Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L9252/2020/1
Licence holder	Earthcare Recycling Pty Ltd
ACN	092 525 678
Registered business address	Earthcare Recycling Pty Ltd 426 Great Northern Highway (PO Box 1014 MIDLAND DC, 6936) MIDDLE SWAN WA 6056
DWER file number	DER2020/000234
Duration	20/07/2020 to 19/07/2032
Date of issue	08/03/2022
Premises details	Earthcare Recycling Pty Ltd 426 Great Northern Highway MIDDLE SWAN WA 6056 Legal description - Part of Lot 23 on Diagram 82744 Certificate of Title Volume 1950 Folio 614 As defined by the premises maps and coordinates in Schedules 1 and 2

Prescribed premises category description (Schedule 1, ***Environmental Protection Regulations 1987***)	**Assessed production / design capacity**
Category 13: Crushing of building material: premises on which waste building or demolition material (for example, bricks, stones or concrete) is crushed or cleaned	50,000 tonnes per annual period
Category 62: Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use	55,000 tonnes per annual period

This amended licence is granted to the licence holder, subject to the attached conditions, on 08 March 2022, by:

Jarrod Abrahams Digitally signed by Jarrod Abrahams Date: 2022.03.08 12:51:09 +08'00'

MANAGER WASTE INDUSTRIES REGULATORY SERVICES

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

Licence history

Date	Reference number	Summary of changes
09/03/2017	L8979/2016/1	Licence granted.
20/07/2020	L9252/2020/1	Licence L8979/2016/1 ceased. New Licence L9252/2020/1 issued with updated format.
08/03/2022	L9252/2020/1	Department initiated amendment to extend the licence duration and align the expiry date with the annual fee period.

Interpretation

In this licence:

(a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;

(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:

  (i) if dated, refers to that particular version; and

  (ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

Licence conditions

The licence holder must ensure that the following conditions are complied with:

Premises operation

1. The licence holder shall only accept waste on to the premises if:

(a) it is of a type listed in Table 1; and

(b) the quantity accepted is below any quantity limit listed in Table 1; and

(c) it meets any specification listed in Table 1.

Table 1: Waste acceptance

Waste type	Quantity limit	Specification[1]
Clean Fill (as defined in the Landfill Definitions)	20,000m^3 per annual period	Waste containing visible asbestos or ACM shall not be accepted
Inert Waste Type 1	35,000m^3 per annual period	
Inert Waste Type 2	500m^3 per annual period	Tyres and Plastics only
Putrescible waste (including green waste)	500m^3 per annual period	Paper, cardboard and timber only

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

2. The licence holder shall ensure that where waste does not meet the waste acceptance criteria set out in condition 1 it is removed from the premises by the delivery vehicle or, where that is not possible, stored in a quarantined storage area or container and removed to an appropriately authorised facility as soon as practicable.

3. The licence holder shall ensure that any waste that does not conform to the waste acceptance criteria in Table 1 due to asbestos content, is covered or bagged and kept within a clearly identified, labelled, segregated and secure container prior to being removed off site to an appropriate authorised facility within 48 hours.

4. The licence holder must advise all source material providers that asbestos or potential ACM is not accepted at the premises.

5. The licence holder must include a ‘no asbestos’ clause in all contracts with all source material providers.

6. The licence holder must maintain a clearly visible sign saying ‘no asbestos’ at the entry to the premises.

7. The licence holder must visually inspect all loads of waste when they arrive at the premises prior to unloading to determine the risk of a load containing asbestos or ACM and each load shall be classified in accordance with the risk classification procedure outlined in Section 3.3 of the DWER Asbestos Guidelines as per Attachment 1 (Classified Load).

8. Where the inspection required by condition 7 confirms that the load contains asbestos or ACM, the licence holder must:

   (a) reject the waste for acceptance;

   (b) maintain accurate records of all the rejected loads on the premises and the documentation must be available to DWER officers upon request; and

   (c) record the details of the waste source, material carrier, registration number of the vehicle and date of rejection.

9. The licence holder shall direct each accepted and classified load to an unloading area at the site for further inspection. The unloading area shall be appropriately designed and constructed to ensure the waste will not mix with other waste.

10. The licence holder shall dampen all classified loads prior to unloading and maintain the waste in a damp state throughout the inspection process using appropriate dust suppression measures.

11. The licence holder must continue to visually inspect waste on the premises at all stages of the storage, sorting and screening process. Suspect asbestos identified at any stage of the process must be handled in accordance with the high risk load procedure outlined in section 3.4 of the DWER Asbestos Guidelines, as per Attachment 2.

12. The licence holder must maintain waste and processed waste on the premises in at least two separate stockpile areas for unprocessed waste and processed waste tested for ACM and:

   (a) unprocessed waste and processed waste areas must be kept clearly separated at a minimum 3 m distance;

   (b) processed waste tested for ACM and processed waste awaiting testing for ACM must be clearly separated by a minimum 3 m distance OR clearly delineated and separated with impermeable barriers; and

   (c) clearly visible and legible signage must be erected on individual stockpiles to clearly identify and delineate tested processed waste, untested process waste and unprocessed waste.

