

Licence

| Licence number | L8852/2014/2 |
|-----------------------------|---|
| Licence holder | Shire of Broome |
| Registered business address | 27 Weld Street, BROOME WA 6725 |
| DWER file number | DER2014/002300-1 |
| Duration | 19/01/2024 to 18/01/2029 |
| Date of issue | 18/01/2024 |
| Date of amendment | 15/03/2024 |
| Premises details | Lot 400 Buckley's Road, BROOME WA 6725 |
| | Being Lot 400 on Plan 72930 Reserve 51151 |
| | (as depicted in Schedule 1) |

| Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>) | 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. | 6,000 tonnes per annual period |
| Category 47: Scrap metal recovery: premises (other than premises within Category 45) on which metal scrap is fragmented or melted, including premises on which lead acid batteries are reprocessed. | 4000 tonnes per annual period |
| Category 57: Used tyre storage(general): premises (other than premises within category 56) on which used tyres are stored. | 5,000 tyres at any one time |
| Category 62: Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use. | 4000 tonnes per annual period |
| Category 67A: Compost manufacturing and soil blending: premises on which organic material (excluding silage) or waste is stored pending processing, mixing, drying or composting to produce commercial quantities of compost or blended soils. | 7,500 tonnes per annual period |

This licence is granted to the licence holder, subject to the attached conditions, on 15 March 2024, by:

Adam Green A/MANAGER, WASTE INDUSTRIES REGULATORY SERVICES an officer delegated under section 20 of the Environmental Protection Act 1986 (WA)

L8552/2014/2 IR-T06 Licence template (v9.0) (November 2023)

Licence history

| Date | Reference number | Summary of changes |
|------------|---------------------|---|
| 31/03/2014 | W5587/2014/1 | New Works Approval |
| 15/01/2015 | L8852/2014/1 | New Licence application |
| 19/03/2015 | L8852/2014/1 | Licence amended to increase greenwaste stockpile length |
| 18/01/2024 | L8852/2014/2 | Licence Renewal with a duration of 5 years. |
| 15/03/2024 | L8852/2014/2 | Licence amendment to include Category 47 and glass processing and increase greenwaste acceptance. |

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:

Waste Acceptance

1. The licence holder must only accept onto the premises waste of a waste type, which does not exceed the corresponding rate at which waste is received, and which meets the corresponding acceptance specification set out in Table 1.

Rate at which waste is Waste type Acceptance specification received Manure (feedstock) 500 t/annual period None specified Green waste (feedstock) 7,500 t/annual period None specified Waste containing visible asbestos or Inert Waste Type 1 14,000 t/annual period ACM shall not be accepted. Inert Waste Type 2 5000 tyres per annual period None specified

Table 1: Types of waste authorised to be accepted onto the premises

Note 1: Additional requirements for the acceptance of controlled waste (including animal effluent or residues, and vegetable and food processing waste) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004.*

- 2. The licence holder must 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 kept within a clearly identified, labelled, segregated and secure container prior to being removed off site to an appropriate authorised facility.

Asbestos management (load risk classification)

- **4.** The licence holder must not accept waste onto the premises where it contains, or is suspected to contain, visible asbestos or ACM.
- **5.** The licence holder must maintain clear visible signage specifying "No Asbestos" at all entries to the premises.
- **6.** The licence holder must obtain a signed declaration from the supplier of the waste with each delivery that:
 - (a) specifies the details of the:
 - (i) waste (type and description);
 - (ii) source of the waste load;
 - (iii) name of the waste carrier;
 - (iv) registration number of the delivery vehicle; and
 - (v) date of delivery;
 - (b) sets out the quantity being delivered; and
 - (c) declares that the load does not contain any asbestos or ACM.

- 7. The licence holder must:
 - (a) visually inspect all loads of waste on arrival at the premises prior to acceptance, to determine the risk of a load containing asbestos and/or ACM; and
 - (b) Excluding where waste is accepted for burial, classify each load as either a 'low risk load' or a 'high risk load', in accordance with the risk classification procedure provided in Schedule 3: Asbestos risk classification procedure.
- **8.** Upon acceptance of waste, the licence holder must direct each classified load to an unloading area where the classified load will not mix with other waste prior to further inspection.

