Government of Western Australia
Department of Water and Environmental Regulation

LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986 (WA)

LICENCE

LICENCE NUMBER: L9127/2018/1 **FILE NUMBER: DER2018/000553**

NAME OF OCCUPIER:
City of Greater Geraldton

ADDRESS OF OCCUPIER:
63 Cathedral Avenue
GERALDTON WA 6530

NAME AND LOCATION OF PREMISES:
Meru Waste Disposal Facility
Landfill Road, NARNGULU WA 6532
Being Lot 204 on Plan 403161 and Lot 2268 on Plan 250829,

Environmental Protection Regulations 1987
CLASSIFICATION(S) OF PREMISES:

Category 13: Crushing of building material – 20,000 tonnes/year
Category 57: Used tyre storage (general) – 1,000 tyres
Category 61: Liquid waste facility – 4,000 tonnes/year
Category 61A: Solid waste facility – 100,000 tonnes/year
Category 64: Class II or III putrescible landfill site – 100,000 tonnes/year
Category 67A: Compost manufacturing and soil blending – 20,000 tonnes/year

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COMMENCEMENT DATE OF LICENCE: 1/06/2018

EXPIRY DATE OF LICENCE: 31/05/2038

CONDITIONS OF LICENCE:
As described and attached:

DEFINITIONS
CONSTRUCTION CONDITIONS (5)
GENERAL CONDITION(S) (8)
AIR POLLUTION CONTROL CONDITION(S) (3)
WATER POLLUTION CONTROL CONDITION(S) (6)
PROCESS MONITORING CONDITION(S) (15)
SOLID WASTE CONTROL CONDITION(S) (2)
ATTACHMENTS (4)

Date signed: 1 June 2018
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Steve Checker
MANAGER LICENSING (WASTE INDUSTRIES)

Officer delegated under Section 20
of the *Environmental Protection Act 1986 (WA)*

Date of Issue: 1 June 2018

Government of Western Australia
Department of Water and Environmental Regulation

CONDITIONS OF LICENCE
Environmental Protection Act 1986

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CONDITIONS OF LICENCE

This Licence L9127/2018/1 is the replacement to licence L6462/1992/12 which ceased due to the late payment of the annual fee. Only administrative changes have been made to the replacement licence.

The expiry date has been based on DWER's *Guidance Statement: Licence Duration* and expiry date is 31 May 2018.

DEFINITIONS

In these conditions of licence, unless inconsistent with the text or subject matter:

Term	Definition
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	means the Australian Company Number.
AER	means Annual Environmental Report.
Amendment Notice	means an amendment granted under s.59 of the EP Act in accordance with the procedure set out in s.59B of the EP Act.
Annual Period	means a 12 months period commencing from 1 January until 31 December
Approved/ approval	means approved and approval in writing from time to time, respectively.
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.
asbestos waste	means Special Waste Type 1 – asbestos and asbestos cement products waste as defined in the current version of the 'Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)'.
Asbestos Containing Material (ACM)	has the meaning defined in the 'Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites, Western Australia, (DOH, 2009)'.
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples*.
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters*.
Books	has the same meaning given to that term under the EP Act.
Bottom-up	means waste is placed in horizontal lifts evenly across the complete cell floor of the landfill working upwards, and not from one side of the landfill to the other.
Category/ Categories/	means categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations.

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Cat.	
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the *Environmental Protection Act 1986* Locked Bag 33 Cloisters Square PERTH WA 6850 info@dwer.wa.gov.au
Classified load	means the classification of waste loads during acceptance and post acceptance based on the risk of waste containing Asbestos or ACM and through visual inspection. Classification of wastes loads must be undertaken in accordance with the provisions outlined in Section 3.3 and 3.4 of DER Asbestos Guidelines
Clean fill	has the meaning defined within the *Landfill Waste Classification and Waste Definitions 1996 (as amended December 2009)* guidelines.
Compliance Report	means a report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO (guidelines and templates may be available on the Department's website).
Condition	means a condition to which this Licence is subject under s.62 of the EP Act.
construction and demolition waste or C&D waste	means materials in the waste stream which arise from construction, refurbishment or demolition activities and as defined within the Landfill Waste Classification and Waste Definitions 1996 (as amended from time to time).
continuous cover technique	means the daily covering of waste with at least 150mm of cover material.
Controlled waste	As defined in the *Environmental Protection (Controlled Waste) Regulations 2004.*
cover material	means subsoil or other approved inert waste used for covering of waste.
Crushed Recycled Road Base	means material that has been produced in accordance with and meets the specifications in the DER Asbestos Guidelines and the Institute of Public Works Engineering Australasia and the Western Australia Local Government Association Specification for the supply of recycled road base, May 2016.
CS Act	means *Contaminated Sites Act 2003 (WA)*.
Damp	means moist to the touch.
DFES	means the Department of Fire and Emergency Services Authority of Western Australia.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
Department Request	means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Licence Holder in writing and sent to the Licence Holder's address for notifications, as described at the front of this Licence, in relation to: (a) compliance with the EP Act or this Licence; (b) the Books or other sources of information maintained in

	accordance with this Licence; or (c) the Books or other sources of information relating to Emissions from the Premises.
Discharge	has the same meaning given to that term under the EP Act.
DoH	means the Department of Health.
DER 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.
Emission	has the same meaning given to that term under the EP Act.
Environmental Harm	has the same meaning given to that term under the EP Act.
EP Act	means the *Environmental Protection Act 1986* (WA).
EP Regulations	means the *Environmental Protection Regulations 1987* (WA).
Fire Control Officer	means a person who has such qualifications in fire-fighting or fire control as are approved, appointed to that position by the occupier of the premises.
Green waste	means waste that originates from trees or plants.
hardstand	means a surface with a permeability of 1×10^{-9} metres/second or less.
'Inert Waste Type 1' means:	means (a) non-hazardous, non-biodegradable (half-life greater than 2 years) wastes containing contaminant concentrations less than Class I landfill acceptance criteria but excluding paper and cardboard; and (b) materials specified under the heading 'Examples of Type 1 inert wastes' in Table 2 of the document entitled 'Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)'.
'Inert Waste Type 2' means:	(a) non-hazardous, non-biodegradable (half-life greater than 2 years) wastes containing contaminant concentrations less than Class I landfill acceptance criteria but excluding paper and cardboard; and (b) includes materials specified under the heading 'Examples of Type 2 inert wastes' in Table 2 of the document entitled 'Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)'.
Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.
Landfill Waste Classification and Waste Definitions 1996 (as amended	refers to the document issued by the Chief Executive Officer of the Department of Environment and Conservation, dated 2009.

2009)	
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 s.57 of the EP Act, subject to the Conditions.
Licence Holder	refers to the occupier of the premises being the person to whom this Licence has been granted, as specified at the front of this Licence.
litter screen	means a chicken wire fence or similar, with a maximum aperture of 50 mm and at least 1.8 metres in height.
Long-term irrigation waters	means Australia and New Zealand Environment and Conservation Council & Resource Management Council of Australia and New Zealand (ANZECC & ARMCANZ), Australian and New Zealand Guidelines for Fresh and Marine Water Quality, 2000 (ANZECC, 2000) guidelines.
Low permeability	means a surface with a hydraulic conductivity of 1×10^{-9} metres/second (m/s) or less.
Material Environmental Harm	has the same meaning given to that term under the EP Act.
'material containing asbestos'	means as defined in the *Environmental Protection (Controlled Waste) Regulations 2004.*
mm and mg/L	means millimetres, and milligrams per litre, respectively.
mBGL	means metres below ground level.
m^3	means cubic metres.
municipal waste	means waste collected at the kerbside by the local authority collection vehicle or its contractor.
NATA	means National Association of Testing Authorities.
NEPM	National Environmental Protection Measure.
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA).
Non-conforming waste types	means any waste material removed from the Premises that requires disposal, other than at the premises, and which does not conform to the waste acceptance defined under condition 2 of the Licence.
Occupier	has the same meaning given to that term under the EP Act.
PM	means Particulate Matter.
PM_{10}	used to describe particulate matter that is smaller than 10 microns (µm) in diameter.
Pollution	has the same meaning given to that term under the EP Act.
Premises	refers to the Premises to which this Licence applies, as specified at the front of this Licence and as shown on the map in Attachment 1 to this Licence.

