



Licence number	L9248/2020/1
Licence holder	G & G Corp Pty Ltd
ACN	080 673 374
Registered business address	1/219 Midland Road Hazelmere, WA 6055
DWER file number	DER2020/000151
Duration	3/07/2020 to 2/07/2030
Date of issue	3/07/2020
Premises details	WA Recycling Resource Recovery Centre Lot 144 Talbot Road, HAZELMERE WA 6055 Legal description - Lot 144 on Deposited Plan 4553 Certificate of Title Volume 1068 Folio 10

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.	400,000 tonnes per annual period
Category 61: Liquid waste facility: premises on which liquid waste produced on other premises (other than steerage waste) is stored, reprocessed, treated or irrigated.	45,000 tonnes per annual period
Category 62: Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use.	445,000 tonnes per annual period

This licence is granted to the licence holder, subject to the attached conditions, on 20 November 2020, by:

Steve Checker

MANAGER WASTE INDUSTRIES

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

[L9248/2020/1](#) Date of amendment: 20/11/2020

Licence history

Date	Reference number	Summary of changes
3/7/2020	L9248/2020/1	Licence granted to allow stage 1 operations.
20/11/2020	L9248/2020/1	Licence amendment to allow Stage 2 (full) operations.

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:

Infrastructure and equipment

1. The licence holder must ensure that the site infrastructure and equipment listed in Table 1 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 1.

Table 1: Infrastructure and equipment requirements

Site infrastructure and equipment	Operational requirement	Infrastructure location
Hardstand pad	Maintained as compacted roadbase.	Schedule 2 Site Plan
RRC Shed	RRC shed maintained as: <ul style="list-style-type: none"> • Enclosed tilt up concrete panel and Colorbond steel shed; and • Integrity of the concrete floor is maintained with a permeability of equal to or less than 1×10^{-9} m/s (or equivalent). 	Schedule 2 Site Plan
Mobile Crusher	Metso Jaw Crusher LT3054 or equivalent with: <ul style="list-style-type: none"> • The main conveyor is piped for dust suppression; • A pump is installed, or connection to mains water supply, to provide water to the main conveyor; and • Located within the fully enclosed RRC shed. 	Schedule 2 Site Plan
Mobile Screens	Sandvik Screen QE340, McCloskey Screen S130 or Rubble Master RM80GO or equivalent with: <ul style="list-style-type: none"> • The main conveyor is piped for dust suppression; • A pump is installed, or connection to mains water supply, to provide water to the main conveyor; • Located within the fully enclosed RRC shed: and • Located outside, but adjacent to, the three (3) sided Gyprock shed. 	Schedule 2 Site Plan
Mobile External conveyor outside RRC shed	Conveyor or equivalent with: <ul style="list-style-type: none"> • The main discharge conveyor that transfers processed material from within the RRC Shed to external stockpiles is piped for dust suppression; and • A pump is installed, or connection to mains water supply, to provide water to 	Schedule 2 Site Plan

Site infrastructure and equipment	Operational requirement	Infrastructure location
	the main conveyor;	
Gyprock shed	Gyprock shed maintained as: <ul style="list-style-type: none"> Three (3) side enclosed tilt up concrete panel and Colorbond steel shed; and Integrity of the concrete floor is maintained with a permeability of equal to or less than 1×10^{-9} m/s (or equivalent). 	Schedule 2 Site Plan
Sprinkler system	Installation of sprinkler systems with sufficient throw to cover the diameter of each stockpile with sufficient volume to maintain stockpiles in a damp state at all times and sufficient to prevent visible dust lift off.	Schedule 4 Sprinkler system
Drill Slurry Tank Facility	Concrete drill slurry tank facility comprise: <ul style="list-style-type: none"> Primary tank, secondary tank, final tank and drying bed; Be fully sealed and watertight; Bunded drying bed directs any liquid fraction to the primary tank; Primary tank holding capacity of at least 521,800 litres; Secondary tank holding capacity of at least 415,676 litres; Final tank holding capacity of at least 383,233 litres; Drill slurry is unloaded upon a concrete apron and all drill slurry material is directed into the Primary tank; and Directs stormwater away from the facility. 	Schedule 2 Site Plan
Wheel wash bay	Include the following processes: <ul style="list-style-type: none"> Wash bay connected to mains water supply to allow sufficient water to operate the wheel wash; Maintain the 12 vertical sprays so that each spray provides sufficient volume of water to wash wheels at all times. Water that overflows the bay will be directed via internal drainage lines and must report to the Drill Slurry Tank Facility for treatment The sediment collected in the wheel-wash shall be removed at a frequency sufficient to prevent sediment being tracked out of the wheel-wash. All sediment from the wheel-wash must be directed to the onsite drill-slurry concrete compound, or disposed of to an appropriately authorised facility. 	Schedule 2 Site Plan
Stormwater basin	Stormwater basin comprise:	Schedule 3 – Drainage Site