Waste processing

9. The licence holder must 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(s) | Process | Process limits ^{1,2} |
|--|---|--|
| | Receipt, handling and storage prior to composting | Waste shall not be stored for longer than 7 days before being added to the composting process. Waste shall not be stored within 20 metres of the Premises boundary. |
| Composting material which includes a mixture of greenwaste/ manure (feedstock) | Treatment by composting and pasteurisation | Windrows shall be turned regularly to ensure aerobic conditions are maintained. The core temperature of the composting pile is maintained between 55 °C and 65 °C for a period of at least three days. Moisture level in the composting piles shall be maintained between 40 to 65 per cent. Windrows shall not exceed 3 metres high, and 5 metres wide and 20 metres long. Windrows shall be separated by at least 10 metres of clear ground. Composting leachate is collected and returned to the composting process. Ensure that, as a minimum, compost meets physical and chemical requirements set out by AS4454. |
| Greenwaste only | Receipt, handling, storage prior to re-use | Windrows shall not exceed 3 metres high, and 5 metres wide and 40 metres long. Temperatures within windrows are monitored on a weekly basis; Windrows with an internal temperature exceeding 80 degrees Celsius are turned/ mixed or otherwise treated, to reduce the temperature; and A 10 metre fire break shall be maintained around greenwaste windrows. |
| Inert Waste Type 1 | Receipt, handling, storage prior to re-use | None specified |
| Inert Waste Type 2 - Tyres | Receipt, handling, storage prior to re-use. | To be stored in windrows not exceeding 3 metres high, 5 metres wide and 40 metres long with a 6 metres separation distance between piles |

Note 1: Requirements for landfilling tyres are set out in Part 6 of the Environmental Protection Regulations1987. Note 2: Additional requirements for the acceptance and landfilling of controlled waste.

Asbestos management (load inspection)

- **10.** The licence holder must:
 - (a) visually inspect each 'low risk load' while the material is being unloaded, and continue to do so at all stages of the storage, sorting, and screening process, to determine whether any asbestos and/or ACM can be identified;
 - (b) where asbestos and/or ACM is suspected or identified in a 'low risk load', reclassify that load as a 'high risk load'; and
 - (c) visually inspect and handle each 'high risk load' in accordance with the procedure provided in Schedule 4: High risk load procedure.

Asbestos management (stockpiles)

- **11.** Within the C&D Stockpile Area, the licence holder must ensure that:
 - materials are maintained in at least three separate stockpiles for unprocessed waste, recycled products tested for asbestos or ACM, and recycled products awaiting testing for asbestos or ACM;
 - (b) unprocessed waste and recycled products stockpiles are kept clearly separated at a minimum 3 m distance from the base of the stockpile or separated by impermeable barriers;
 - (c) recycled products tested for asbestos or ACM and recycled products awaiting testing for asbestos or ACM are clearly separated by a minimum 3 m distance from the base of the stockpile or separated by impermeable barriers; and
 - (d) clearly visible and legible signage is erected on individual stockpiles to clearly identify and delineate tested recycled products, untested recycled products, and unprocessed waste.
- **12.** The licence holder must ensure that all stockpiles referenced in condition 11 are maintained in a damp state to prevent dust lift off.

Infrastructure and equipment

13. The licence holder must ensure that the site infrastructure and equipment listed in Table 3 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 3.

Table 3: Infrastructure and equipment requirements

| Site infrastructure and Material equipment | | Infrastructure requirement |
|--|---------------------|----------------------------|
| Waste storage area | Waste types as | Punded bordstond |
| Composting area | detailed in Table 1 | |

General site management

- **14.** The licence holder must:
 - (a) erect and maintain suitable fencing to prevent unauthorised access to the site;
 - (b) ensure that any entrance gates to the premises are securely locked when the premises is unattended; and
 - (c) undertake regular inspections of all security measures and repair damage as soon as practicable.
- **15.** The licence holder must ensure that no waste is burnt on the premises.
- **16.** The licence holder must immediately notify the CEO of:
 - (a) any fire on the premises; and/or
 - (b) any accident, malfunction, or emergency which results or could result in the discharge of fire-fighting washwater or other wastes from the premises.
- **17.** The licence holder must take all reasonable and practicable measures to prevent stormwater run-off becoming contaminated by the activities and operations undertaken at the premises.

