Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L7344/1998/10
Licence holder	Vancouver Waste Services Pty Ltd
ACN	135 344 357
Registered business address	128 Albany Highway ALBANY WA 6330
DWER file number	DER2016/002256-1
Duration	17/01/2012 to 16/01/2027
Date of issue	22/12/2011
Date of amendment	08/02/2024
Premises details	Mindijup Road Multiple Use Facility Mindijup Road PALMDALE WA 6328 Legal description - Part of Lot 3 on Diagram 61867 and part of Lot 102 on Plan 22860 As defined by the coordinates in Schedule 2

Prescribed premises category description (Schedule 1, ***Environmental Protection Regulations 1987***)	**Assessed production / design capacity**
Category 12: Screening etc. of material: premises (other than within category 5 or 8) on which material extracted from the ground is screened, washed, crushed, ground, milled or sized or separated.	400,000 tonnes per annual period
Category 62: Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use.	17,000 tonnes per annual period
Category 63: Class I inert landfill site: premises (other than clean fill premises) on which waste of a type permitted for disposal for this category of prescribed premises, in accordance with the *Landfill Waste Classification and Waste Definitions 1996*, is accepted for burial.	5,500 tonnes per annual period
Category 64: Class II or III putrescible landfill site: premises (other than clean fill premises) on which waste of a type permitted for disposal for this category of prescribed premises, in accordance with the *Landfill Waste Classification and Waste*	50,000 tonnes per annual period

Definitions 1996, is accepted for burial.	
Category 67A: Compost manufacturing and soil blending: premises on which organic material (excluding silage) or waste is stored pending processing, mixing, drying or composting to produce commercial quantities of compost or blended soils.	20,000 tonnes per annual period

This licence is granted to the licence holder, subject to the attached conditions, on 8 February 2024, by:

Abbie Crawford

Digitally signed by Abbie Crawford
Date: 2024.02.08 12:31:19 +08'00'

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

Licence history

Date	Reference number	Summary of changes
03/11/2003	L7344/1998/5	Licence renewed (1 year).
17/05/2004	L7344/1998/6	Licence renewed (1 year).
12/01/2005	L7344/1998/7	Licence renewed (5 years).
07/04/2008	L7344/1998/7	Administrative Licence amendment to ensure licence dates run for a year period.
24/12/2009	L7344/1998/8	Licence renewed (1 year).
06/01/2011	W4797/2010/1	Works approval for construction of a composting facility.
13/01/2011	L7344/1998/9	Licence renewed (1 year).
07/07/2011	L7344/1998/9	Licence amendment to authorise operation of composting facility constructed under W4797.
22/12/2011	L7344/1998/10	Licence renewed (5 years).
12/01/2012	W5082/2011/1	Works approval for asbestos disposal pit.
15/03/2012	L7344/2011/10	Licence amendment for composting biosolids (trial only).
01/05/2014	W5573/2013/1	Works approval for grinding of green waste and storage and disposal of C&D wastes.
30/10/2014	L7344/2011/10	Licence amendment, including conversion to new format and authorise grinding of green waste and storage/disposal of C&D wastes.
29/10/2015	L7344/2011/10	Licence amendment for a one-off green waste burn, and a one-year char production trial.
18/01/2016	L7344/2011/10	Licence amendment for reducing composting limit and green waste burning provisions removed.
14/07/2016	L7344/2011/10	Amendment Notice 1 – new cell for inert waste disposal.
05/09/2017	L7344/2011/10	Amendment Notice 2 – inclusion of category 12 for screening of silica sand
12/08/2020	L7344/1998/10	Licence amendment for the construction of landfill Cells 1 and 2 and the leachate pond.
08/11/2020	L7344/1998/10	Licence amendment to include receival, composting

Date	Reference number	Summary of changes
		and storage of 400 tonnes per annual period of FOGO waste.
01/07/2021	L7344/1998/10	Licence amendment to increase the receival, composting and storage of FOGO waste to 4,800 tonnes per annum with the addition of 3,950 tonnes per annum of biosolids into this process.
08/02/2024	L7344/1998/10	Licence amendment to increase the receival, composting and storage of FOGO waste to 10,000 tonnes per annum and add 1,000 tonnes per annum of composted manure as an accepted feedstock. Category 37: Char manufacturing removed from licence.

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:

1. The licence holder shall:

(a) implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the premises.
(b) treat contaminated or potentially contaminated stormwater as necessary prior to being discharged from the premises.[1]

Note 1: *The Environmental Protection (Unauthorised Discharges) Regulations 2004* make it an offence to discharge certain materials into the environment.

2. The licence holder shall maintain permanent markers along the boundary of the premises so it can be identified on the ground.