13. The licence holder shall ensure that the asbestos content of any recycled output originating from Inert Waste Type 1 does not exceed the contamination limit of 0.001% w/w for asbestos (in any form).

14. The licence holder shall ensure that recycling outputs originating from Inert Waste Type 1 are sampled and tested in accordance with the DWER Asbestos Guidelines, as outlined in Attachment 3

15. The licence holder shall ensure that wastes accepted onto the premises are only subjected to the processes set out in Table 2 and in accordance with any process limits described in that Table.

Table 2: Waste processing

Waste type	Process(es)	Process limits
Clean Fill	Receipt, handling, processing and storage prior to removal offsite	• No waste material to be landfilled (buried) on site • All processing, storage and containment to be maintained in areas designated in the 'Site map' in Schedule 1. • Authorised to only crush up to 50,000 tonnes per annual period. • All loads must be wet down prior to loading and unloading. • Material being processed through crushing and screening equipment is to be maintained in a damp state to prevent dust emissions. • Processing of construction and demolition wastes shall cease during weather conditions where dust emissions cannot be controlled by the relevant infrastructure specified in Table 3. • Material stockpile heights to not exceed the height of the noise bunds.
Inert Waste Type 1		
Inert Waste Type 2	Receipt, handling and storage prior to removal offsite	• Inert Waste Type 2 to be stored in bins on a hardstand outside of flood prone areas • Putrescibles to be stored on an elevated bunded hardstand • Wastes (excluding large timber pieces) must be covered with a lid or weighted shade cloth at the end of each day. • Less than 100 tyres are to be stored on the premises at any time.
Putrescibles		

16. The licence holder shall ensure that the infrastructure or equipment specified in Table 3 is installed and operated in accordance with the specification of that table and located in the area depicted in the 'Site map' in Schedule 1.

Table 3: Infrastructure and equipment requirements

Item	Specification
Operational area	Minimum of 200 mm crushed compacted road base covering the whole of the premises. The integrity of the compacted road base must be maintained at all times.
Putrescible Storage area	Putrescible waste storage area to consist of a concrete hardstand. The integrity of the storage areas must be maintained at all times.
Storage bins	The integrity of storage bins must be maintained at all times.
Noise bund	Greater than or equal to 4m in height above ground level of the crusher. To be located in the area depicted in the 'Site map' in Schedule 1.
Sprinkler system	Maintain an operational sprinkler system capable of wetting down hardstands, stockpiles and noise bund.
1 x RM90 Impactor (crusher)	To be located in the 'processing equipment' area depicted in the 'Site map' in Schedule 1, and within 5 metres of the noise bund. No tonal alarms are to be operated within the premises. To be maintained to manufacturers specifications.
1 x Volvo L70C loader (attenuated)	
Screener	
Komatsu Hybrid Excavator (HB215LC)	
Wastewater pond with sedimentation trap	Pond constructed with in-situ material for basin and deep rock pitching for spillways. Dimensions of 11 m x 18.5 m x 1.74 m and a capacity of 169 m^3 excluding freeboard. Freeboard of 500 mm to be maintained at all times. To contain a 1 in 100 year (24 hour) ARI flood event.
Perimeter fencing	1.8m high and suitable to retain windblown litter within the premises.

17. The licence holder shall use a sprinkler system on a daily basis as required to ensure stockpiles and the noise bund are stabilised and do not cause dust lift-off.

18. The licence holder may only operate during the hours of 7am to 5pm Monday to Saturday.

19. The licence holder shall implement the following security measures at the site:

(a) maintain suitable fencing to prevent unauthorised access to the site;

(b) ensure that entrance gates to the premises are securely locked when the premises are unattended; and

(c) undertake regular inspections of all security measures and repair damage as soon as practicable.

Monitoring of inputs and outputs

20. The licence holder shall undertake the monitoring in Table 4 according to the specifications in that Table.

Table 4: Monitoring of inputs and outputs

Input/Output	Parameter	Units	Averaging period	Frequency
Waste Inputs	Clean fill, Inert Waste Type 1, Inert Waste Type 2, Putrescible	m^3	N/A	Each load arriving at the premises
Waste Outputs	Waste type as defined in the Landfill Definitions			Each load leaving or rejected from the premises
Processed Waste	Crushed and screened products			Each load leaving the premises

Records and reporting

21. All information and records required by the licence shall:

(a) be legible;

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

(c) except for records listed in 21(d) be retained for at least 6 years from the date the records were made or until the expiry of the licence or any subsequent licence; and

(d) for those following records, be retained until the expiry of the licence and any subsequent licence:

(i) off-site environmental effects; or

(ii) matters which affect the condition of the land or waters.

22. The licence holder must submit to the CEO within 30 calendar days after the end of the annual period, an Annual Audit Compliance Report indicating the extent to which the licence holder has complied with the conditions in this licence for the annual period.

23. The licence holder shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the premises and any action taken in response to the complaint.