Emissions and discharges

- **18.** The licence holder must ensure that no visible dust generated from the primary activities crosses the boundary of the premises.
- **19.** The licence holder shall ensure that odour emitted from the Premises does not unreasonably interfere with the health, welfare, convenience, comfort or amenity of any person who is not on the Premises.

Monitoring

Asbestos management (testing)

- **20.** The licence holder must ensure that testing of all recycled products is undertaken in accordance with the product testing procedures specified in Schedule 5: Asbestos monitoring and testing.
- **21.** The licence holder is not authorised to implement a reduced product testing rate as per the "Reduced sampling criteria" section of Schedule 5: Asbestos monitoring and testing.
- **22.** The licence holder must ensure that recycled products are only supplied to customers or used in the construction of infrastructure on the premises if they have been tested in accordance with condition 20 and must not exceed the product specification of 0.001% asbestos weight for weight (w/w) for asbestos content (in any form) within any recycled products.

Department of Water and Environmental Regulation

Monitoring of inputs and outputs

23. The licence holder must record the total amount of waste accepted onto the premises, for each waste type listed in Table 6, in the corresponding unit, and for each corresponding time period, as set out in Table 6.

Table 6: Waste accepted onto the premises

| Waste type | Unit | Time period |
|-------------------------|--------|------------------------------------|
| Manure (feedstock) | | |
| Green waste (feedstock) | Tonnoo | Each load arriving at the Dromison |
| Inert Waste Type 1 | Tonnes | Each load aniving at the Fremises |
| Inert Waste Type 2 | | |

24. The licence holder must record the total amount of waste removed from the premises, for each waste type listed in Table 7, in the corresponding unit, and for each corresponding time period set out in Table 7.

Table 7: Waste removed from the premises

| Waste type | Unit | Time period |
|-------------------------|--------|--|
| Manure (feedstock) | | |
| Green waste (feedstock) | Tonnoo | Each load leaving or rejected from the |
| Inert Waste Type 1 | Tonnes | Premises, after acceptance. |
| Inert Waste Type 2 | | |

Process monitoring

25. The licence holder shall undertake the monitoring in Table 8 according to the specifications in that table.

Table 8: Process monitoring

| Monitoring point | Process | Parameter | Units | Frequency | Method |
|------------------|------------------|--------------------|-------------|-------------|-----------|
| Compost | Compositing | Temperature | ٥C | Twice daily | None |
| windrows | Composing | Moisture content | % | Twice daily | specified |
| Compost quality | Sampled and test | ed in accordance w | ith AS 4454 | ļ | |

Records and reporting

Records (asbestos management)

- **26.** The licence holder must maintain a register of each load of asbestos or ACM disposed of at the premises, including the:
 - (a) date of delivery;
 - (b) name of the person that deposited the asbestos or ACM; and
 - (c) registration number of the delivery vehicle.
- 27. The licence holder must maintain accurate and auditable records of all loads that have been inspected and suspected or found to contain asbestos and/or ACM

showing the source (person) and originating site (location), and actions taken to address the issue with the source of the load.

- **28.** The licence holder must maintain accurate and auditable records of all asbestos product testing undertaken in accordance with condition 20, including:
 - (a) details of the sample size;
 - (b) a statement of limit of detection of the analysis;
 - (c) results in relation to asbestos detected (positive result exceeding the 0.001% w/w limit) or not;
 - (d) a description of any asbestos detected; and
 - (e) an estimate of the concentration of asbestos detected.

Records (general)

- **29.** The licence holder must record the following information in relation to complaints received by the licence holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:
 - (a) the name and contact details of the complainant, (if provided);
 - (b) the time and date of the complaint;
 - (c) the complete details of the complaint and any other concerns or other issues raised; and
 - (d) the complete details and dates of any action taken by the licence holder to investigate or respond to any complaint.
- **30.** The licence holder must:
 - (a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and
 - (b) prepare and submit to the CEO by no later than 31 March each year an Annual Audit Compliance Report in the approved form.
- 31. The licence holder must:
 - (a) prepare an environmental report that provides information in accordance with Table 9 for the preceding annual period, and
 - (b) submit the environmental report to the CEO by 31 March each year.