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

(a) it is of a type listed in Table 1.
(b) the quantity accepted is below any quantity limit listed in Table 1.
(c) it meets any specification listed in Table 1.

Table 1: Waste acceptance

Waste type	Waste code	Quantity limit tonnes/annual period	Specification[1]
Clean fill	Not applicable	Combined total of up to 5,000 tonnes per annual period for wastes accepted under category 63	(i) Must meet contaminant threshold for Class I landfill in accordance with Landfill Definitions; and (ii) Waste containing visible asbestos or ACM must not be accepted.
Inert waste type 1	Not applicable		
Inert waste type 2	R100 (used tyres)	500 tonnes per annual period for waste accepted under category 63	(iii) Tyres only; and (iv) Tyres that are burnt (or appear to be burnt) are not to be accepted onto the premises.
Green waste Straw	Not applicable	Combined total of up to 20,000 tonnes per annual period for wastes accepted under category 67A	(v) Only received in solid form; and (vi) Treated timber must not be accepted.
Composted manure		A maximum of 1,000 tonnes per annual period of manure waste accepted under category 67A	(vii) Limited to animal manure and mixtures of animal manure; and (viii) Limited to manure which has already undergone and completed pasteurisation off-site prior to acceptance.
Food organic and garden		A maximum of 10,000 tonnes per annual period	(ix) Sourced from kerbside municipal collections of designated FOGO

Waste type	Waste code	Quantity limit tonnes/annual period	Specification[1]
organics (FOGO) waste		of FOGO wastes accepted under category 67A	bins; (x) Waste to contain no more than 10% non-organic content prior to acceptance; (xi) Waste must only be accepted from vehicles or vessels that are covered, sealed and leakproof; and (xii) Only accepted for the purposes of composting.
Biosolids		A maximum of 3,950 tonnes per annual period of biosolids accepted under category 67A	(xiii) Sourced from Water Corporation Wastewater Treatment Plants; (xiv) Must only be accepted in solid form; (xv) Waste must only be accepted from vehicles or vessels that are covered, sealed and leakproof; and (xvi) Only accepted for the purposes of composting

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

4. Where waste does not meet the waste acceptance criteria set out in condition 3, the licence holder must:

(a) Reject the waste;

(b) Record the details of the:

(i) Waste (type and description);

(ii) Source of the waste load;

(iii) Name of the waste carrier;

(iv) Registration number of delivery vehicle;

(v) Date that the waste load was rejected;

(c) Maintain accurate and auditable records of all waste loads rejected from the premises; and

(d) Remove the waste from the premises by the delivery vehicle or, where that is not possible, store in a quarantined storage area or container and remove to an appropriately authorised facility within 24 hours of receival.

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

Table 2: Processing of materials

Waste type	Process(es)	Process limits or requirements[1,2]
Clean fill Inert waste type 1 Inert waste type 2	Receipt, handling, storage and disposal of waste by landfilling	(a) Disposal of waste by landfilling shall only take place within the active landfill area shown on the Landfill Area Map in Schedule 1: Maps; (b) All inert waste type 2 awaiting burial is stored within the inert landfill site; (c) No more than 300 tyres are to be left uncovered in the pit awaiting final cover; and (d) The finished levels of the approved landfill areas shown on the premises map in Schedule 1 shall not exceed the elevation of natural ground surrounding the pits.
All feedstocks accepted and processed under category 67A	As specified in this table	All feedstocks must be: (e) Processed into a recycled organic product; or (f) Managed as a waste.
Green waste Straw	Treatment by composting and pasteurisation	(g) Composting to be undertaken on the composting hardstand area only; (h) Windrows shall be turned regularly to ensure aerobic conditions are maintained; (i) The core temperature of the composting pile is maintained between 55 ºC and 65 ºC for a period of at least three days; and (j) Composting leachate is collected in the retention pond and either evaporated or returned to the compost feedstock mixing stage prior to the formation of the composting windrows.
Green waste	Grinding	(k) Moisture levels are maintained to minimise dust emissions during green waste grinding; and (l) Grinding of green waste shall only occur within the hours of 7:30am and 5:30pm and shall not occur on Sundays or public holidays.
Green waste	Disposal by open burning	(m) Open burning of green waste must only be undertaken in accordance with the green waste burning management documents; and (n) Burning is undertaken in a manner that minimises smoke emissions.
FOGO and biosolids waste	Treatment by composting and pasteurisation	(o) FOGO and biosolids waste to be received and processed on the composting hardstand (as depicted in Schedule 1) only. (p) FOGO and biosolids feedstocks to be mixed and incorporated into composting windrows on the same day they are received. (q) Composting leachate is to be collected in the retention pond and either: (i) evaporated. (ii) returned to the FOGO and/or biosolids waste stockpile. (iii) utilised during the FOGO and biosolids compost feedstock mixing stage prior to the formation of composting windrows.