24. The licence holder shall submit to the CEO an Annual Environmental Report within 30 calendar days after the end of the annual period. The report shall contain the information listed in Table 5 in the format or form specified in that Table.

Table 5: Annual Environmental Report

Condition or Table (if relevant)	Parameter	Format or form
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken.	None specified
Condition 20	Inputs and outputs	
Condition 22	Compliance	Annual Audit Compliance Report (AACR)
Condition 23	Complaints summary	None specified

Definitions

In this licence, the terms in Table 6 have the meanings defined.

Table 6: Definitions

Term	Definition
acceptance criteria	has the meaning defined in Landfill Definitions.
ACM	means asbestos containing material and has the meaning defined in the Guidelines for Assessment, Remediation and Management of Asbestos Contaminated Sites, Western Australia, (DOH, 2009).
ACN	Australian Company Number.
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website).
annual period	a 12 month period commencing from 1 January to 31 December in each year.
asbestos	means the asbestiform variety of mineral silicates belonging to the serpentine or amphibole groups of rock-forming minerals and includes actinolite, amosite, anthophyllite, chrysotile, crocidolite, tremolite and any mixture containing 2 or more of those.
Attachment 1	means Attachment 1 of this Licence unless otherwise stated.
Attachment 2	means Attachment 2 of this Licence unless otherwise stated.
Attachment 3	means Attachment 3 of this Licence unless otherwise stated.
CEO	means Chief Executive Officer of the Department. "submit to / notify the CEO" (or similar), means either: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
classified load	means the classification of waste loads during acceptance and post acceptance based on the risk of waste material containing asbestos or ACM and through visual inspection. Classification of waste loads shall be undertaken in accordance with the provisions outlined in Section 3.3 and 3.4 of the DWER Asbestos Guidelines.

Term	Definition
clean fill	has the meaning defined in Landfill Definitions.
construction and demolition waste	has the meaning defined in Landfill Definitions.
damp	means moist to the touch.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
DWER asbestos guidelines	means document titled “Guidelines for managing asbestos at construction and demolition waste recycling facilities”, published by the Department of Environment and Conservation, as amended from time to time.
DWER	Department of Water and Environmental Regulation.
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.
EP Act	*Environmental Protection Act 1986* (WA).
hardstand	means a surface with a permeability of 10^{-9} metres/second or less.
Inert Waste Type 1	has the meaning defined in Landfill Definitions.
Inert Waste Type 2	has the meaning defined in Landfill Definitions.
Landfill Definitions	means the document titled “Landfill Waste Classification and Waste Definitions 1996” published by the Chief Executive Officer of the Department of Water and Environmental Regulation as amended from time to time.
licence	refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within.
licence holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises maps (Figure 1 and 2) in Schedule 1 to this licence.
prescribed premises	has the same meaning given to that term under the EP Act.
putrescible	has the meaning defined in Landfill Definitions.

Term	Definition
quarantined storage area or container	means a hardstand storage area or sealed-bottom container that is separate and isolated from authorised waste disposal areas and is capable of containing all non-conforming waste and its constituents, these areas must be clearly marked and their access restricted to authorised personnel.
Schedule 1	means Schedule 1 of this Licence unless otherwise stated.
waste	has the same meaning given to that term under the EP Act.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (Figure 1).

