater and surface water will be minimal level local scale off-site impacts and the specific consequence criteria are likely to be met. Therefore, the Delegated Officer considers the consequence to be **Minor**.

7.4.6 Likelihood of consequence

Based upon the depth to groundwater and distance to Cockburn Sound, intermittent frequency of rainfall events and commitment to contain leachate arising within the glass unloading hardstand within a sump, the Delegated Officer has determined that the likelihood of contaminants entering Cockburn Sound or infiltrating to groundwater may occur in exceptional circumstances. The Delegated Officer considers the likelihood of the consequence to be **Rare**.

Note: This is subject to leachate levels in the sump being managed by the Applicant to prevent overflow.

7.4.7 Overall rating

The Delegated Officer has compared the consequence and likelihood ratings described above for the Risk Criteria (Table 10) and determined that the overall rating for the risk of leachate on sensitive receptors during operation is **Low**.

7.5 Risk Assessment - Dust (Operation)

7.5.1 General hazard characterisation and impact

Course and fine particulate matter (***PM***) may be generated from the initial earthworks associated with the construction of the hardstand area; vehicular movement; the acceptance, sorting, handling, crushing and screening of glass waste; and from dust lift off the stored waste and products particularly while being mobilised.

Potential impacts from dust and particulate emissions include increased degradation of local air quality. Nuisance, health and amenity impacts on commercial and industrial receptors located immediately adjacent of the Premises boundary.

The Delegated Officer has considered the impacts of dust emissions based on the maximum throughput proposed at the Premises.

7.5.2 Criteria for assessment

National Environment Protection (Ambient Air Quality) Measure (NEPM) 2003 recommends that particulate matter under 10 microns (***PM_{10}***) does not exceed 50 µg/m^3 over a 24 hour averaging period.

Assessment criteria for total suspended particulates (***TSP***) are specified in the Kwinana EPP (refer to section 4.1.1).

7.5.3 Proponent controls

The Applicants controls to reduce and manage fugitive dust emissions are set out in Table 13:

Table 13: Proponent infrastructure controls for fugitive dust emissions

Site Infrastructure	Description	Operation details	Reference to Licence Site Plan
Controls for dust			
Siting	Location of the Premises within the Kwinana EPP Area A.	N/A	N/A
Hopper/ auger	Hopper with twin auger that breaks down raw glass waste for processing by the crusher.	• Hopper feeds glass into augers. • Augers crack raw glass to size suitable for crusher. • Helps remove contaminants within the raw glass product. • See Plate 1 below.	Licence Schedule 1: Site Plan
Crusher	Crusher breaks down glass waste for processing by the screener.	• A series of blades crush glass into a homogenous material approximately the size of a sand grain. • See Plate 2 below.	

Site Infrastructure	Description	Operation details	Reference to Licence Site Plan
Screener	Vibrating screen	• Helps remove contaminants within the crushed glass product. • Completely covered to reduce likelihood of dust emissions. • Equipped with water sprayers • See Plate 3 below.	Licence Schedule 1: Site Plan
Conveyors	Three conveyors for feeding glass waste through the process to the final product skip bins.	• Completely covered to reduce likelihood of dust emissions.	
Glass unloading hardstand	Area for unloading and storing raw glass waste and loading via bobcat into the hopper/ auger.	• Concrete hardstand with 1 m walls on all sides. • Storage is limited to periods when waste cannot be processed the day of delivery.	
Skip bins	Covered 12.5 m^3 storage bins	• Final glass product will be stored in bins and kept completely covered.	

Plate 1: Hopper/ auger.

Plate 2: Crusher.

Plate 3: Screen.

7.5.4 Key findings

The Delegated Officer has reviewed the information regarding the potential impacts from dust emissions arising from the operation of the Premises and has found:

1. *Operational fugitive dust risk event primarily relates to the processing of waste at the Premises. The Applicant has proposed a number of actions to control dust emissions.*

7.5.5 Consequence

Based upon the actual quantity and type of waste to be processed and stored at the Premises and the distance to sensitive receptors, the Delegated Officer has determined that the impact of dust emissions may result in a low level impact on amenity and may also result in low level health impacts. The (NEPM) 2003 PM_{10} specific consequence criteria level of 50µg/m^3 over a 24 hour averaging period and the relevant criteria for TSP in the Kwinana EPP are considered likely to be met. Therefore, the Delegated Officer considers the consequence to be **Minor**.