Waste type	Process(es)	Process limits or requirements[1,2]
		(r) Windrows are to be no more than 5 metres high, 10 metres wide and 50 metres long. (s) Windrows are to be separated by at least 4 metres of clear ground and windrows are separated from other combustible materials by at least 5 metres of clear ground. (t) Windrows to be formed in accordance with Figure 3. (u) The core of the mass must be maintained at 55ºC or higher for 15 days or longer, during which time the windrow is turned a minimum of five times, turning outer material to the inside of the windrow mass so the whole mass is subjected to the required temperature and process. (v) Windrows shall be turned regularly to ensure aerobic conditions are maintained. (w) Windrows shall be stored on the composting hardstand with the most mature windrow furthest from the leachate pond. (x) The licence holder must ensure that recycled organic products and feedstocks are separated so that cross-contamination between these materials, including from leachate or stormwater is prevented. (y) Temperature monitoring on composting windrows to be conducted at: (i) a depth representative of the core temperature that is at least 0.6m into the windrow; (ii) at half-height of the windrow; (iii) at every 10m along the windrow; and (iv) at ¼, ½, ¾, of the length of the windrow before scheduled turning to verify a temperature of 55°C or above. (z) Temperatures within windrows must be maintained below 75°C. (aa) Moisture levels of compost to be maintained at 40-60% during the composting process. (bb) Any residual physical contaminants removed from the FOGO waste or compost material are to be separated and removed to an authorised waste facility within 24 hours of being screened out of the FOGO waste or compost material.
Composted manure	Acceptance, handling and storage Composting and pasteurisation	(cc) Soil blending to be undertaken on the composting hardstand area only; and (dd) Must be stored on the composting hardstand.

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*.

Leachate reuse

6. The licence holder must ensure that stormwater and leachate stored in the infrastructure listed in Table 3 is only reused in accordance with the corresponding requirements as set out in Table 3.

Table 3: Leachate reuse requirements

Infrastructure	Requirements
Retention Pond	Leachate must only be applied to: (a) Feedstock stockpiles stored on the composting hardstand before composting; or (b) Windrows on the composting hardstand before the start of the pasteurisation phase; or (c) Windrows that have completed, or begun, pasteurisation where the retention pond water meets the upper contaminant limits specified in Table 4 when tested in accordance with Condition 7.

7. The licence holder must monitor the water in the Retention Pond for concentrations of the identified parameters in accordance with Table 4.

Table 4: Retention Pond water monitoring

Contaminant type	Parameter	Unit	Frequency	Method	Upper limits for leachate pond water	Additional upper limits for leachate pond water upon acceptance of biosolids or sewage sludge (P1C1 grade)
Biological contaminants	*Salmonella* spp.	Detected / Not detected	Monthly	Spot sample, in accordance with AS/NZS 5667.1:1998 and AS/NZS 5667.10:1998	Not detectable	
	Faecal coliforms	MPN or CFU / 100 mL			1 MPN or CFU / 100 mL	
	E. coli	MPN or CFU / 100 mL				1 MPN or CFU / 100 mL
	Somatic Coliphages	PFU / 100 mL				1 PFU / 100 mL

Recycled organic product quality

8. All waste feedstock undergoing a composting process must be processed to achieve pasteurisation as defined in AS 4454.

9. All recycled organic products containing biosolids must be processed to comply with the requirements for pathogen regrowth potential for P1C1 grade product as defined in the Biosolids Guidelines.

10. All recycled organic products must not exceed the maximum chemical, physical and biological contaminant concentrations set out in Table 5. Any recycled organic products that exceed any upper contaminant limits in Table 4 must either be:

(a) Reprocessed in a manner that will treat or remove the non-conforming contaminants to concentrations that comply with the upper contaminant limits in Table 5, with reprocessing starting within 30 days of confirmation of the non-conformance; or

(b) removed from the premises for disposal to an appropriately authorised facility within 30 days of confirmation of the non-conformance.

11. Recycled organic products must remain on the premises until monitoring results required by condition 48 are received to verify that condition 10 is satisfied.