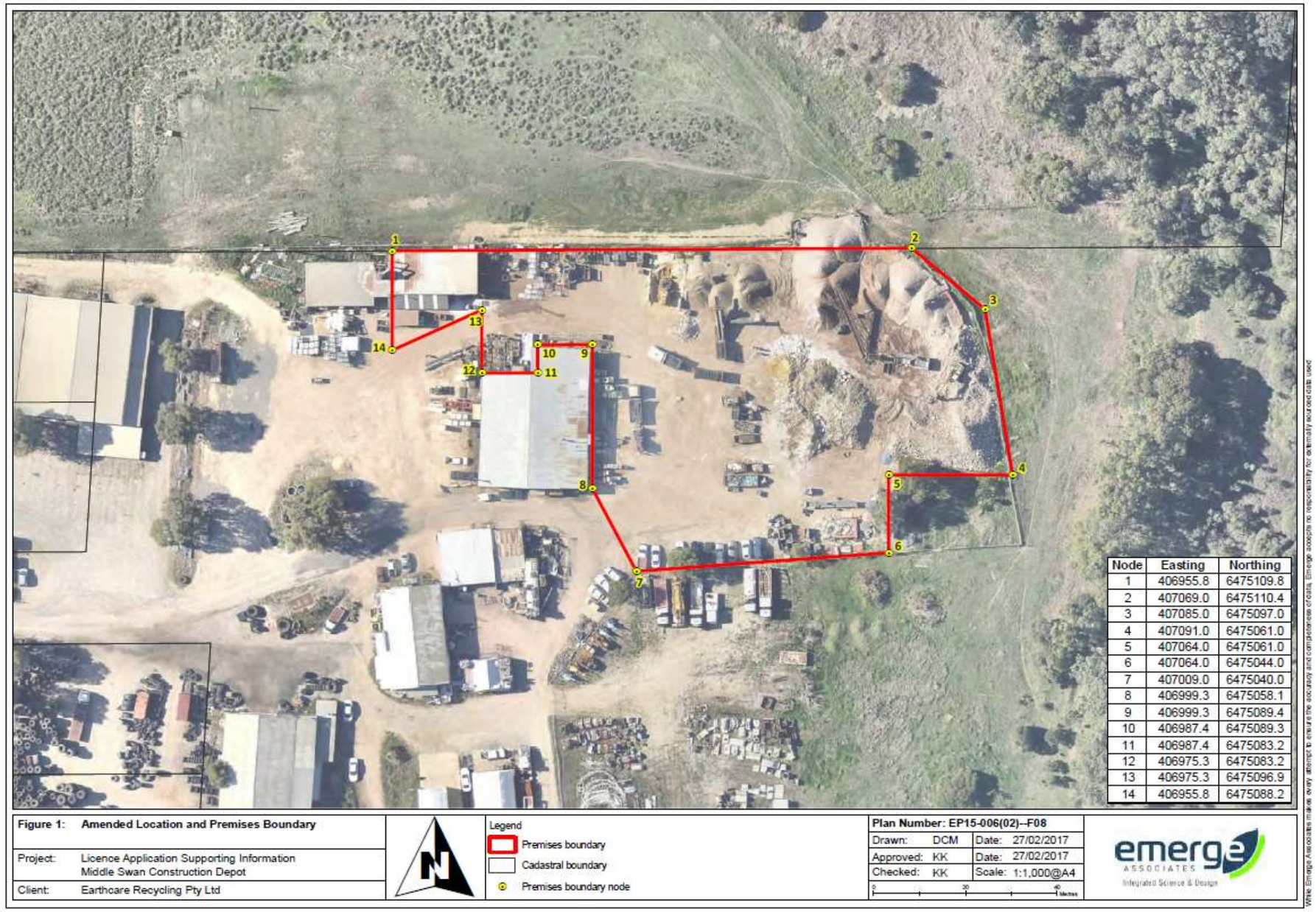

Figure 1: Map of the boundary of the prescribed premises

Site map

The location of the equipment and activities at the premises is shown in the map below (Figure 2)