7.5.6 Likelihood of consequence

Based upon the quantity of waste processed and stored onsite, the controls in place by the Applicant and the distance to sensitive receptors, the Delegated Officer has determined that Minor consequence may only occur in exceptional circumstances. Therefore, the Delegated Officer considers the consequence to be **Rare**.

7.5.7 Overall rating

The Delegated Officer has compared the consequence and likelihood ratings described above for the Risk Criteria (Table 10) and determined that the overall rating for the risk of dust impacts on receptors during operation is **Low**.

7.6 Risk Assessment - Odour (Operation)

7.6.1 General hazard characterisation and impact

Odour may be generated during normal operations at the Premises from contaminants that may occur within raw glass waste and include putrescible wastes (paper and sugars). Contaminants may make it through the glass processing infrastructure and be contained within the final glass product. Odour could impact nearby commercial receptors.

7.6.2 Criteria for assessment

Assessment is based on the potential impact and level of impact on the amenity of adjacent commercial receptors.

7.6.3 Proponent controls

The Proponent's controls to reduce and manage odour emissions are set out in Table 14.

Table 14: Proponent controls for odour emissions

Control	Description
Waste acceptance	Accept pre-sorted waste glass from third parties that have largely removed contaminant materials.
Waste handling	Contaminants will be removed during through visual identification, the auger process and the screening process.
Waste storage	Raw glass waste is not expected to be stored for a period longer than 18 hours. Stored final glass product will be contained in a covered bin.

7.6.4 Key findings

The Delegated Officer has reviewed the information regarding the potential impacts from odour emissions arising from the operation of the Premises and has found:

1. *That it is foreseeable for residual putrescible waste in the form of paper and sugars to be present within glass waste accepted at the Premises.*
2. *That the controls put in place by the Applicant in the form of limited storage times for raw glass waste should reduce the likelihood for odour emissions.*

7.6.5 Consequence

Based upon the actual quantity and type of waste to be processed and stored at the Premises and the distance to sensitive receptors, the potential for putrescible waste to be present within the glass waste, the Delegated Officer has determined that the impact of odour emissions may result in a low level impact on amenity. Therefore, the Delegated Officer considers the consequence to be **Minor**.

7.6.6 Likelihood of consequence

Based upon the quantity of waste processed and stored onsite, the controls in place by the Applicant, the potential for putrescible waste to be present within the glass waste and the distance to sensitive receptors, the Delegated Officer has determined that Minor consequence could occur at some time. Therefore, the Delegated Officer considers the consequence to be **Possible**.

7.6.7 Overall rating

The Delegated Officer has compared the consequence and likelihood ratings described above for the Risk Criteria (Table 10) and determined that the overall rating for the risk of odour impacts on receptors during operation is **Medium**.

7.7 Risk Assessment - Noise (Operation)

7.7.1 General hazard characterisation and impact

Noise may be generated during normal operations at the Premises from power generation, the acceptance and handling of waste and the operation of the screening and crushing plant. Noise emissions may impact on the amenity of nearby commercial/industrial receptors.

7.7.2 Criteria for assessment

Assessment is based on the potential to exceed the assigned noise levels within the Noise Regulations. For more information on the assigned levels for the Premises, refer to Section 4.1.2 and Table 4 of this Decision Report.

7.7.3 Proponent controls

The Proponent's controls to reduce and manage noise emissions are set out in Table 15.

Table 15: Proponent controls for odour emissions

Control	Description
Power generation	The Applicant has stated that the diesel generator has '*a maximum decibel level of 71 dB(A) at a distance of 7m*'
Waste acceptance and handling	The glass unloading hardstand will be concreted with 1m walls on all sides which may provide some noise barrier during unloading. The Applicant has stated that unloading events will occur 1 – 2 times daily.
Screening and crushing of glass	The Applicant has stated that production process takes less than 1 minute from input to output.