Table 9: Environmental reporting requirements

| Condition | Requirement |
|-----------|--|
| 23 | Waste Inputs |
| 24 | Waste Outputs |
| 25 | Temperature, moisture content and compost quality |
| 29 | Complaints summary |
| 20 and 28 | A summary of asbestos validation testing of recycled products during the annual period |
| 26 and 27 | A summary of asbestos management records for the annual period |

- **32.** The licence holder must maintain accurate and auditable books including the following records, information, reports, and data required by this licence:
 - (a) the calculation of fees payable in respect of this licence;
 - (b) any maintenance of infrastructure that is performed in the course of complying with condition 13 of this licence;
 - (c) monitoring programmes undertaken in accordance with conditions 23, 24 and 25 of this licence; and
 - (d) complaints received under condition 29 of this licence.
- **33.** The books specified under condition 32 must:
 - (a) be legible;
 - (b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;
 - (c) be retained by the licence holder for the duration of the licence; and
 - (d) be available to be produced to an inspector or the CEO as required.

Definitions

In this licence, the terms in Table 10 have the meanings defined.

Table 10: Definitions

| Term | Definition |
|---|--|
| Acceptance criteria | has the meaning defined in Landfill Definitions |
| asbestos | As defined in the Asbestos guidelines |
| asbestos- containing material | as defined in the DWER Asbestos Guidelines |
| asbestos fines or fibres | as defined in the Asbestos Guidelines |
| Asbestos guidelines | the Guidelines for managing asbestos at construction and demolition waste recycling facilities published on the department's website. |
| ACM | means asbestos containing material |
| 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 until 31 December of the immediately following year. |
| AS 4454 | means Australian Standard AS 4454 Composts, soil conditioners and mulches |
| AS 4964 | means the Australian Standard AS 4964 Methods for the qualitative identification of asbestos in bulk samples |
| books | has the same meaning given to that term under the EP Act. |
| compost | means an organic product that has undergone controlled aerobic and thermophilic biological transformation through the composting process |
| composting | the process whereby organic materials are microbiologically transformed under controlled aerobic conditions |
| Construction and demolition waste | has the meaning defined in Landfill Definitions |
| Controlled waste | has the definition in <i>Environmental Protection (Controlled Waste)</i> Regulations 2004 |
| CEO | means Chief Executive Officer of the Department. |
| | "submit to / notify the CEO" (or similar), means either: |
| | Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 |
| | or: <u>info@dwer.wa.gov.au</u> |

Department of Water and Environmental Regulation

| Term | Definition |
|----------------------------|---|
| C&D Stockpile Area | means the area shown in Schedule 1 Premises activity map |
| Department | means the department established under section 35 of the <i>Public Sector</i> <i>Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3. |
| discharge | has the same meaning given to that term under the EP Act. |
| DER asbestos guidelines | means the Guidelines for managing asbestos at construction and demolition waste recycling facilities published on the department's website. |
| emission | has the same meaning given to that term under the EP Act. |
| EP Act | Environmental Protection Act 1986 (WA) |
| EP Regulations | Environmental Protection Regulations 1987 (WA) |
| feedstock | means the organic material used in the composting process and listed in Table 1 |
| fibrous asbestos | as defined in the Asbestos Guidelines |
| greenwaste | means waste that originates from untreated trees or plants |
| hardstand | means a compacted surface |
| high risk load | refers to loads classified as <i>high risk</i> in accordance with the Asbestos Guidelines Risk Classification Matrix included in Schedule 3: Asbestos risk classification procedure of this licence |
| 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 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, 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. |
| low risk load | refers to loads classified as <i>low risk</i> in accordance with the Asbestos Guidelines Risk Classification Matrix included in Schedule 3: Asbestos risk classification procedure of this licence |
| manure | means any organic product composed mainly of animal excreta |
| pasteurisation | means the process whereby organic materials are treated to significantly reduce the numbers of plant and animal pathogens and plant propagules |

Department of Water and Environmental Regulation

| Term | Definition |
|------------------------|---|
| premises | refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map in Schedule 1 to this licence. |
| prescribed premises | 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. |
| windrow | means greenwaste or tyres or compost or soil conditioned stockpiles |

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in red in the map below.