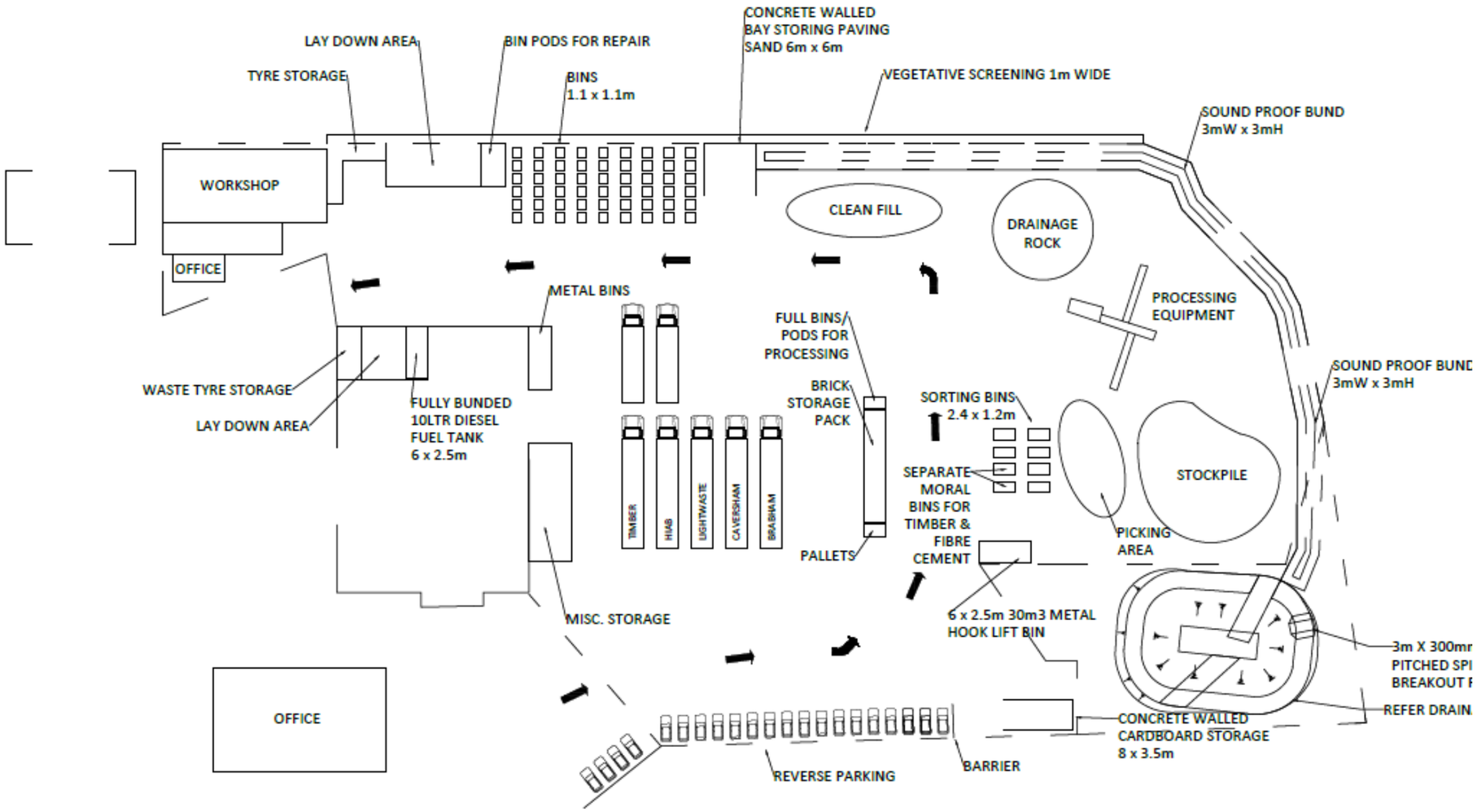

Figure 2: Map of the equipment and activities on the prescribed premises

Schedule 2: Premises boundary

The premises boundary is defined by the coordinates in Table 7.

Table 7: Premises boundary coordinates (GDA94)

Node	Easting	Northing	Zone
1	*406955.8*	*6475109.8*	*50*
2	*407069.0*	*6475110.4*	*50*
3	*407085.0*	*6475097.0*	*50*
4	*407091.0*	*6475061.0*	*50*
5	*407064.0*	*6475061.0*	*50*
6	*407064.0*	*6475044.0*	*50*
7	*407009.0*	*6475040.0*	*50*
8	*406999.3*	*6475058.1*	*50*
9	*406999.3*	*6475089.4*	*50*
10	*406987.4*	*6475089.3*	*50*
11	*406987.4*	*6475083.2*	*50*
12	*406975.3*	*6475083.2*	*50*
13	*406975.3*	*6475096.9*	*50*
14	*406955.8*	*6475088.2*	*50*

Attachment 1: Section 3.3 of the DWER Asbestos Guidelines (pages 6 and 7)

3.3 Acceptance procedures

When waste arrives at the recycling facility, acceptance procedures must serve to confirm the characteristics of the waste are consistent with the waste types permitted by the Part V licence, and determine the risk of the load containing asbestos.

To follow on from the pre-acceptance procedures, all persons bringing waste onto the premises must be asked to sign a declaration or provide a 'customer warranty' on a vehicle load-specific basis confirming their load is free from asbestos. The associated documentation should be retained on the premises and be available for the department to inspect. Where an individual is not prepared to sign this disclaimer or provide such a warranty, the load shall be refused entry.

All loads must be visually inspected when they arrive at the recycling site. Where the inspection identifies the wastes are not permitted by the licence and/or asbestos is visually identified in the load, it shall be rejected for acceptance. A record of all rejected loads must be maintained on the premises and be available for the department to inspect. As a minimum, a record must be made of the waste producer, waste carrier, registration number of the vehicle and the date of rejection.

The risk of a load containing asbestos is related to the type and source of the waste. In general, buildings and structures constructed after 1990 are unlikely to have ACM within them, whereas buildings and structures constructed before this date may have been built using ACM.

Because large buildings and structures undergo regulated asbestos removal programs and inspections before they are demolished, the probability of asbestos being present in the demolition debris should be low. However, a risk of contamination can remain from asbestos formwork embedded or attached to concrete columns that cannot be readily identified through the asbestos clearance certification process, and from asbestos piping from reclaimed road, car park areas and water supply systems.

It is also common for mixed waste from unknown sources, particularly those in skip bins or from small-scale demolition or refurbishment activities, to contain amounts of asbestos waste. These sources must be considered high risk.

To determine the risk of an incoming load containing asbestos the gatehouse operator shall establish:

- the source of the load, including the site location and, if possible, the age of any building or structure from which the C&D waste originated
- the content/waste types within the load
- the type of load.

Where the source of the load can clearly be determined to be a building or structure constructed after 1990 then the load can be considered to represent a low risk of asbestos contamination and managed as outlined in the following section. Where the waste originates from a building constructed before 1990 or there is uncertainty over this issue, the risks associated with asbestos in the load must be established in line with the Risk Classification Matrix below.

Once classified, each load must be directed to the appropriate area for unloading and further inspection in line with the following sections.

Risk Classification Matrix			
	Type of load		
Material type	**Commercial**	**Public, utes, cars and trailers***	**Skip bins**
Clean concrete (without formwork)	Low	High	High
Clean brick	Low	High	High
Clean bitumen/ asphalt	Low	High	High
Mixed construction waste	High	High	High
Mixed demolition waste	High	High	High

* If it is possible to view the entire load of incoming C&D material (e.g. a small trailer with a shallow load) then consideration may be given to classifying these loads as low risk

(Risk Matrix Classification *adapted from WorkSafe Victoria 2006 and WMAA 2009*).