Site infrastructure and equipment	Operational requirement	Infrastructure location
	<ul style="list-style-type: none"> Provide minimum storage of 2131m³; and Allow sufficient capacity with a 500mm top of bank freeboard to capture a 1 in 10 year rainfall event. 	Plan
Stormwater infrastructure	Stormwater drainage basin maintained to divert all stormwater, excluding from within the Gyprock sheds, to the stormwater basin.	Schedule 3 – Drainage Site Plan
Sign	Signage must be placed at the site entry / exit areas to specify that all trucks entering the premises must ensure their loads are in a damp state or covered to prevent dust emissions being generated from the load areas of the truck.	Schedule 2 – Site Plan
Water Cart	The licence holder shall have access to a water truck, fitted with high volume side and rear spray bars to ensure complete coverage of stockpiles roadways and to assist during tipping and processing as required	Schedule 2 – Site Plan

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

- (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 are unattended; and
- (c) Undertake regular inspections of all security measures and repair damage as soon as practicable.

Waste Acceptance

- 3.** 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 2.

Table 2: Types of waste authorised to be accepted onto the premises

Waste type	Rate at which waste is received	Acceptance specification
Inert Waste Type 1 and Clean Fill	445,000 tonnes per annual period	Waste containing visible asbestos or ACM must not be accepted.
Liquid waste	45,000 tonnes per annual period	Drill spoil slurry only. No other liquid wastes to be accepted at the premises without prior approval from DWER.

4. The licence holder shall visually inspect all waste on arrival at the Premises and again before it enters any stockpile or treatment process to ensure that it complies with the waste acceptance criteria in Table 2.
5. The licence holder shall ensure that where waste does not meet the waste acceptance criteria set out in Table 2 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.
6. The licence holder shall ensure that any waste that does not conform to the waste acceptance criteria in Table 2 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.

Waste Processing

7. The licence holder shall ensure that wastes accepted onto the Premises are only subjected to the processes set out in Table 3 and in accordance with any process limits described in that Table.

Table 3: waste processing

Waste type	Process(es)	Process limits ^{1, 2}
Inert Waste Type 1		<p><u>All waste types</u></p> <p>All wastes shall be visually inspected as required by condition 4.</p> <p>Solid waste shall be received and deposited on a hardstand pad.</p> <p>Stockpiles do not exceed 10m in height from the natural ground-level.</p> <p>Operate the infrastructure as specified in Table 1 to ensure stockpiles are maintained in a damp state.</p> <p>Operating of the crushers and screens equipment is limited to between the hours of 0600 to 1800, Monday to Saturday.</p> <p>Crushing and screening of material limited to 400,000 tonnes per annual period.</p> <p>Cease activities during weather conditions where dust emissions cannot be effectively controlled by the relevant infrastructure specified in Table 1.</p> <p>Drill spoil slurry material that is spadable and does not exceed the Contaminant Thresholds for Inert Waste Type 1 can be added to unprocessed stockpiles for subsequent processing.</p> <p>Drill spoil slurry material that is spadable and exceeds the Contaminant Thresholds for Inert Waste Type 1</p>
Clean Fill	Receipt, handling, processing by mechanical screening and crushing and associated storage	

		must be removed from the Premises to an authorised landfill.
Liquid waste	Receipt, handling, associated storage and treatment	<p>Drill spoil slurry must be accepted and stored in the drill slurry tank facility and drying bed until the material is dewatered to a spadable form prior to reuse or disposal to an approved facility.</p> <p>Wastewater resulting from the drill spoil slurry must not be used for dust suppression unless it has a pH of no lower than 6.0 and no higher than 9.0 and 1800uS/cm respectively.</p>