Prescribed Premises	has the same meaning given to that term under the EP Act.
putrescible waste	means (a) the component of the waste stream likely to become putrid – including wastes that contain organic materials such as food wastes or wastes of animal or vegetable origin, which readily bio-degrade within the environment of a landfill; (b) includes materials specified under the heading 'Examples' in Table 2 of the document entitled 'Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)'.
PVC	means synthetic plastic polymer products also known as 'polyvinyl chloride products'.
Quarter	means every three months.
Risk Event	as described in *Guidance Statement: Risk Assessment*.
security mesh fence	means a 'cyclone' style of fence with a minimum height of 1.8 metres and topped with three strands of barbed wire.
Serious Environmental Harm	has the same meaning given to that term under the EP Act.
Special Waste type 1	means (a) asbestos wastes; and (b) includes materials specified under the heading 'Examples of Type 1 Special Waste' in Table 2 of the document entitled 'Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)'.
Special Waste type 2	means (a) biomedical wastes; and (b) includes materials specified under the heading 'Examples of Type 2 Special Waste' in Table 2 of the document entitled 'Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)'.
SWL	means the standing water level in metres below ground level or AHD (prior to sampling)
tyres	where 100 whole used tyres are the equivalent of 2 cubic metres of shredded, broken or pieces of used tyres; 1 truck tyre = 7 car tyres; 1 light truck tyre = 1.5 car tyres; 1 super single = 14 car tyres; 1 earth moving tyre = 20 car tyres.
tyre windrows	means parallel rows where each row is no more than 3 metres high and no more than 4 metres wide and separated by a minimum of 3 metres of clear ground from any other row.
Unreasonable Emission	has the same meaning given to that term under the EP Act.
UDR	*Environmental Protection (Unauthorised Discharges) Regulations 2004* (WA).

µg/m^3	micrograms per cubic metre.
µg/L	micrograms per litre.
Waste	has the same meaning given to that term under the EP Act.
WA Waste Strategy	means the Western Australian Waste Strategy, Waste Authority 2012.
WALGA	means the Western Australian Local Government Association.
WHO	means the World Health Organisation.
wire stock fence	means a fence at least 1.2 metres in height which is constructed from five strand plain or barbed wire or a ring lock fence with at least one strand of plain or barbed wire on top.

CONSTRUCTION CONDITIONS

C1 The Licence Holder must ensure that the proposed Works specified in Column 1 of Table 1 are designed and constructed to meet or exceed the specifications in Column 2 of Table 1 for the infrastructure in each row of Table 1.

C2 The Licence Holder must not depart from the specifications in Table 1 except:
(a) where such departure is minor in nature and does not materially change or affect the infrastructure; or
(b) where such departure does not increase risks to public health, public amenity or the environment;
and all other Conditions in this Licence are still satisfied.

Table 1: Works specifications	
Column 1	**Column 2**
Infrastructure	**Specifications (design and construction)**
Septage pond construction	
1. General	The Licence Holder must ensure that: a) Works are not carried out outside of the following operational hours: • 7:30 to 16:30 – Monday to Saturday, excluding Sundays and Public Holidays; b) Haul roads, fill material and spoil stockpiles are to be kept damp during operational hours.

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Table 1: Works specifications	
Column 1	**Column 2**
Infrastructure	**Specifications (design and construction)**
2. Geomembrane liner installation	The Licence Holder must ensure that the liner: a) is placed on the base of the existing location of the western septage pond area, and is to be cleared of any sludge/ debris and compacted, prior to laying of the liner; b) base fill material is compacted using a 12 tonne padfoot roller or greater to achieve horizontal layers not exceeding 200 mm in thickness after compaction; c) base fill material is tested against AS1289 for standard compaction minimum dry density ratio and optimum moisture content; d) base fill material is clear of indentations and desiccation cracks; e) is secured via anchor trenches that are backfilled and compacted using a vibrating plate compactor in 250 mm thick layers, after compaction; f) is not less than 2 mm thick, consisting of new HDPE geomembrane liner; g) is welded at all joins and/ or penetrations to ensure the liner is completed sealed; h) complies with WQPN 26 – Liners for containing pollutants, using synthetic membranes; i) is installed according to Appendix A - construction specifications, as prepared by Bowman & Associates Pty Ltd, dated 13 December 2017.
3. Western septage pond	The Licence Holder must ensure that the upgraded septage pond: a) includes a below surface inlet pipe for incoming septage to ensure that the anaerobic crust on the pond is not disrupted, when in full operation.
4. Associated works	The Licence Holder must undertake, construct and/ or install the following: a) Removal of the existing septage extraction sump and footing; b) Modifications to the reinforced concrete floor in the discharge shed; c) Installation of a 225 mm PVC pipe in the base of the discharge sluice and sealed to the HDPE geomembrane liner; d) Replacement of the reinforced concrete sluice structure to a reinforced concrete end wall into a pit; e) Installation of two transfer pipes.

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Table 1: Works specifications	
Column 1	**Column 2**
Infrastructure	**Specifications (design and construction)**
5. Hydrocarbon storage and management	The Licence Holder must ensure that all hydrocarbons: a) are located in impervious vessels on a bunded, hardstand surface or within an impervious self bunded tank; b) are managed in accordance with AS1940; c) are located in a designated area, away from any flammable/ combustible sources; d) used for the refuelling of vehicles to be done over a bunded hardstand area for the capture and containment of any spills; e) stored at the premises are fully lockable.
Cell 5 construction and associated infrastructure	
6. Cell 5 construction: General	The Licence Holder must ensure that: a) works are carried out during the following operational hours: • 7:30 to 16:30 – Monday to Saturday, excluding Sundays and Public Holidays. b) Cell 5 is constructed 153 m x 195 m (29,000 m^2/ 2.90 ha) in size; c) Cell 5 internal batter slopes are compacted and have a 1:3 ratio; d) Cell 5 perimeter bund has a 2% fall and the floor has a 1.2% fall from West to East to assist leachate drainage into the leachate sump; e) All equipment used on site must have appropriate emission control devices and be maintained regularly; f) the new cell has anchor trenches included which must secure the liner materials from Cell 5, and be back filled with a 250 mm thick compacted soil layer; g) the anchor trenches are sloped away from the landfill to prevent stormwater entering Cell 5; h) all works carried out must comply with the construction quality assurance procedures and processes as defined within the *'Meru Waste Disposal Facility Licence amendment – Construction of Cell 5, Bowman and Associates Pty Ltd, 8 February 2018*' document, as submitted to DWER on 15 February 2018.
7. Cell 5: Subgrade soils	The Licence Holder must ensure that the subgrade soils: a) have a moisture content between 3% dry and 2% wet of optimum moisture content and a minimum standard compaction of 95% during placement, in accordance with AS 1289 *'Methods of testing soils for engineering purposes*'; b) are uniform and free from all sharp or angular objects that may damage the liner.