7.7.4 Key findings

The Delegated Officer has reviewed the information regarding the potential impacts from noise emissions arising from the operation of the Premises and has found:

1. *That it is foreseeable for an exceedance of the assigned levels ($L_{A\ 10}$ level of 75dB) to occur from the generator at the Premises boundary, given the proposed location of the generator being within approximately 1m of the Premises boundary.*
2. *That the unloading of glass 1 – 2 times daily is a short-term noise source and may only need to comply with the $L_{A\ max}$ level of 90dB.*
3. *That there will be a number of other noise sources on the Premises for which there is no sound level data (front-end loader operation, hopper/auger loading and grinding, conveyors, crusher, screen, trucks operating on the premises). Compliance with the assigned levels cannot be determined from the information provided.*
4. *That cumulative noise from surrounding premises may affect the Applicants ability to comply with the assigned levels within the Noise Regulations.*

7.7.5 Consequence

Based upon the uncertainty around sound levels from various components of the operations and the cumulative impacts of noise from nearby premises, the Delegated Officer has determined that assigned noise levels could be exceeded as a result of operations and therefore Specific Consequence Criteria for public health are at risk of being exceeded. Therefore, the Delegated Officer considers the consequence to be **Moderate**.

7.7.6 Likelihood of consequence

Based upon the uncertainty around sound levels from various components of the operations, and the distance to industrial receptors, the Delegated Officer has determined that the Moderate consequence could occur at some time. Therefore, the Delegated Officer considers the consequence to be **Possible**.

7.7.7 Overall rating

The Delegated Officer has compared the consequence and likelihood ratings described above for the Risk Criteria (Table 10) and determined that the overall rating for the risk of noise impacts on receptors during operation is **Medium**.

7.8 Summary of risk assessment and acceptability

A summary of the risk assessment and the acceptability of the risks with treatments are set out in Table 16 below. Controls are described further in section 8.

Table 16: Risk assessment summary

	Emission		Pathway and Receptor	Proponent controls	Impact	Risk Rating	Acceptability with treatment (conditions on instrument)
	Type	**Source**					
1.	Contaminated stormwater/ leachate	Unprocessed and processed waste stockpiled onsite.	Land infiltration to groundwater and overland flow to surface water	Pre-sorted glass accepted; Glass unloading hardstand with periodically emptied sump; Final glass stored in covered bins	Contamination of groundwater and/ or Cockburn Sound marine environment	Minor Rare **Low risk**	Acceptable subject to primary and secondary controls conditioned
2.	Dust	Acceptance and handling of waste; and Unprocessed and processed waste stockpiled onsite; and Operation of screening and crushing plant.	Air / wind dispersion to neighbouring industry	Hopper feeds glass into auger; Auger assists to removes contaminants; Glass crushed homogenously (sand grain size); Vibrating screen covered with water sprays; Covered conveyors; 1m walls on unloading hardstand; Limited storage periods; Final product in enclosed bin	Amenity impacts; physical health impacts	Minor Rare **Low risk**	Acceptable subject to proponent controls conditioned
3.	Odour	Unprocessed and processed waste stockpiled onsite.	Air / wind dispersion to neighbouring industry	Acceptance of pre-sorted glass; Contaminants removed throughout process; Limited storage duration of unprocessed glass; Final product in enclosed bin	Amenity impacts; mental and physical health impacts	Minor Rare **Medium**	Acceptable subject to proponent controls conditioned
4.	Noise	Power generation; Waste acceptance and handling; Screening and crushing of glass	Air / wind dispersion to neighbouring industry	1m walls surrounding glass unloading hardstand; Unloading events limited to 1 – 2 times daily; Production less than 1 minute		Moderate Possible **Medium**	Acceptable subject to controls conditioned

8. Determined Regulatory Controls

A summary of the risks with corresponding controls are set out in Table 17. The risks are set out in the assessment in section 7 and the controls are detailed in section 8. Controls will form the basis of conditions in the Works Approval set out in Attachment 1 and subsequent Licence, pending it being granted.

Table 17: Summary of regulatory controls to be applied

		Controls[1] **(references are to sections below setting out details of controls)**				
		8.1.1 Infrastructure and equipment	**8.1.2 Specified actions**	**8.2.1 Waste acceptance restrictions**	**8.2.2 Infrastructure and equipment**	**8.2.3 Waste storage management**
Risk Items (see risk analysis in section 7)	**1A. Dust from acceptance and handling of waste**	●		●	●	●
	1B. Dust from waste storage	●		●	●	●
	1A. Dust from operating crushing and screening	●		●	●	●
	2. Leachate	●		●	●	●
	3. Odour	●		●	●	●
	4. Noise	●	●	●		

8.1 Works Approval controls

8.1.1 Infrastructure and equipment

(Conditions 1 and 2) The Applicant will be subject to conditions which capture the commitments and specifications related to the infrastructure proposed in the Application to be installed on the Premises. One additional control will be imposed by the Delegated Officer to locate the diesel generator at least 7 metres from the Premises boundary.