Attachment 2: Section 3.4 of the DWER Asbestos Guidelines (pages 8 and 9)

3.4 Load inspection after acceptance

Each accepted and classified load shall be directed to an unloading area at the site, which is appropriately designed and constructed to ensure the waste will not mix with other waste. Where feasible, separate unloading areas shall be provided for low-risk and high-risk wastes.

All loads shall be dampened before unloading and maintained in a dampened state throughout the inspection process. Operators will need to ensure there are adequate facilities on the premises to achieve this.

3.4.1 Low-risk load procedure

Loads classified as 'low risk' must be visually inspected while the material is being unloaded to determine whether any asbestos can be identified.

If suspect fibrous asbestos (FA) or asbestos fines/fibres (AF) are detected, the load must be isolated, kept wet and once appropriately contained in accordance with the Asbestos factsheet in Appendix A, redirected to an appropriately authorised disposal facility. If suspect ACM is identified, the load must be reclassified as 'high risk' and be processed in accordance with the high-risk procedure below. Where the visual inspection confirms that the load is clear of suspect ACM, FA and AF, the load may then be added to the waste stockpiles awaiting further processing (e.g. crushing and screening).

3.4.2 High-risk load procedure

Loads classified as 'high risk' must be unloaded and spread over a sufficiently large area to enable a comprehensive visual inspection of all sides of the material. One method of achieving this is to spread the material to a depth of less than 30 cm and to turn over the material with the use of an excavator or similar. Where appropriate, larger sections of concrete should be inverted to permit a visual check for embedded or underlying asbestos product debris.

If suspect FA or AF are detected, the load must be isolated and kept wet. Once appropriately contained in accordance with the Asbestos factsheet in Appendix A, it should be redirected to an appropriately authorised disposal facility.

Where suspect ACM is identified within a load and is not capable of being easily removed by hand, the load must be rejected and should be isolated and kept wet. Once appropriately contained in accordance with the Asbestos factsheet in Appendix A, it should be redirected to an appropriately authorised disposal facility.

Where suspected ACM fragments capable of being easily removed by hand are identified in a load, the suspect ACM must be removed from the load and either:

1. appropriately isolated and covered for asbestos testing. If testing of representative samples confirms the material is ACM it must be redirected to an appropriately authorised disposal facility. If testing confirms the material is not ACM the waste can be added to the stockpile awaiting further processing; or

2. assumed to be ACM and redirected to an appropriately authorised disposal facility.

All suspected or assumed ACM must be segregated. Material must be clearly labelled, kept secure and sufficiently contained to prevent the release of asbestos, including wind-blown fibres.

Once all suspected or assumed ACM has been removed from a load in line with the above procedure the residual waste can be added to the stockpile awaiting further processing.

Records must be kept to ensure the process from receipt of C&D material to the completion of the unloading procedure is auditable and that any loads found to contain suspect asbestos can be traced back to the customer and originating site. Through Part V licence conditions, the department will require records to be submitted on a regular basis detailing loads found to contain asbestos and action taken by the C&D recycler to address this issue with the customer. The department will take follow-up action with customers delivering asbestos-containing waste to the premises as necessary.

Attachment 3: Section 4 of the DWER Asbestos Guidelines (pages 11 - 16)

4 Monitoring and testing

Monitoring must be undertaken to confirm that risk management measures are effectively meeting their objectives. This shall include qualitative and quantitative monitoring and product testing.

4.1 Qualitative monitoring

Site operatives must undertake visual inspections while the facility is operational to ensure fugitive emissions of dust are being adequately controlled and are not being carried outside of the premises. Where fugitive dust releases are identified, their source must be investigated and all reasonable and practicable measures implemented to prevent or minimise the release.

Where risk management measures are ineffective or likely to be ineffective at preventing visible dust crossing the site boundary, for example during adverse weather conditions, waste processing activities must cease until additional measures have been put in place to prevent the discharge or until the adverse weather conditions have passed.

4.2 Quantitative environmental monitoring

On some sites it may be necessary for ambient dust or asbestos fibre air monitoring to be undertaken to provide further confidence in risk management measures. Such monitoring may be required where recycling sites are in close proximity to sensitive receptors, are within a relevant Environmental Protection Policy area or have a poor compliance history relating to fugitive dust control. Where quantitative dust monitoring is not proposed, the proponent/operator must provide a risk-based justification as to why it is not considered necessary at their premises.

Dust monitoring provides a useful surrogate measure to evaluate the potential generation and distribution of airborne dust and asbestos fibres, and will normally be sufficient on most sites. Dust monitoring equipment must demonstrate dust levels are kept as low as reasonably possible. Tapered Element Oscillating Microbalance (TEOM) (or equivalent) equipment is preferred to provide continuous and accurate perimeter air monitoring for community protection. Any site perimeter monitoring for this purpose should be conducted to ensure compliance with the National Environmental Protection Measure (NEPM) ambient air 24-hour PM_{10} goal of 50 ug/m^3.