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

Note 2: Additional requirements for the acceptance and landfilling of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

8. The licence holder must ensure that all operational vehicles leaving the premises pass through the wheel-wash specified in Table 1.
9. The licence holder must ensure that prior to leaving the premises, all operational vehicles (trucks) have their load areas dampened or covered to prevent dust emissions arising from the load area of the truck.
10. The Licence Holder must ensure the roadway between the wheel-wash and the premises exit is swept regularly or otherwise kept clean to ensure that dust, accumulated sediment or other material is not tracked onto Talbot Road.
11. The licence holder is to ensure a sprinkler system is routinely operated on each load of Inert Waste Type 1 entering the premises, to ensure all loads are wetted prior to unloading, and maintained in a wet state throughout the inspection process.
12. The licence holder is to maintain signage advising 'No Asbestos' is accepted.
13. The licence holder is to visually inspect all loads of Inert Waste Type 1 material when they arrive at the premises prior to unloading and during unloading to determine the risk of a load containing asbestos or ACM
14. Where the inspection confirms asbestos or ACM, the licence holder must reject the waste material.
15. The licence holder is to maintain accurate records of all rejected loads including:
 - (a) the material source;
 - (b) the material carrier;
 - (c) registration number of the vehicle; and
 - (d) date of rejection.
16. The licence holder is to manage classified loads identified as "high-risk" in accordance with the high-risk procedure as specified in Schedule 5 of this licence, extracted from section 3.4 of the DWER Asbestos Guidelines.
17. The licence holder is to maintain accurate records of all accepted load inspections and of any accepted loads which have been determined as "high risk" classified loads.
18. The licence holder is to ensure all loads found to contain, or suspected of

- containing, ACM are isolated, kept damp, and appropriately contained.
- 19.** All loads found to contain suspected ACM are to be disposed of by an appropriately licensed waste transporter and to an appropriately licensed landfill premises.

Product Testing

- 20.** The licence holder must ensure that testing of all products is undertaken in accordance with the product testing procedures with reduced sampling criteria specified in Schedule 6 or the approved MASP.
- 21.** The licence holder must ensure that 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.
- 22.** 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.

Emissions and discharges

Dust emissions

- 23.** The licence holder must ensure that no visible dust generated from the primary activities crosses the boundary of the premises.

Noise emissions

- 24.** Within 30 days of the amendment date of this licence, being 20 November 2020, the licence holder must retain the services of a person qualified and experienced in the area of environmental noise assessment and who by their qualifications and experience is eligible to hold membership of the Australian Acoustical Society or the Australian Association of Acoustical Consultants to:
- (a) investigate the nature and extent of noise emissions from the premises, and including night time period 6am to 7am;
 - (b) assess in accordance with the methodology required in the *Environmental Protection (Noise) Regulations 1997*, the compliance of the noise emissions from the primary activities, against the relevant assigned levels specified in those Regulations; and
 - (c) compile and submit to the licence holder within 6 months of the amendment date of this licence a report in accordance with condition 24.

- 25.** A report prepared pursuant to condition 24(c) is to include:
- (a) a description of the methods used for monitoring and/or modelling of noise emissions from the premises;
 - (b) details and the results of the investigation undertaken pursuant to condition 24(a);
 - (c) details and results of the assessment of the noise emissions from the premises, against the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997* undertaken pursuant to condition 24(b); and
 - (d) an assessment of noise levels against the most recent previous noise assessment specifically noting the Fixed Screens and Crushers.
- 26.** The licence holder must submit to the CEO the report prepared pursuant to condition 24(c) within 14 days of receiving it.
- 27.** Where an assessment pursuant to condition 24(b) indicates that noise emissions do not comply with the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997*, the license holder must:
- (a) within 60 days of receiving an assessment report pursuant to condition 24(c) prepare a plan to ensure the undertaking of the licensed activity will no longer lead to any contravention of the *Environmental Protection (Noise) Regulations 1997*; and
 - (b) provide to the CEO a copy of the plan prepared pursuant to condition 27(a) within 30 days of its preparation.