Deviations from controls will only be allowed where they do not result in an increase in risk to public health, public amenity or the environment.

> **Grounds:** The risk assessment for operations in this Decision Report has been conducted on the assumption that what is proposed to be installed and operational performance is as specified in the Application. Some key features of the infrastructure

[1] Regulatory controls that are specified and not linked to specific risk items in Table 16 are addressed in Section 8.1.3, 8.2.4 and 9 of this Decision Report.

have direct implications for environmental risk (e.g. enclosed conveyors and screen minimise dust risk, sealed glass unloading hardstand minimise leachate runoff risks, storage of Product in bins reduces odour risk, etc.). Deviation from the Application where the level of risk in any area is increased would therefore be outside the authorisation of the Works Approval.

The 7m separation imposed between the diesel generator and Premises Boundary varies from the Application (in which the generator was located immediately adjacent the western boundary) and was determined by the Delegated Officer for the abatement of noise emissions. The Application stated that the generator achieves 71dB(A) at 7 metres; therefore an exceedance of the Noise Regulations ($L_{A\ 10}$ assigned level of 75dB) at the adjacent premises is foreseeable if the generator was located within 1m of the boundary, as per the Application. The Delegated Officer has received advice from DER's Noise Regulation area that noise levels from the generator at the receiving premises may be as high as 78dB if located as per the Application. A minimum 7m separation increases the confidence of the Delegated Officer that the Noise Regulations can be complied with. Completion of the Environmental Noise Assessment (see Specified Actions section below) could result in a variation of this control, if appropriate.

Update 29/06/2017: Following review of noise monitoring data submitted in accordance with W6018, the Delegated Officer is of the view that the original location of the generator on the western boundary (which is screened from the western receptor by a limestone block wall) is not likely to compromise compliance with assigned noise levels. The Delegated Officer therefore accepts this present location as a deviation which does not increase in risk to public health, public amenity or the environment and is therefore permitted under Condition 2 of the works approval.

.

8.1.2 Specified actions

(Condition 4) The Applicant will be subject to conditions requiring the completion of an Environmental Noise Assessment and submission of a related report that confirms compliance (or exceedance) of the operations with the assigned levels in the Noise Regulations (and any improvements that were required to meet the assigned levels).

Grounds: As there are a number of other noise sources on the Premises for which there is no sound level data, compliance with the assigned levels cannot be determined with sufficient confidence. Confirmation of noise emissions using actual measurements during a commissioning event (including the crushing of glass) is required. The noise assessment must be undertaken after all equipment has been installed, and the report must be submitted no later than the submission of the Compliance Document, to allow the inclusion of any deviations from the Application as a result of recommendations in the report.

8.1.3 Information

(Conditions 5 and 6) The Applicant will be subject to conditions requiring the submission of a Compliance Document (including photographs) confirming the completion of construction of all infrastructure and equipment. Where departures from condition 1 have been made, the report must include justifications for this.

(Conditions 7 and 8) The Applicant will also be required to keep legible records in relation to the works which are made available to the CEO if requested.

Grounds: The Works Approval does not authorise operation of the infrastructure and equipment once installed. The Works Approval will therefore be required to provide confirmation to DER when works are completed and evidence of this (photographs). If

upon reviewing the report the Delegated Officer is satisfied that the works are in accordance with the conditions of the Works Approval, granting of the Licence to operate will then be progressed. The Delegated Officer may make requests for further information in relation to the Works if required.

The Delegated Officer does not consider the proposed works to have a high level of complexity; therefore a requirement for engineer certification will not be imposed.

8.2 Licence controls

Note: The granting of the Licence and conditions proposed within is subject to the submission of compliant reports as required by Condition 4 of the Works Approval.