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Table 1: Works specifications	
Column 1	**Column 2**
Infrastructure	**Specifications (design and construction)**
8. Cell 5: Geosynthetic clay liner (GCL)	The Licence Holder must ensure that the GCL: a) Rolls are hydrated, and with a moisture content of ≤ 35%; b) is reinforced and comprised of both woven and non-woven geotextile, fully needle punched together to contain the bentonite powder; c) installed over the base and side slopes of Cell 5; d) has a hydraulic conductivity of less than 1 x 10^{-9} m/s; e) is compliant with BPEM requirements.
9. Cell 5: High Density Polyethylene (HDPE) liner	The Licence Holder must ensure that the HDPE liner is: a) ≥2 mm thickness and textured on the face down side; b) Joined through fusion or extrusion welding, as appropriate, to ensure all liner membranes are sealed together in one impermeable unit, with no fractures or ruptures.
10. Cell 5: Cushion Geotextile	The Licence Holder must ensure that the cushion geotextile is: a) constructed from polypropylene, polyester, polyethylene and polyamide materials, either singularly or in combination; b) rot-proof, chemically stable and has low water absorption ability; c) non-woven with filaments bonded by needle punching, heat or chemical bonding processes; d) joined to adjacent sheets through stitching or heat-bonding only, with no cross joints on slopes steeper than 1:5 ratio.
11. Leachate sump and drainage layer (including pipework)	The Licence Holder must ensure that the: a) leachate drainage layer consists of perforated HDPE pipes placed herringbone style across the floor of Cell 5, and covered with ≥ 300 mm of single sized 50 mm crushed hard rock aggregate; b) leachate sump consists of a depression in the base of Cell 5 and is lined in the same manner as the rest of Cell 5; c) leachate sump batter slopes have a ratio of 1:2 and is constructed 6 m x 6 m in size; d) 450 mm diameter pipe is installed from the sump up the cell wall; e) pipe work from the leachate sump will be fed through blind culverts, under the access road, to join the leachate pond to ensure all leachate is completely captured within the leachate pond.

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Table 1: Works specifications	
Column 1	**Column 2**
Infrastructure	**Specifications (design and construction)**
12. Leachate pond and associated pump infrastructure	The Licence Holder must ensure that the: a) leachate pump is installed to extract leachate from the sump for discharge via the 450 mm pipework leading out of the sump to the leachate pond; b) leachate pond is constructed and lined in the same manner as Cell 5; c) leachate pond is 7,800 m^2 (0.78 ha) in size; d) leachate pond is constructed to contain all leachates emitted from Cell 5 and a 1:10 year, 72 hour ARI event; e) leachate pond is designed to maintain a minimum freeboard of 0.5 m, at all times.
13. Storm water containment ponds	The Licence Holder must ensure that: a) storm water channels are constructed to divert uncontaminated stormwater away from Cell 5 and into the stormwater containment ponds, for the containment of uncontaminated storm water only; b) the storm water ponds are constructed of in-situ soils that permit contained uncontaminated storm water to infiltrate to ground.
14. Groundwater monitoring bores: MW-1 to MW-4	The Licence Holder must ensure that the groundwater monitoring bores are constructed and operational for the purpose of monitoring groundwater at the premises.
15. Security fencing	The Licence Holder must ensure that a 2 m high security fence is installed around the perimeter of Cell 5 and the leachate pond, with gates to permit vehicle and pedestrian access.
16. Hydrocarbon storage and management	The Licence Holder must ensure that: a) any refuelling of mobile plants us undertaken within a designated area, on a bunded, hardstand; b) all hydrocarbons temporarily stored at the premises for use as part of the construction works, is contained within a bunded hardstand and separated from any combustible material by a minimum 10 m buffer; c) spill kits are available for use at the premises; d) all flammable or explosive products are stored in accordance with the *Explosives and Dangerous Goods Act* and the Department of Fire and Emergency Services (DFES).

Table 1: Works specifications	
Column 1	**Column 2**
Infrastructure	**Specifications (design and construction)**
17. Dust management	The Licence Holder must ensure that: a) site speed limits are 10 km/ hour; b) regular visual inspections are carried out during operational hours; c) dust management techniques are implemented (screening, mulching, hydro-seeding, chemical crusting agents, water trucks or sprays), as required, to ensure dust does not cross the boundary of the premises; d) all earthworks are watered down regularly to minimise windblown dust emissions.

C3 If any departures from the specifications in Table 1 occur, then the Licence Holder must provide the CEO with a list of departures which are certified as complying with Condition C2 at the same time as the certifications under Condition C5.

C4 The Licence Holder must submit a construction compliance document to the CEO, within one month, following the construction of the Works and prior to operating the new works at the premises.

C5 The Licence Holder must ensure the construction compliance document:
(i) is certified by a suitably qualified professional engineer or builder that each item of infrastructure specified in Condition C2, Table 1 has been constructed in accordance with the Conditions of the Licence with no material defects; and
(ii) be signed by a person authorised to represent the Licence Holder and contain the printed name and position of that person within the company.

GENERAL CONDITIONS

WASTE ACCEPTANCE AND MANAGEMENT

G1(a) The Licence Holder must accept and bury only the following types of waste at the premises:

(i) clean fill;
(ii) liquid wastes (septage waste to septage ponds);
(iii) inert waste type 1;
(iv) inert waste type 2 *(*storage and transfer of used, rejected or unwanted tyres);
(v) putrescible wastes;
(vi) special waste type 1 (asbestos wastes);
(vii) special wastes type 2 (biomedical waste which is approved for supervised burial);

(viii) other wastes that comply with Class III criteria in the document entitled 'Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)'; and

(ix) accept only the following maximum volumes per annual period per category to the premises:

Category	**Production or design capacity as per schedule 1 of the EP Regulations 1987**	**Nominated throughput for the premises**
Category 13	More than 1,000 tonnes per year	20,000 tonnes per annual period
Category 61A	More than 1,000 tonnes per year	100,000 tonnes per annual period
Category 57	100 tyres or more per year	1,000 tyres
Category 61	100 tonnes or more per year	4,000 tonnes per annual period
Category 64	20 tonnes or more per year	100,000 tonnes per annual period
Category 67A	1,000 tonnes or more per year	20,000 tonnes per annual period

G1 (b) The Licence Holder must take the following measures when managing biomedical wastes (Special Waste Type 2) at the premises:

(i) the Licence Holder, or their representative, must complete and sign the original waste transport certificate noting, in writing, any discrepancies between waste declared and waste received;

(ii) keep a record of the waste transport certificate for at least three years;

(iii) immediately unload and cover the waste with a minimum depth of one metre of soil or solid waste;

(iv) define the disposal area(s) by grid references on the site plan;

(v) ensure the disposal areas are not excavated or uncovered during subsequent landfill operations;

(vi) restrict access to the landfill site where the waste is buried to authorised personnel only; and

(vii) make the information recorded in accordance with part (ii) of this condition available for viewing or copying by the CEO during any inspection of the premises.

G1(c) The Licence Holder must ensure that asbestos waste or material containing asbestos is deposited at the premises according to the following requirements:

(i) accept only asbestos waste or material containing asbestos which is sealed in double-lined or double bagged, heavy duty plastic sheeting of at least 0.2 millimetres thickness;

(ii) accept only wrapped or otherwise contained asbestos waste or material containing asbestos, which is labelled or marked with the words 'CAUTION – ASBESTOS' in letters not less than 50 millimetres high;

(iii) as soon as practicable and before compaction, cover the asbestos waste or material containing asbestos with a layer of soil at least 300 millimetres thick or with a layer of dense, inert and incombustible material at least 1 metre thick;

(iv) record as grid references on a premises plan all locations used for the disposal of asbestos waste or material containing asbestos and keep this plan as a permanent record;

(v) keep a permanent register of each load of asbestos waste or material containing asbestos deposited at the premises, including the date, the name of person that deposited the asbestos or material containing asbestos and the vehicle registration number;

(vi) witness the covering of the asbestos waste or material containing asbestos and sign the register referred to above within two hours of the covering taking place;

(vii) not deposit any asbestos waste or material containing asbestos within two metres of the final tipping surface of the landfill;

(viii) operate the landfill such that any existing asbestos waste or material containing asbestos deposited at the premises remains undisturbed; and

(ix) make all records available for viewing by an inspector upon request.