Monitoring

- 28.** The licence holder must record the total amount of waste accepted onto the premises, for each waste type listed in Table 4, in the corresponding unit, and for each corresponding time period, as set out in Table 4.

Table 4: Waste accepted onto the premises

Waste type	Unit	Time period
Inert Type 1 and liquid waste	tonnes (where a weighbridge is present on the site) m ³ (where no weighbridge is present)	Each load accepted at the premises.

- 29.** The licence holder must record the total amount of waste removed from the premises, for each waste type listed in Table 5, in the corresponding unit, and for each corresponding time period set out in Table 5.

Table 5: Waste removed from the premises

Waste type	Unit	Time period
Inert Type 1 and liquid waste	tonnes (where a weighbridge is present on the site)	Each load accepted at the premises.
Other waste by Waste Type	m ³ (where no weighbridge is present)	

- 30.** The licence holder must monitor slurry water reused intended for reuse for concentrations of the parameters listed in Table 6:
- at the corresponding monitoring location;
 - in the corresponding unit;
 - at no less than the corresponding frequency;
 - for the corresponding averaging period; and
 - using the corresponding method,
- as set out in Table 6.

Table 6: Monitoring of drill slurry water

Parameter	Monitoring location	Unit	Frequency	Averaging period	Method
					Analysis
pH	Drill slurry tank facility as shown in Schedule 3	-	Monthly	Spot sample	AS5667.1
Heavy metals		mg/L			
TRH		mg/L			

- 31.** The licence holder must ensure all:
- monitoring is undertaken in each month period such that there are at least 15 days in between the days on which samples are taken in successive months; and
 - laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in Table 6.

Records and reporting

- 32.** 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.
- 33.** 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 30 days after the end of that annual period an Annual Audit Compliance Report in the approved form.
- 34.** 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 1 of this licence;
 - (c) monitoring programmes undertaken in accordance with conditions 28, 29, 30 and 31 of this licence; and
 - (d) complaints received under condition 28 of this licence.
- 35.** The books specified under condition 30 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 1 have the meanings defined.

Table 1: Definitions

Term	Definition
asbestos	As defined in the Asbestos Guidelines
asbestos fines or fibres (AF)	As defined in the Asbestos Guidelines
AS4964	Means Australian Standard AS 4964 Method for the qualitative identification of asbestos in bulk samples
ACM	Asbestos-containing material
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 July until 30 June of the immediately following year.
books	has the same meaning given to that term under the EP Act.
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: info@dwer.wa.gov.au
Contaminant Threshold	Means the contaminant thresholds outlined in Table 3 and the leachable concentration and concentration limit values outlined in Table 4 of the Landfill Definitions.
Department	means the department established under section 35 of the <i>Public Sector 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.
emission	has the same meaning given to that term under the EP Act.
EP Act	<i>Environmental Protection Act 1986</i> (WA).
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA).

Term	Definition
fibrous asbestos (FA)	As defined in the Asbestos Guidelines
Inert Waste Type 1	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.
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.
MASP	The approved Premises Material Acceptance and Sampling Plan required as Part of the Waste Authority's Roads to Reuse Product Testing Scheme.
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.
Product	refers to waste which has undergone crushing, processing or screening to create a useable recycled product and which is awaiting asbestos testing or has been tested and conforms to the specifications of this licence.
PLM	polarised light microscopy
Special Waste Type 1	as defined in the Landfill Definitions.
waste	has the same meaning given to that term under the EP Act.