L8852/2014/2

IR-T06 Licence template (v9.0) (November 2023)

Premises activitites map



Schedule 2: Premises boundary

The corners of the premises boundary are the coordinates listed in Table 11

Table 11: Premises boundary coordinates (GDA2020)

| Premise Corners | Easting | Northing | Zone |
|--------------------|-------------|-------------|------|
| NW | 1055159.800 | 8012464.115 | 50 |
| NE | 1055415.520 | 8012454.855 | 50 |
| SE | 1055404.650 | 8012054.065 | 50 |
| SW | 1055154.010 | 8012061.200 | 50 |

Schedule 3: Asbestos risk classification procedure

To determine the risk of an incoming load containing asbestos or ACM, the gatehouse operator at the premises must establish:

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

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 in Table 12 below.

Table 12: Risk classification matrix

| | Type of Load | | | |
|-----------------------------------|--------------|---|-----------|--|
| Material Type | Commercial | Public – utes, cars and trailers ¹ | 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 | |

Note 1: If it is possible to view the entire load of incoming construction and demolition material (such as in the case of a small trailer with a shallow load), then consideration may be given to classifying those loads as 'low risk'.

Schedule 4: High risk load procedure

'High risk loads' must be unloaded and spread over a sufficiently large area to enable a comprehensive visual inspection of all sides and components of the material to be undertaken.

If asbestos fines and fibres (AF) or fibrous asbestos (FA) is suspected or identified, the load must be isolated, kept wet and once appropriately contained and redirected to an appropriately authorised disposal facility.

Where ACM is suspected or identified within a load and is not capable of being easily removed by hand, the load must be rejected in full and isolated, kept wet and once appropriately contained and 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:

- (a) 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 returned to the stockpile to await further processing; or
- (b) 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 waiting further processing.

Records must be kept to ensure that the process from receipt of C&D Waste or Inert Waste Type 1 material to the completion of the unloading procedure is auditable and that any loads found to contain suspect asbestos will be traced back to the customer and originating site.

Schedule 5: Asbestos monitoring and testing

Product testing and supply

The testing procedures detailed in this Schedule have application to the three main recycled products:

- 1. Recycled drainage rock 20 27 mm;
- 2. Recycled sand, screened to <10 mm; and
- **3.** Recycled road-base, <19mm.

ACM and FA are subject to visual inspection and sampling procedures since they are larger in size (>7 mm) and 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 that 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.

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 material to identify any suspect asbestos material.
- No sampling is required for recycled drainage rock, other than to determine by laboratory analysis 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 ACM 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 4,000 tonnes or 14 samples per 1000 m³ of product.

Conveyor sampling

• Sampling of road base and screened sand products must occur at a minimum rate of 1 sample per 70 m³ of a product output. Suspect ACM or areas must be targeted for sampling.

Sample treatment

- Each sample collected must be at least 10 litres in volume and then be divided into 2 size fractions (>7 mm and <7 mm) in the field by sieving through a 7 mm screen or spread out for inspection on a contrasting colour fabric. The >7 mm fraction should be examined for any suspect ACM 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.

Sample analysis method

>7 mm sample fractions

 Asbestos concentrations (ACM and FA) should be calculated in accordance with the methods detailed in Appendix Two of the Department of Health (DoH), 2021, Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia. 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 fibrous 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) or be demonstrated to be able to achieve the equivalent level of results to this Australian Standard.

Analysis method

AS 4964 is currently the only method in Australia that has NATA certification; however, the practicable level of detection for this standard polarized light microscopy method (PLM) and dispersion staining 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 DWER 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 specifications for asbestos content, samples must be a minimum of 500 mL in size. Proponents must adopt one of the following analytical approaches:

- 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. Either of the following methods are considered acceptable by DWER:
 - The extraction and weighing of fibre bundles or fibre cement material from the total sample; and
 - Measuring the width and length (i.e. volume) of individual fibre by Phase Contrast Microscopy and calculating the weight of fibres in the extracted sub-sample.

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 criterion, then that stockpile or product process should be deemed potentially contaminated and considered for off-site disposal as Special Waste Type 1, 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 criterion, 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 m2 of surface would be deemed to exceed the specification for that area, and for the whole stockpile if repeated in 2 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 4,000 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 the recycled sand material and roadbase. In this case a 1 cm3 fragment of ACM or FA would be deemed to exceed the specification for a 10 L 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.