8.2.1 Waste acceptance restrictions

(Condition 5) The Applicant will be subject to a condition restricting the type, quantity and quality of waste accepted onto the Premises and the location that it is to be unloaded. The condition will specify that no more than 55,000 tonnes per annual period of glass waste (with less than 5% contaminants) is unloaded to the purpose-built glass unloading hardstand.

(Condition 6) The Applicant will also be subject to a condition requiring the monitoring of volumes and weight (by conversion) of glass waste accepted onto the Premises.

Grounds: The risk assessment for operations in this Decision Report has been conducted on the assumption that the site will be operated as specified in the Application. This assumption has defined the scope of this point in time risk assessment. Material changes to operation (such as to the type of waste, rate of processing, where it is stored prior to processing) could interfere with existing risks of dust, leachate or odour and could potentially increase the significance of noise as an emission risk at the Premises. The Application specified that no more than 55,000 tonnes of pre-sorted homogenous glass waste would be accepted onto the Premises and would be stored on the lined hardstand.

The Delegated Officer has also determined a maximum 5% contamination level for the glass waste accepted, giving consideration to the intended end-use of the Product and information from the Resource Association, based in the United Kingdom, on glass waste as aggregate[2]. In determining this control, the Delegated Officer has also considered the proponent's statement (as per Table 12 above) that glass waste would be in a '*reasonably homogenous state, free from major impurities such as metals, wood and paper*'

Monitoring of the volume of glass waste accepted onto the Premises will enable comparison with the maximum quantity allowed under Condition 5, and is required information for the completion of the Compliance Report (see Information section).

8.2.2 Infrastructure and equipment

(Condition 7) The Applicant will be subject to a condition setting requirements for the maintenance and operation of infrastructure and equipment on the Premises, in accordance with what was proposed in the Application as relevant to environmental risk. This will include maintenance of all equipment in good working order, and:

- ensuring water sprays operating on the screen;

[2] Resource Association, *Recycling Quality Specifications*, http://www.resourceassociation.com/recycling-quality-specifications#glassaggregate, page accessed 30/01/2017.

- ensuring the screen and conveyors remain fully enclosed;
- ensuring skip bins containing product closed;
- directing leachate from the glass unloading hardstand to the sump; and
- ensuring the sump does not overflow.

Grounds: The risk assessment for operations in this Decision Report has been conducted on the assumption that the site will be operated as specified in the Application. Material changes to the operational controls above could interfere with the risk of dust, leachate or odour at the Premises. Failure to maintain any of the machinery in good working order could also increase the risk of noise emissions at the Premises.

8.2.3 Waste storage management

(Condition 8) The Applicant will be subject to a condition specifying that all waste must be stored on the glass unloading hardstand, and all products must be stored in covered bins.

Grounds: The risk assessment for operations in this Decision Report has been conducted on the assumption that the site will be operated as specified in the Application. The storage of wastes outside the lined hardstand could increase the leachate risk at the Premises. Additionally, failure to store product in the enclosed bins may also increase leachate, odour and dust risks.

8.2.4 Information

(Condition 9 and 10) The Applicant will be subject to conditions requiring the maintenance of legible and up to date records in relation to the conditions of the Licence (maintenance of infrastructure, monitoring, complaints received and any material changes to operation), and the provision of these records to the CEO on request.

(Condition 11) The Applicant will also be subject to a condition requiring records to be kept of the details of any complaints received relating to the Premises.

(Condition 12) The Applicant will be subject to a condition requiring the submission of a Compliance Report on an annual basis indicating the extent to which the Applicant has complied with the Licence.

Grounds: The Information section of the Licence contains necessary administrative and reporting requirements to ensure compliance with the remainder of the Licence can be demonstrated. The recording of complaints may also provide an indication to the Delegated Officer of whether the risk profile of the Premises has changed and/or otherwise requires review.

9. Appropriateness of Works Approval and Licence conditions

The conditions in the Works Approval in Attachment 1 and subsequent Licence (pending it being granted) have been determined in accordance with DER's *Guidance Statement: Setting Conditions*.