G1(d) The Licence Holder must only accept waste for temporary storage at the Premises if:

(i) it is of a type listed in Table 2;
(ii) the quantity accepted is at or below any quantity limit listed in Table 2;
(iii) it meets any specification listed in Table 2; and
(iv) in the case of contaminated solid waste is supported by documentation that demonstrates compliance with the acceptance criteria for Class III landfills.

Table 2: Waste acceptance and storage

Waste	Quantity Limit	Specification[1]
Liquid waste (paint)	75,000 tonnes combined per annual period	1. Limited to accepting waste paint for temporary storage and disposal off-site through an appropriate facility 2. Limited to accepting a maximum annual throughput of 35 tonnes with a maximum of 11 tonnes stored onsite at any given time. 3. All liquid waste to be contained within bunded

		containment and placed on a low permeability hardstand.
Contaminated solid waste		1. Limited to accepting waste hydrocarbons (used grease) hydrocarbon contaminated soils, hydrocarbon contaminated waste cake, oily rags, hydrocarbon contaminated plastics (excluding polyvinyl chloride products), used oil filters.
Hazardous waste		1. Limited to accepting hydrocarbons in the form of waste oil. 2. Contained within a self-bunded tank or tank placed on a bunded hardstand area. 3. For final disposal to off-site recycling facility only. 4. E-waste accepted for storage and recycling/ reuse.
Inert waste type 1		1. Scrap metal accepted for storage and recycling/ reuse.
Inert waste type 2	1,000 tyres	1. Maximum of 1,000 tyres to be stored at any given time, for reuse/ recycling.

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

G1(e) The Licence Holder must ensure that where waste does not meet the waste acceptance criteria set out in condition G1(d) it is removed from the Premises by the delivery vehicle or, where that is not possible, the Licence Holder shall contact the CEO to agree a course of action in relation to the waste.

G1(f) The Licence Holder must ensure that placement of waste within the landfill cells is undertaken using a 'bottom up' approach to ensure that the loading of the liner does not compromise liner integrity.

MANAGEMENT OF LANDFILL ACTIVITIES

G2 The Licence Holder must take the following measures when landfilling activities are conducted at the premises:

(i) dispose of waste on the premises at least 35 metres from the premises' boundary;

(ii) place waste within a defined trench or within an area enclosed by earthen or other bunds;

(iii) restrict the non-greenwaste tipping area to a maximum linear length of 30 metres;

(iv) cover waste with at least 230 mm of cover material at least daily or where continuous cover techniques are used, provide a final cover over the waste of at least 100mm every day;

(v) cover municipal waste within 24 hours of delivery;

(vi) stockpile sufficient cover material to allow waste to be covered in accordance with part (iv) of this condition and to cover waste in the event of a fire;

(vii) except where trenches are used, initially spread waste in layers not more than 500mm thickness prior to being compacted with a minimum of five passes with the waste compacting machine;

(viii) manage the active landfill area such that at no time does landfilling result in an exposed face exceeding two metres in vertical height; and

(ix) cover waste with a final soil cover of at least one metre;

(x) placement of waste within the landfill cells is undertaken using a 'bottom up' approach to ensure that the loading of the liner does not compromise liner integrity.

FENCING

G3(a) The Licence Holder must maintain a fence at least 1.8 m high around the whole of the perimeter of the premises, except where there is a lockable gate(s).

G3(b) The Licence Holder must ensure that any entrance to the premises is securely locked when the premises is unattended.

G3(c) The Licence Holder must ensure that weekly inspections of the fence and gates referred to in parts (a) and (b) of this condition are undertaken and that any damage to the fence and gate(s) are repaired within one working day of its discovery.

WIND-BLOWN WASTE

G4(a) The Licence Holder must ensure that wind-blown waste is contained within the boundaries of the active landfill area.

G4(b) The Licence Holder must ensure that any wind-blown waste is removed from the premises' fences and roads, and any wind-blown waste emanating from the premises is collected and removed on a weekly basis or more frequently when directed in writing by the CEO.

MONITORING AND REPORTING

G5 The Licence Holder must by **1 March in each year**, provide to the CEO an Annual Audit Compliance Report, signed and certified in the manner required, indicating the extent to which the Licence Holder has complied with the conditions of this licence, and any previous licence issued under Part V of the Act for the premises, during the period beginning 1 January the previous year and ending on 31 December for that same year.

G6(a) The Licence Holder must provide to the CEO a copy of the Annual Environmental Report containing the monitoring data required by any condition of this licence. The report must contain data collected from 1 January to 31 December and must be provided by **1 March each year** in a format approved by the CEO.

G6(b) The report must include, but not be limited to, an assessment of the data against any limits set in this licence or other environmental guidelines or policies and data from previous years' monitoring. It must identify any data exceeding those limits, guidelines or policies and provide information on why the exceedance occurred (if

known) and action taken by the Licence Holder to prevent recurrence of such exceedances.

G6(c) The Licence Holder must list any monitoring methods used to collect and analyse data required by any condition of this licence to demonstrate they comply with the methods specified in this licence.

G6(d) The Licence Holder must provide details of:

(i) measures taken to control pests and vermin;

(ii) number and severity of any fires on site;

(iii) measures taken to suppress dust;

(iv) measures taken to control windblown waste;

(iii) average compaction rates;

(iv) records detailing the number of tyres collected, stored, on-sold, and disposed at the premise; and

(vi) the number and type of complaints received including the nature of complaint (where appropriate cross referenced with prevailing wind directions) and action taken.

G6(e) The Annual Environmental Report must include any changes to site boundaries, internal buffer zones, asbestos and biomedical waste disposal areas, location of groundwater monitoring bores and surface drainage channels.

G6(f) The Annual Environmental Report must include any issues raised by DWER (e.g. arising from inspections) during the reporting period must be summarised together with details on how these have been addressed/rectified or, if the required work has yet to be completed, how and when they will be rectified/completed.

MANAGEMENT OF USED TYRES

G7(a) The Licence Holder must store no more than 1,000 used tyres on the premises at any one time.

G7(b) The Licence Holder must dispose of tyres at the premises in accordance with regulation 14 (2) of the *Environmental Protection Regulations 1987*.

G7(c) The Licence Holder must ensure that used tyres are stored in tyre windrows with at least three metres separating each windrow to allow access by fire-fighting equipment.

SIGNAGE

G8 The Licence Holder must maintain signage at the entrance to the premises which clearly displays the following:

(i) contact telephone number for information and complaints or notification of fires;

(ii) a list of materials that are accepted;

(iii) the types of waste that must not be deposited on the premises and a contact telephone number for alternative disposal options;

(iv) location of designated tyre stockpile area; and

(v) a warning, indicating penalties for people lighting fires.

AIR POLLUTION CONTROL CONDITIONS

DUST – GENERAL REQUIREMENT

A1 The Licence Holder must suppress dust from the open landfill face or trench, stockpiled areas and transport activities, to ensure that no visible dust crosses the boundary of the premises.