END OF CONDITIONS

Schedule 1: Maps

Premises map

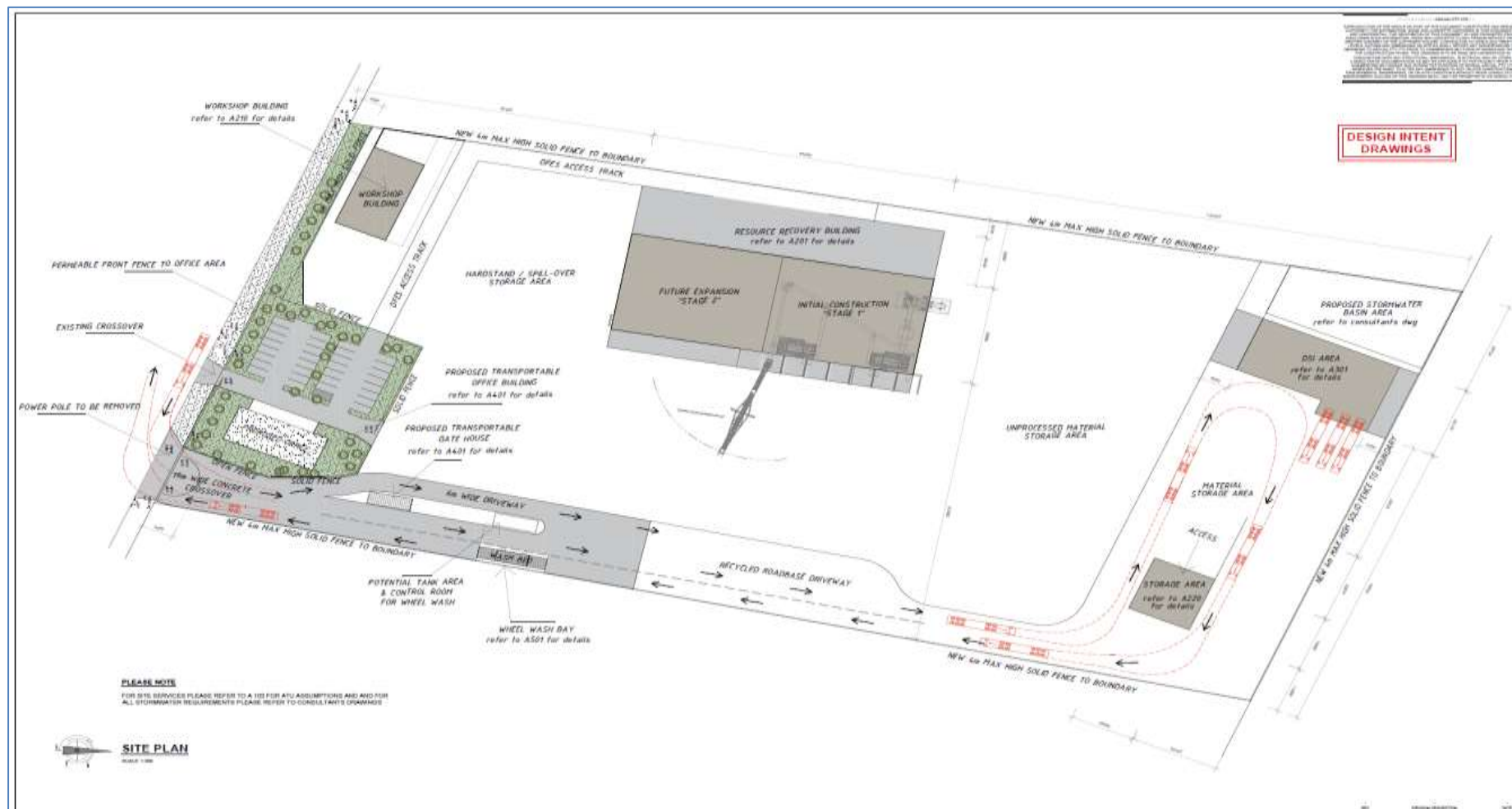
The boundary of the prescribed premises is shown in the map below.



L9248/2020/1 Date of amendment: 20/11/2020

IR-T06 Licence template (v6.0) (February 2020)