Where air quality monitoring is required, an air quality monitoring and reporting strategy must be developed by a person suitably experienced in dust/asbestos sampling and exposure assessment. Any associated analysis must be undertaken by a laboratory accredited by NATA for this purpose.

4.3 Product testing and supply

To ensure recycled products have been produced to the required specification in relation to asbestos content it is necessary for product testing to be undertaken. The testing procedures detailed in this section have application for the three main recycled products:

1. Recycled drainage rock 20–27 mm.
2. Recycled sand, screened to <10 mm.
3. Recycled road base, <19 mm.

The testing must be documented as outlined under section 5.3.

4.3.1 Product specification

To ensure the health of those using or coming into contact with recycled C&D products is protected, the asbestos content (in any form) of any recycled products must not exceed 0.001 per cent asbestos weight for weight (w/w).

4.3.2 Inspection and sampling requirements

All types of recycled product must be inspected and/or sampled and tested for ACM, FA and AF, as outlined below. Inspections and sampling may be undertaken by staff employed by the licensee as long as they have received the required asbestos training for operational staff set out in section 5.2.

ACM and FA are subject to visual inspection and sampling procedures since they are larger in size (>7 mm). AF (<7 mm) is assessed by submitting samples for laboratory analysis.

Recycled products may be sampled from conveyors or stockpiles. Whichever approach is adopted, the operator will need to ensure they have appropriate systems in place to allow them to identify where in the product stockpiles each sample is from to allow further testing or separation to occur if required.

4.3.3 Stockpile inspection and sampling

In the case of recycled drainage rock and recycled road base, a visual inspection should be undertaken in a systematic grid fashion over any new stockpile to identify any suspect asbestos material.

No sampling is required for recycled drainage rock, other than to determine by laboratory analysis if necessary whether a suspect fragment is asbestos.

For recycled road base and screened sand, sampling is necessary and must be spread evenly over the whole stockpile surface, or samples may be taken at regular intervals (as per conveyor sampling) during construction of the stockpile. Suspect asbestos material or areas must be targeted for sampling.

Sampling of road base and screened sand products must occur at a minimum rate of 40 locations per 4000 tonnes, or 14 samples per 1000 m^3 of product.

4.3.4 Conveyor sampling

Sampling of road base and screened sand products must occur at a minimum rate of one sample per 70 m^3 of a product output. Suspect asbestos material or areas must be targeted for sampling.

4.3.5 Sample treatment

Each sample collected must be at least 10 litres in volume and then be divided into two size fractions (>7 mm and <7 mm) in the field by sieving though a 7 mm screen or spread out for inspection on a contrasting colour fabric. The >7 mm fraction should be examined for any suspect asbestos material and this be retained to calculate the level of contamination.

The <7 mm fraction will need to be a minimum 500 ml, be wetted, and submitted for laboratory analysis. This sample size is considered necessary to improve the limit of detection for asbestos in the analysis procedure.

4.3.6 Reduced sampling criteria

Once premises have demonstrated their procedures are able to consistently produce recycled product that meets the product specification and that they undertake their activities to a high standard, the department may authorise a reduced product testing rate, including down to five locations per 4000 tonnes (one sample per 600 m^3) of product.

The criteria that the department will use to consider and determine a reduction in product sampling frequency are:

1. activities at the premises have been validated through an inspection or audit to comply with these guidelines
2. the department has confirmed through an inspection or audit that the conditions of the Part V licence are being met
3. the department has not undertaken any enforcement action in relation to the activities at the premises in the past six months
4. product testing has demonstrated that the product specification has been consistently achieved at the premises for a continuous six-month period
5. the presence of mitigating factors such as best practice management measures, high control of source material or use of the product for low-risk purposes
6. the quantity of waste processed in the past six months and the different sources/types of material processed at the premises
7. DoH has agreed to the reduction in product sampling rate at the premises.

All requests for a reduced product sampling rate must be submitted in writing to the relevant industry regulation regional leader for the premises, details of which can be found in the interpretation section of the Part V licence for the premises.

The department will refer all requests to the DoH and operators must ensure that all requests include sufficient evidence, particularly in relation to product testing, to support compliance with the above criteria.

Proponents should note, however, that despite a premises meeting the above reduced sampling criteria, there may be occasions where a reduced sampling rate is not approved by the department. This may occur, for example, where the site is close to sensitive receptors, is contentious and/or there is a need to provide public confidence in the activities at the site.

Where a reduced sampling rate is approved at a premises, the department will provide written notification of the approval and will continue to closely monitor that premises to ensure it remains compliant with the reduced sampling criteria. The department's monitoring of the premises will be further supported by the annual process audits required by section 5.1 and the results of the product sampling.

The department will withdraw the approval to implement a reduced sampling frequency where the reduced sampling criteria are not being met on an ongoing basis. Where the department withdraws approval for a reduced sampling frequency, proponents will be provided with the reasons for the withdrawal.