BURNING OF WASTE

A2(a) The Licence Holder must not burn or allow the burning of waste on the premises.

A2(b) The Licence Holder must extinguish any fire that may occur within the landfill site immediately on being notified of the fire.

A2(c) The Licence Holder must provide the CEO with a report on an unauthorised fire within 7 days of the fire and include:

(i) details of the date, time and location of the fire;

(ii) the time the fire was declared safe by the Fire Control Officer for the premises; and

(iii) the cause, or suspected cause, of the fire.

FIRE FIGHTING CAPABILITY

A3(a) The Licence Holder must ensure that appropriate fire-fighting equipment is stored on-site that is capable of controlling and/or abating a fire at the premises.

A3(b) The Licence Holder must ensure that a fire management strategy is implemented and updated as required.

A3(c) The Licence Holder must advise the CEO immediately in the event of a fire on the premises.

WATER POLLUTION CONTROL CONDITIONS

MANAGEMENT OF STORMWATER AND WASTEWATER

W1(a) The Licence Holder must direct uncontaminated stormwater run-off, such as water from roofs and site drainage, away from the filled and peripheral areas and associated sumps or drains into dedicated stormwater drains.

W1(b) The Licence Holder must ensure stormwater drains on the premises are kept clear of waste to allow for their effective use.

W1(c) The Licence Holder must ensure that any stormwater that has come into contact with waste and any other liquid waste that may result from fire-fighting is diverted into a sump on the premises or otherwise retained on the premises.

PROTECTION OF GROUND AND SURFACE WATERS

W2(a) The Licence Holder must maintain an undisturbed separation distance of at least 2 metres between the base of the current and future waste disposal areas and the highest level of the groundwater.

W2(b) The Licence Holder must maintain a minimum distance of at least 100 metres between the waste disposal site and any superficial water body.

GROUNDWATER BORES

W3 The Licence Holder must maintain groundwater monitoring bores 1 to 3, and MW01 to MW04, as depicted in Attachment 1 - Map of groundwater monitoring bore locations, to enable the monitoring procedures required by condition W4(a).

GROUNDWATER MONITORING

W4(a) The Licence Holder must take representative groundwater samples from the following monitoring sites and have them analysed for the following parameters:

Monitoring location	Sampling frequency	Parameters (mg/L[1])
Groundwater monitoring bores 1 to 3, and MW01 to MW04	Annual	Arsenic, ammonia-nitrogen, cadmium, copper, chloride, chromium, conductivity, lead, manganese, mercury, molybdenum, nickel, pH[2], selenium, total phosphorus, total nitrogen, total dissolved solids, zinc and standing water level (SWL[2])

Note 1: All parameters to be measured in mg/ L except for pH and SWL
Note 2: In-situ non-NATA accredited sampling permitted; SWL must be determined prior to collection of other water samples.

W4(b) With the exception of pH and conductivity, the Licence Holder must report all measurements in mg/L.

W4(c) The Licence Holder must collect all water samples in accordance with Australian Standard 5667.

W4(d) The Licence Holder must submit all water samples to a laboratory with current NATA accreditation for the analyses specified.

W4(e) The Licence Holder must ensure that the recorded results of the sampling and analysis referred to in parts W4(a), W4(c) and W4(d) of this condition are provided to the CEO in accordance with condition G6(a).

OPERATION OF THE SEPTAGE TREATMENT SYSTEM

W5 The Licence Holder must operate the septage treatment system in the following manner:

(i) maintain a minimum of 300mm freeboard in the treatment pond(s) so that overflow does not occur as a result of either wave action alone or wave action coupled with incident or inflowing stormwater;

(ii) all stormwater is diverted away from the lagoons to prevent erosion of lagoon embankments; and

(iii) there is no discernible leakage from the lagoons.

LIQUID CHEMICAL STORAGE

W6(a) The Licence Holder must store environmentally hazardous chemicals including, but not limited to, fuel, oil or other hydrocarbons (where the total volume of each substance stored on the premises exceeds 250 litres) within low permeability (10^{-9} metres per second or less) compound(s) designed to contain not less than 110% of the volume of the largest storage vessel or inter-connected system, and at least 25% of the total volume of substances stored in the compound.

W6(b) The compound(s) described in part (a) to this condition must:

(i) be graded or include a sump to allow recovery of liquid;

(ii) be chemically resistant to the substances stored;

(iii) include valves, pumps and meters associated with transfer operations wherever practical. Otherwise the equipment must be adequately protected (e.g. bollards) and contained in an area designed to permit recovery of chemicals released following accidents or vandalism;

(iv) be designed such that jetting from any storage vessel or fitting will be captured within the bunded area as per Australian Standard 1940-2004(as amended from time to time);

(v) be designed such that chemicals which may react dangerously if they come into contact, are in separate bunds in the same compound or in different compounds; and

(vi) be controlled such that the capacity of the bund is maintained at all times (e.g. regular inspection and pumping of trapped uncontaminated rain water).

W6(c) The Licence Holder must immediately remove and dispose of any liquid resulting from spills or leaks of chemicals including fuel, oil or other hydrocarbons, whether inside or outside the low permeability compound(s).

W6(d) The Licence Holder must keep a record of any incident that included the loss of chemicals including fuel, oil or other hydrocarbons and provide a summary of each incident in the annual report required in condition G6(a).

PROCESS MONITORING

P1 The Licence Holder must visually inspect all loads of C&D waste when they arrive at the Premises prior to unloading and during 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 Attachment 2 (Classified Load).

P2 Where the inspection of C&D waste confirms that material does contain asbestos or ACM, the Licence Holder must:

(i) reject the waste material for the purposes of acceptance for recycling or reuse;
(ii) maintain accurate records of all rejected loads on the Premises and the documentation must be made available to DER officers upon request; and
(iii) record the details of the material source, material carrier, registration number of the vehicle and date of rejection.

P3 The Licence Holder must maintain Classified Loads in a damp state.

P4 The Licence Holder must ensure that suspected "high risk" Classified Loads of C&D waste are isolated, kept damp and appropriately contained in accordance with DER Asbestos Guidelines.

P5 The Licence Holder must ensure that suspected "high risk" Classified Loads are managed in accordance with the high risk procedure as outlined in section 3.4 of the DER Asbestos Guidelines (Attachment 3).

P6 The Licence Holder must, as a minimum maintain records of all accepted load inspections and of any accepted loads which have been determined as "high risk" Classified Loads.

P7 The Licence Holder must continue to visually inspect material on the Premises at all stages of the storage, sorting and crushing process of C&D waste. Suspected asbestos identified at any stage of the process must be handled in accordance with Conditions P2-P6 of this Licence.

P8 The Licence Holder must maintain C&D waste on the Premises in at least three separate stockpiles areas for unprocessed material, processed material tested for ACM and:
(i) unprocessed material and processed material areas must be kept clearly separated at a minimum 3 m distance;
(ii) processed material tested for ACM and processed material awaiting testing for ACM must be clearly separated by a minimum 3 m distance or clearly delineated and separated with impermeable barriers; and
(iii) clearly visible and legible signage must be erected on individual stockpiles to clearly identify and delineate tested processed material, untested processed material and unprocessed material.

P9 The Licence Holder must ensure that testing of all finished products used in the construction of infrastructure on the Premises or supplied for re-use must be undertaken in accordance with the product testing procedures as outlined in section 4.3 of the DER Asbestos Guidelines (Attachment 3).

P10 The Licence Holder must ensure that finished products used in the construction of infrastructure on the Premises or supplied for re-use are only used or supplied to customers from stockpiles that have been sampled and tested in accordance with section 4.3 of the DER Asbestos Guidelines (Attachment 3) and shown to conform to the product specification of 0.001% asbestos weight for weight (w/w) for asbestos content (in any form) within any recycled products.