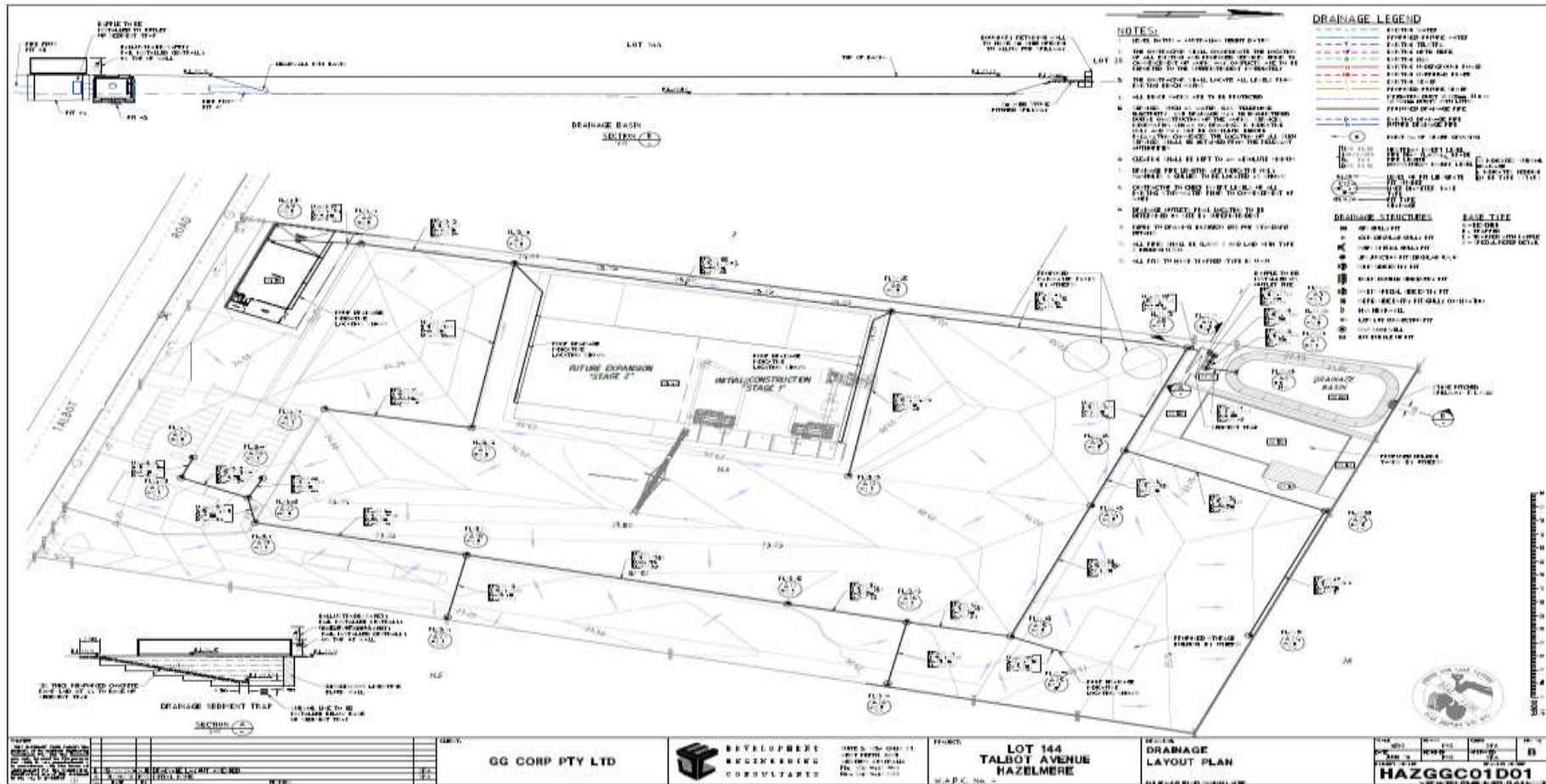
Schedule 2: Site Plan



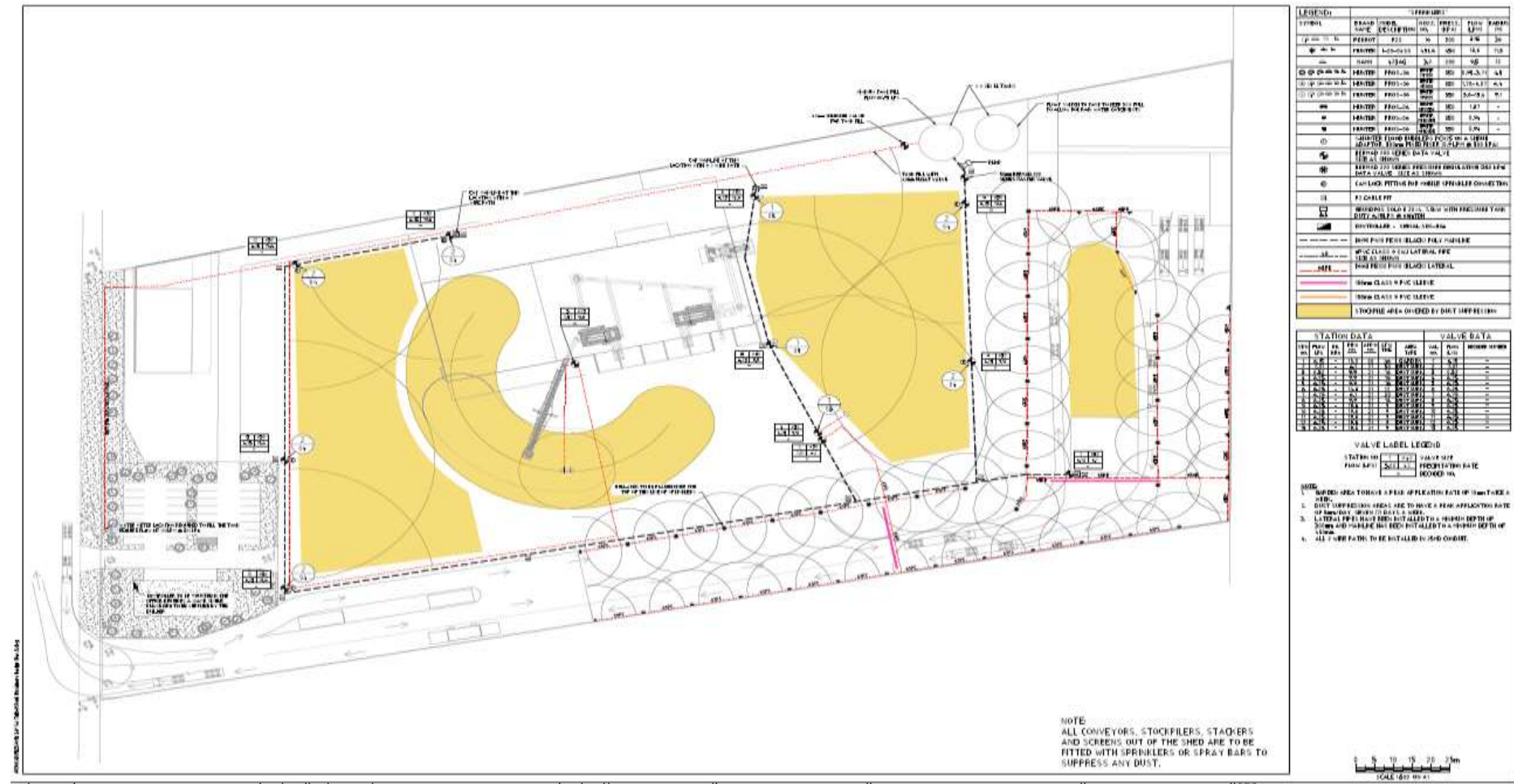
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IR-T06 Licence template (v6.0) (February 2020)

Schedule 3: Drainage Site Plan



Schedule 4: Sprinkler Site Plan



Schedule 5: Section 3.4 of DWER Asbestos Guidelines

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 prior to 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.

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 continue to 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 eg crushing and screening.

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 to be undertaken. One method of achieving this is to spread the material to a depth of less than 30cm 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, kept wet and once appropriately contained in accordance with the Asbestos Factsheet in Appendix A, and 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, kept wet and once appropriately contained in accordance with the Asbestos Factsheet in Appendix A, 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:

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 that 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, DEC will require records of loads found to contain asbestos and action taken by the C&D recycler to address this issue with the customer, to be submitted on a regular basis. DEC will take follow up action with customers delivering asbestos containing waste to the premises as necessary.

Schedule 6: 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 4000 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.

Reduced sampling criteria

Once premises have demonstrated that their procedures are able to consistently produce recycled product that meets the product specification and undertake their activities to a high standard, DWER may authorise a reduced product testing rate including down to 5 locations per 4000 tonnes (1 sample per 600 m³) of product.

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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 section 4.1.7 of Department of Health (DoH), 2009, *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.

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:

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. 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 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 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.