In the event that approval for a reduced sampling rate is withdrawn by the department, proponents will be required to make a new reduced sampling frequency request and demonstrate that:

1. they have implemented appropriate measures to prevent a reoccurrence of the non-compliance that caused the previous agreement for a reduced sampling frequency to be withdrawn
2. the product specification (sampled at the 40 samples per 4000 tonnes rate) has been consistently met for a six-month period following the implementation of the measures identified in 1. above.

4.3.7 Sample analysis method

>7 mm sample fractions

Asbestos concentrations (ACM and FA) should be calculated in accordance with the methods detailed in section 4.1.7 of DOH's *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia*. (May 2009). As detailed in the DoH guidelines, averaging asbestos levels across the stockpile is not appropriate and asbestos levels within each sample should be reported.

< 7 mm sample fractions

Each <7 mm sample fraction must be analysed for FA and AF.

Asbestos analysis must be undertaken by an independent NATA-certified laboratory and comply with *Australian Standard Method for the Qualitative Identification of asbestos in bulk samples* (AS 4964–2004) or be demonstrated to be able to achieve the equivalent level of results to this Australian Standard.

AS 4964-2004 is currently the only method in Australia that has NATA certification; however, the practicable level of detection for this standard polarised light microscopy method (PLM) and dispersion staining (DS) is 0.01% w/w. It is possible, however, to measure asbestos contamination at or lower than 0.001% w/w where an increased sample size is used; however, the department recognises that any reporting of concentrations below 0.01% w/w will be outside the conditions set by NATA.

Therefore, to determine whether recycled products meet the product specification for asbestos content, samples must be a minimum of 500 ml in size. Proponents must adopt one of the following analytical approaches:

1. Detected/non-detected – where any quantity of asbestos is detected by the PLM method it must be assumed, without further analysis, to be in concentrations above the product specification limit of 0.001% w/w. A weight-of-evidence approach may be adopted, i.e. the frequency and occurrence of other positive results in the stockpile can be taken into account, to determine whether the stockpile being assessed is considered to meet the product specification or not; or
2. Where any quantity of asbestos is detected by the PLM method, the sample is subject to further testing in the form of a semi-quantitative method with a lower level of detection for asbestos. A number of laboratories have developed such semi-quantitative methods for the analysis of low levels of asbestos. Techniques include:
    - the extraction and weighing of fibre bundles or fibre cement material from the total sample
    - measuring the width and length (i.e. volume) of individual fibre by Phase Contrast Microscopy (PCM) and calculating the weight of fibres in the extracted sub-sample.

The use of either of these methods is considered acceptable to the department.

Whatever analysis methods are adopted by an operator, the department expects a number of assessment-based statements to be included in all laboratory analytical reports. These include:

- details of the sample size
- a statement of limit of detection of the analysis
- results in relation to asbestos detected or not – note that AS 4964-2004 allows for a nil detection if the asbestos is less than a certain concentration and is non-respirable; however, the department would consider a positive result to exceed the 0.001% w/w limit
- a description of any asbestos detected
- an estimate of the concentration of asbestos detected if practical to do so.

4.3.8 Interpreting inspection and sampling results

If the visual inspection, sieve sample or analytical results identify asbestos above or possibly above the 0.001% w/w criteria then that stockpile or product process should be deemed potentially contaminated and considered for off-site disposal as asbestos waste, or subject to further actions to remediate it or to demonstrate its acceptability by further assessment. A record should be made of the decision-making and action taken (e.g. off-site disposal, further assessment undertaken etc) in relation to that stockpile.

In addition to the above, where asbestos is identified above or possibly above the 0.001% w/w criteria, an investigation into the likely cause for the presence of asbestos in the product should be undertaken and measures implemented to prevent a reoccurrence. A record of the investigation and its findings, together with the details of any preventative measures implemented at the site, should be made.

As a guide, in the case of recycled drainage rock, identification of a piece of ACM or FA per 10 m^2 of surface would be deemed to exceed the specification for that area, and for the whole stockpile if repeated in two or more other separate areas. A single fragment exceedance can be considered an isolated occurrence in the absence of other contamination evidence and the stockpile allowed for beneficial use. If there is multiple contamination only of a localised area then that area can be excavated to the extent of any visible asbestos and then the remainder of the stockpile considered to be suitable for use.

For laboratory analysis it is important that each result be considered on its own merits in regard to the asbestos control specification and that there is no averaging across samples. In the case of a single exceedance at a level less than 0.01% w/w, the stockpile (nominally 4000 tonnes) may not be deemed contaminated if repeat samples of immediately adjacent areas do not demonstrate specification exceedances.

The same approach as indicated in the preceding paragraph can be applied to the results of the >7 mm sieve sampling in regard to recycled sand material and road base. In this case a 1 cm^3 fragment of ACM or FA would be deemed to exceed the specification for a 10-litre sample.

It should be noted that specification exceedances in regard to different assessment methods for the same type of stockpile should not be viewed in isolation from each other.

4.3.9 Product supply

Recycled products should only be supplied to customers from stockpiles that have been sampled and tested in accordance with section 4.3 and shown to conform to the product specification.