P11 The Licence Holder must retain all asbestos testing records.

P12 The Licence Holder shall ensure that the asbestos content of any recycled output originating from construction and demolition (C&D) waste does not exceed the contamination limits specified in Table 3.

Table 3: Recycled output contamination limits		
Output	**Parameter**	**Limit[1]**
Recycled drainage rock	Asbestos (in any form)	0.001% w/w
Recycled sand		
Recycled road base		

Note 1: DER Asbestos Guidelines

P13 The Licence Holder must only operate the crushing and screening plants as follows:
(i) Monday to Friday;
(ii) between the hours of 7am to 5pm;
(iii) by trained staff; and
(iv) only one mobile plant in operation at any given time.

P14 The Licence Holder must ensure all crushing and screening equipment operating on the Premises:
(i) incorporate dust screen fencing surrounding the equipment; and
(ii) are fitted with conveyor covers
to minimise dust emissions from the processing of any C&D waste.

P15 The Licence Holder must ensure that C&D waste will be handled, processed and stored within a designated area with a minimum separation distance of at least 10 m from all other waste types.

SOLID WASTE CONTROL CONDITIONS

DISPOSAL OF SLUDGE MATERIAL FROM SEPTAGE PONDS

S1(a) The Licence Holder must inform the CEO no less than 14 days prior to the desludging of any septage ponds at the premises.

S1(b) The Licence Holder must dispose of sludge from the septage ponds in accordance with the Western Australian Guidelines for Biosolids Management, December 2012.

MANAGEMENT OF BIOSOLIDS

S2 The Licence Holder must remove accumulated biosolids from the truck wash separator on a daily basis for incorporation into the green waste processing or disposal into the landfill cell.

CONDITIONS OF LICENCE
Environmental Protection Act 1986

LICENCE NUMBER: L9127/2018/1 **FILE NUMBER: DER2018/000553**

.....
Stephen Checker
MANAGER LICENSING (WASTE INDUSTRIES)