DER's *Guidance Statement: Licence Duration* has been applied and the Issued Licence expires in 20 years from the date granted. Development Approval was granted by the City of Kwinana on 13 April 2017. Approval is granted for 24 months

Condition Ref	Grounds
Works Approval	
Infrastructure and equipment Conditions 1 and 2	The conditions are valid, enforceable, risk-based and site-specific.
Emissions Condition 3	This condition is valid and consistent with the EP Act that clearly specifies the 'general emissions' and the 'specified emissions' that may occur at the Premises and the regulatory exclusions, limitations and requirements that the emissions are subject to.
Specified actions Condition 4	This condition is valid, enforceable and risk-based, and will provide assurance over the effectiveness of the Applicants controls for noise.
Information Conditions 5, 6, 7 and 8	These conditions are valid and are necessary administration and reporting requirements to demonstrate compliance.
Licence	
Emissions Condition 1	This condition is valid and consistent with the EP Act that clearly specifies the 'general emissions' and the 'specified emissions' that may occur at the Premises and the regulatory exclusions, limitations and requirements that the emissions are subject to.
Notification of Material Change Conditions 2, 3 and 4	These conditions are valid, outcome-based and provide the Applicant with some operational flexibility subject to the 'material change' not having an unacceptable impact on public health, amenity or the environment.
Waste acceptance restrictions Conditions 5 and 6	These conditions are valid, enforceable, risk-based, outcome-based and site-specific.
Infrastructure and equipment Condition 7	
Waste storage management Condition 8	
Information Conditions 9, 10, 11 and 12	These conditions are valid and are necessary administration and reporting requirements to demonstrate 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 licence/works approval under the EP Act.

10. Applicant's comments

The Applicant was provided with the draft decision report and draft works approval and licence on 20 February 2017. The applicant responded on 17 March 2017 stating that they were satisfied with the conditions of the works approval.

On 6 June 2017, the proponent advised that the generator was not able to be relocated as per Condition 1 of W6018/2016/1. Following review of noise monitoring data submitted in accordance with W6018/2016/1, the Delegated Officer is of the view that the original location of the generator on the western boundary (which is screened from the western receptor by a limestone block wall) is not likely to compromise compliance with assigned noise levels. The Delegated Officer therefore accepts this present location as a deviation which does not increase in risk to public health, public amenity or the environment and is therefore permitted under Condition 2 of the works approval.

A Noise Report from SLR was submitted by the Applicant on 6 June 2017 as per Condition 4 of W6018/2016/1. The report indicated that the operation of the screening plant was exceeding assigned noise levels at the western boundary. Following noise reduction modification to the plant, further certification was received on 23 June 2017 from SLR on indicating compliance with the assigned levels, however monitoring data was not able to be provided. Following discussion with DER's Noise Regulation area, the Delegated Officer determined that relocation of the screening plant to the eastern side of the premises (adjacent to a non-receptor easement) would afford sufficient likelihood that assigned noise levels would be met. An updated site plan and plant location is included and conditioned in the licence.

11. 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 Works Approval and Licence will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Steve Checker
Manager Licensing (Waste Industries)
Delegated Officer
under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Key Documents

	Document Title	Availability
1	Application for concurrent Works Approval and Licence. Email dated 16/11/2016; subject heading: "Prescribed Premises Application - glass crushing plant, Naval Base"	DER records (A1325772)
2	Clarification provided on application, and stakeholder consultation details. Email dated 6/12/2016; subject heading: "RE: Prescribed Premises Application - glass crushing plant, Naval Base"	DER records (A1341156)
3	*Environmental Protection Act 1986* and subsidiary legislation	accessed at https://www.slp.wa.gov.au/
4	*National Environment Protection (Ambient Air Quality) Measure* as amended.	accessed at https://www.legislation.gov.au
5	Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand 2000, *National Water Quality Management Strategy, Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.	accessed at https://www.environment.gov.au
6	DER *Guidance Statement: Regulatory principles,* July 2015	accessed at http://www.der.wa.gov.au
7	DER *Guidance Statement: Setting conditions,* September 2015	
8	DER *Guidance Statement: Licence duration,* November 2014	
9	DER *Guidance Statement: Decision Making,* November 2016	
10	DER *Guidance Statement: Risk Assessment,* November 2016	
11	DER *Guidance Statement: Environmental Siting,* November 2016	
12	DER *Guidance Statement: Publication of Annual Audit Compliance Reports,* May 2016	

Appendix 2: Summary of Applicant's Comments on Risk Assessment and Draft Conditions

Comments received	Environmental risk	DER consideration of risk:
No comments	N/A	N/A