Officer delegated under Section 20
of the *Environmental Protection Act 1986*

Date of Issue: 1 June 2018

Expiry date: 31 May 2038

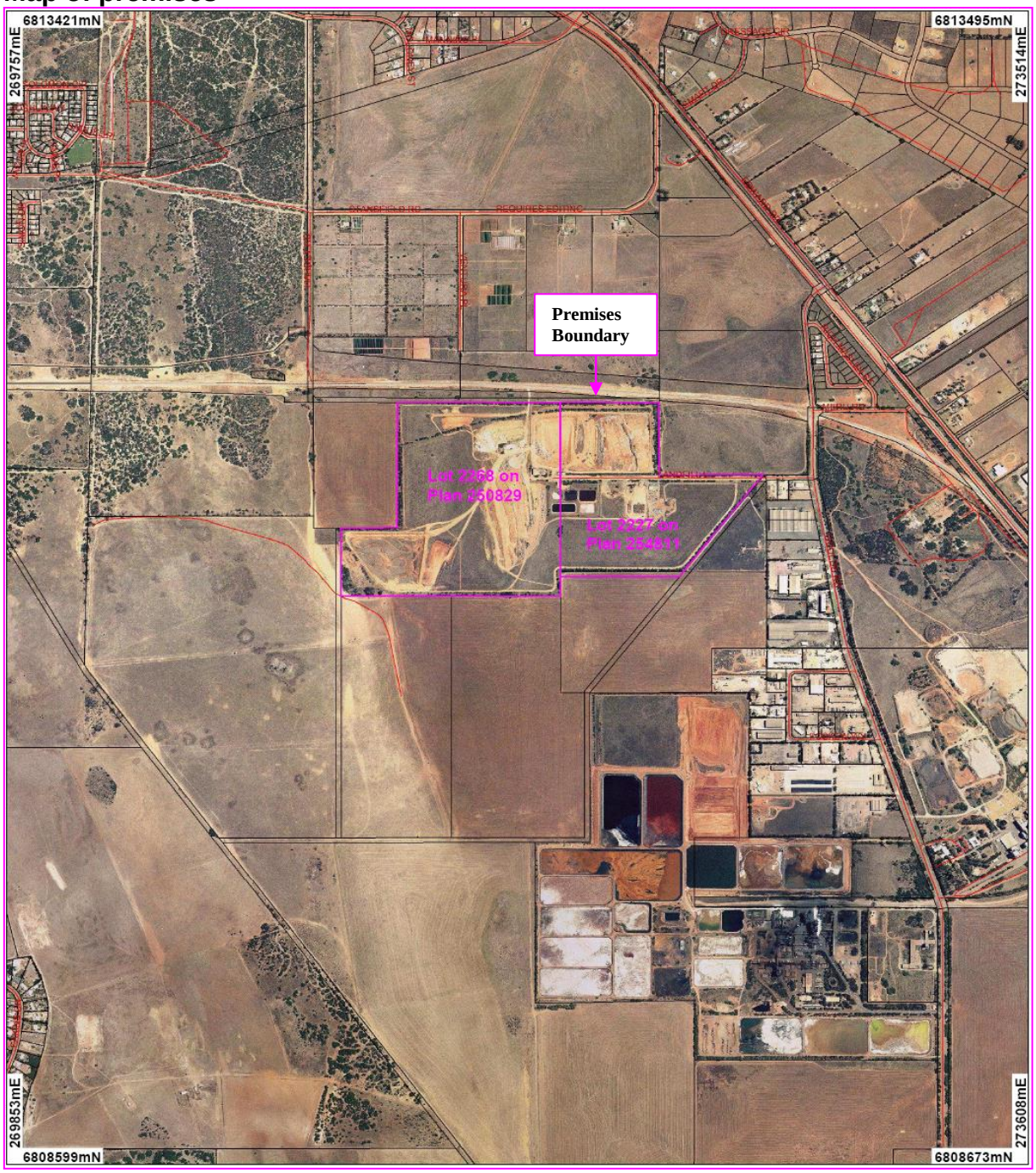
CONDITIONS OF LICENCE

Environmental Protection Act 1986

LICENCE NUMBER: L9127/2018/1 **FILE NUMBER: DER2018/000553**

ATTACHMENT 1

Map of premises

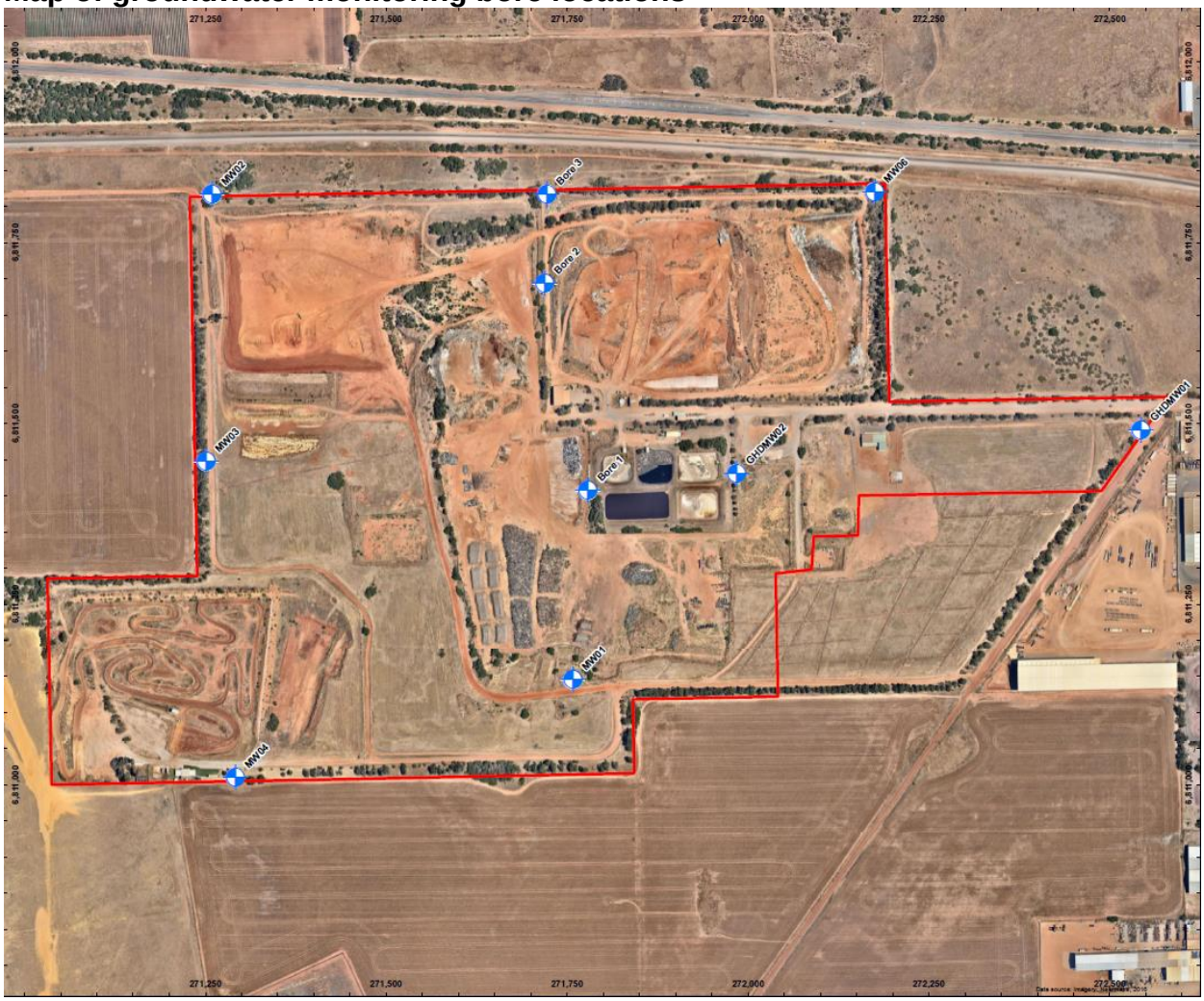


CONDITIONS OF LICENCE

Environmental Protection Act 1986

LICENCE NUMBER: L9127/2018/1 **FILE NUMBER: DER2018/000553**

Map of groundwater monitoring bore locations



CONDITIONS OF LICENCE

Environmental Protection Act 1986

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Map of paint receival, stockpile/ storage area

CONDITIONS OF LICENCE

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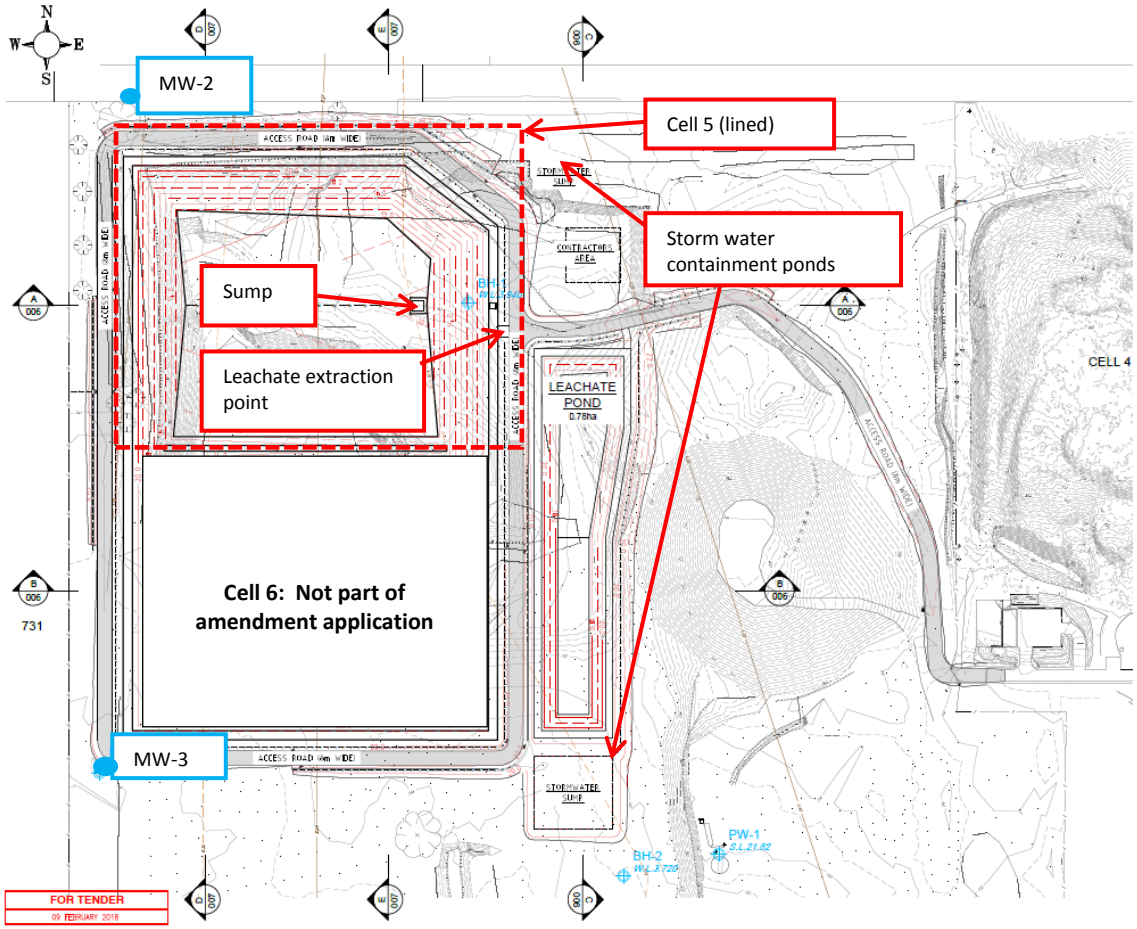

CONDITIONS OF LICENCE
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ATTACHMENT 2: Section 3.4 of DER Asbestos Guidelines (page 11 - 12)

- 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 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 (eg 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*)

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

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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.

CONDITIONS OF LICENCE
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ATTACHMENT 3: Section 4.3 of DER Asbestos Guidelines (page 15 – 20)

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 whilst the facility is operational to ensure that 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 located 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 that 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 and any associated analysis be undertaken by a laboratory accredited by NATA for this purpose.

4.3 Product testing and supply

To ensure that 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 20-27mm;

2. Recycled sand, screened to <10mm; and
3. Recycled road-base, <19mm.

The testing must be documented as outlined under Section 5.3.

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% asbestos weight for weight (w/w).

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 (>7mm) and AF (<7mm) 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 the 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 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 1000m^3 of product.

Conveyor sampling
Sampling of road base and screened sand products must occur at a minimum rate of 1 sample per 70m^3 of a product output. Suspect asbestos material or areas must be targeted for sampling.

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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 (>7mm and <7mm) in the field by sieving though a 7mm screen or spread out for inspection on a contrasting colour fabric. The >7mm fraction should be examined for any suspect asbestos material and this be retained to calculate the level of contamination.

The <7mm 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.

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, DEC may authorise a reduced product testing rate including down to 5 locations per 4000 tonnes (1 sample per 600m^3) of product.

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

1. Activities at the premises have been validated through a DEC inspection or audit to comply with these guidelines;
2. DEC has confirmed through an inspection or audit that the conditions of the Part V licence are being met;
3. DEC has not undertaken any enforcement action in relation to the activities at the premises in the last 6 months;
4. Product testing has demonstrated that the product specification has been consistently achieved at the premises for a continuous 6 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 last 6 months and the different sources/types of material processed at the premises; and
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 DEC 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.

DEC 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 DEC. This

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may occur for example where the site is close to sensitive receptors, 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, DEC 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. DEC'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.

DEC will withdraw the approval to implement a reduced sampling frequency where the reduced sampling criteria are not being met on an on-going basis. Where DEC 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 DEC, proponents will be required to make a new reduced sampling frequency request and demonstrate that they have:

1. Implemented appropriate measures to prevent a re-occurrence of the non-compliance that caused the previous agreement for a reduced sampling frequency to be withdrawn; and that
2. The product specification (sampled at the 40 samples per 4000 tonnes rate) has been consistently met for a 6 month period following the implementation of the measures identified in 1. above.

Sample Analysis Method

>7mm 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.* As detailed in the DoH Guidelines, averaging asbestos levels across the stockpile is not appropriate and asbestos levels within each sample should be reported.

<7mm sample fractions

Each <7mm 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* (AS4964–2004) or be demonstrated to be able to achieve the equivalent level of results to this Australian Standard.

AS4964-2004 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 (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 used, however DEC 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 500mL 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; and
   - Measuring the width and length (ie 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 DEC.

Whatever analysis methods are adopted by an operator, DEC 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 AS4964-2004 allows for a nil detection if the asbestos is less than a certain concentration and is non-respirable however DEC would consider a positive result to exceed the 0.001% w/w limit;
- Description of any asbestos detected; and
- Estimate of the concentration of asbestos detected if practical to do so.

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 eg 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 $10m^2$ 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 >7mm sieve sampling in regard to the recycled sand material and roadbase. In this case a $1cm^3$ fragment of ACM or FA would be deemed to exceed the specification for a 10L 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.

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.

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CONDITIONS OF LICENCE
Environmental Protection Act 1986

LICENCE NUMBER: L9127/2018/1 **FILE NUMBER: DER2018/000553**

ATTACHMENT 4: Summary of standards applied to the constriction of Cell 5 and associated works

Standard	Description
Australian Standards	
AS 1289.0	Methods of testing soils for engineering purposes
AS 1289.6.1.1	Methods of testing soils for engineering purposes — Soils strength and consolidation tests — Determination of the California Bearing Ratio of a soil
AS 2001.2.3.1	Methods of test for textiles - Physical tests – Determination of maximum force and elongation at maximum force using the strip method
AS 2033	Installation of Polyethylene Pipe Systems
AS 3500	National Plumbing and Drainage Code (As amended 2010)
AS 3705	Geotextiles - Identification, marking and general data
AS 3706.1	Geotextiles - Methods of Test
AS 3706.3	Geotextiles - Methods of test - Determination of tearing strength - Trapezoidal method
AS 3706.4	Geotextiles - Methods of test - Determination of burst strength - California bearing ratio (CBR) - Plunger Method
AS 3706.9	Geotextiles - Methods of test - Determination of permittivity, permeability and flow rate
AS 3706.11	Geotextiles - Methods of test - Determination of durability - Resistance to degradation by light, heat and moisture
AS 3798	Guidelines on earthworks for commercial and residential developments

CONDITIONS OF LICENCE
Environmental Protection Act 1986

LICENCE NUMBER: L9127/2018/1 **FILE NUMBER: DER2018/000553**

ASTM International Standards	
ASTM D1505	Standard Test Method for Density of Plastics by the Density Gradient Technique
ASTM D4218	Standard Test Method for Determination of Carbon Black Content in Polyethylene Compounds By the Muffle Furnace Technique
ASTM D4355	Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus
ASTM D5261	Standard Test Method for Measuring Mass per Unit Area of Geotextiles
Standard	**Description**
ASTM D5321	Standard Test Method for Determining the Coefficient of Soil and Geosynthetic or Geosynthetic and Geosynthetic Friction by the Direct Shear Method
ASTM D792	Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
ASTM D1505	Standard Test Method for Density of Plastics by the Density-Gradient Technique
ASTM D1603	Standard Test Method for Carbon Black Content in Olefin Plastics
ASTM D3895	Standard Test Method for Oxidative-Induction Time of Polyolefins by Differential Scanning Calorimetry
ASTM D4833	Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products
ASTM D5199	Standard Test Method for Measuring the Nominal Thickness of Geosynthetics
ASTM D5397	Standard Test Method for Evaluation of Stress Crack Resistance of Polyolefin Geomembranes Using Notched Constant Tensile Load Test
ASTM D5641	Standard Practice for Geomembrane Seam Evaluation by Vacuum Chamber

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ASTM D5721	Standard Practice for Air-Oven Aging of Polyolefin Geomembranes
ASTM D5820	Standard Practice for Pressurised Air Channel Evaluation of Dual Seamed Geomembranes
ASTM D5885	Standard Test Method for Oxidative Induction Time of Polyolefin Geosynthetics by High-Pressure Differential Scanning Calorimetry
ASTM D5887	Test Method for Measurement of Index Flux Through Saturated Geosynthetic Clay Liner Specimens using a Flexible Wall Permeameter.
ASTM D5890	Test Method for Swell Index of Clay Mineral Component of Geosynthetic Clay Liners
ASTM D5993	Test Method for Measuring the Mass per Unit of Geosynthetic Clay Liners
ASTM D5994	Standard Test Method for Measuring Core Thickness of Textured Geomembrane
ASTM D6243	Standard Test Method for Determining the Internal and Interface Shear Resistance of Geosynthetic Clay Liner by the Direct Shear Method
Standard	**Description**
ASTM D6365	Standard Practice for the Non-destructive Testing of Geomembrane Seams using the Spark Test
ASTM D6392	Standard Test Method for Determining the Integrity of Non-reinforced Geomembrane Seams Produced Using Thermo-Fusion Methods
ASTM D6496	Test Method for Determining Average Bonding Peel Strength between the Top and Bottom Layers of Needle-Punched Geosynthetic Clay Liners
ASTM D6693	Standard Test Method for Determining Tensile Properties of Non-reinforced Polyethylene and Non-reinforced Flexible Polypropylene Geomembranes
ASTM D6768	Standard Test Method for Tensile Strength of Geosynthetic Clay Liners
ISO Standards	

CONDITIONS OF LICENCE
Environmental Protection Act 1986

LICENCE NUMBER: L9127/2018/1 **FILE NUMBER: DER2018/000553**

ISO 11414	Plastics pipes and fittings -- Preparation of polyethylene (PE) pipe/pipe or pipe/fitting test piece assemblies by butt fusion
Geosynthetic Research Institute Standards	
GRI-GCL3	Test Methods, Required Properties, and Testing Frequencies of Geosynthetic Clay Liners (GCLs)
GRI-GT12a	Test Methods and Properties for Nonwoven Geotextiles Used as Protection (or Cushioning) Materials
GRI-GM10	The Stress Crack Resistance of HDPE Geomembrane Sheet
GRI-GM13	Test Methods, Test Properties and Testing Frequency for High Density Polyethylene (HDPE) Smooth and Textured Geomembranes
GRI-GM19	Seam Strength and Related Properties of Thermally Bonded Polyolefin Geomembranes