Table 5: Maximum chemical, physical and biological contaminants for recycled organic products

Contaminant type	Parameter	Upper limits for all compost products	Additional upper limits for compost products containing biosolids or sewage sludge (P1C1 grade)
Chemical contaminants	Arsenic	20 mg/kg	
	Cadmium	1 mg/kg	
	Boron	100 mg/kg	
	Chromium (total)	100 mg/kg	
	Chromium (VI)		1 mg/kg
	Copper	100 mg/kg	
	Lead	150 mg/kg	
	Mercury	1 mg/kg	
	Nickel	60 mg/kg	
	Selenium	5 mg/kg	3 mg/kg
	Zinc	200 mg/kg	
	DDT/DDD/DDE	0.5 mg/kg	
	Aldrin	0.02 mg/kg	
	Dieldrin	0.02 mg/kg	
	Chlordane	0.02 mg/kg	
	Heptachlor	0.02 mg/kg	
	HCB	0.02 mg/kg	
	Lindane	0.02 mg/kg	
	BHC	0.02 mg/kg	
	PCBs	Not detectable (detection limit of 0.2 mg/kg)	
Physical contaminants	Glass, metal and rigid plastics (>2 mm)	0.5 % dry matter w/w	
	Plastics – light, flexible or film, including	0.05 % dry matter w/w	

Contaminant type	Parameter	Upper limits for all compost products	Additional upper limits for compost products containing biosolids or sewage sludge (P1C1 grade)
	biodegradable and compostable types (>5 mm)		
Biological contaminants	*Salmonella* spp.	Absent in 50 g (dry weight)	
	Faecal coliforms	1000 MPN or CFU / g (dry weight)	
	E. coli		100 MPN or CFU / g (dry weight)
	Somatic Coliphages		10 PFU / 10 g (dry weight)
	Viable plant propagules	Nil germination after 21 days	

12. The licence holder shall ensure that cover is applied and maintained on landfilled wastes in accordance with Table 6 and that sufficient stockpiles of cover are maintained on site at all times.

Table 6: Cover requirements[1]

Waste Type	Material	Depth	Timescales
Clean fill and Inert waste type 1	No cover required		
Inert waste type 2 (tyres)	Clean fill	1000mm	By the end of the working day in which the waste was deposited.

Note 1: Additional requirements for the covering of tyres are set out in Part 6 of the *Environmental Protection Regulations 1987.*

13. The licence holder shall ensure that waste is stored and/or contained only within infrastructure in accordance with Table 7 and that the integrity of the containment infrastructure is maintained.

Table 7: Containment infrastructure

Containment area/infrastructure	Material	Infrastructure requirements
Composting hardstand area	Composting feedstock (Green waste, straw, FOGO, manure, biosolids waste and recycled organic products)	(a) Bunded hardstand area. (b) Lined to achieve a permeability of less than 1 x10^{-9} m/s or equivalent. (c) Must be maintained free of defects. (d) Must be graded to prevent pooling of stormwater and leachate and drain towards the retention pond.
Retention pond	Contaminated stormwater and leachate	(e) Lined to achieve a permeability of less than 1 x10^{-9} m/s or equivalent.

		(f) A minimum top of embankment freeboard of 1000 mm is maintained. (g) Capacity to store a 72-hour duration, 1 in 10 year ARI critical rainfall event without overflow.
Holding and settlement dam	Washwater and slimes from the washplant	(h) Lined to achieve a permeability of less than 1 x 10^{-5}m/s or equivalent. (i) Dam must have a capacity of 21,000 kL. (j) Liner must be constructed with compacted local clay.

14. The licence holder shall:

(a) not burn or allow the burning of any waste on the premises except green waste under condition 5.
(b) have ready access to earthmoving equipment and soil cover at all times, which can be used to extinguish fires at the premises.
(c) The licence holder shall ensure a water truck as specified in Table 9 is available at all times to extinguish a fire at any part of the premises.
(d) take immediate measures to extinguish any unauthorised fires at the premises.

15. The licence holder shall ensure windblown waste is removed from fences, access roads and any other affected areas on a weekly basis.

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

(a) maintain suitable fencing to prevent unauthorised access to the site.
(b) ensure that any entrance gates to the premises are securely locked when the premises are unattended.
(c) undertake regular inspections of all security measures and repair damage as soon as practicable.

17. The licence holder shall ensure that the site supervisor contact number and after-hours fire emergency contact numbers are clearly displayed at the main gate at all times.

18. The licence holder shall provide a site supervisor contact telephone number and email address to all residential receptors within 800 metres of the composting hardstand (as shown in Schedule 1: Maps; Figure 1) for the purposes of reporting complaints.

19. The licence holder must ensure that all operations are undertaken and managed in accordance with the documents, or parts of documents, specified in Table 8.

Table 8: Management Plans

Management Plan Reference	Parts	Date of Document
Vancouver Waste Services Fire Management Plan Mindijup Multiple Use Facility	All	Received 15 July 2015

20. The licence holder shall ensure that the infrastructure and equipment in Table 9 is maintained and operated in accordance with the infrastructure requirements of Table 9.

Table 9: Infrastructure and Equipment

Infrastructure	Infrastructure requirements
Sand Plant Screen	The washer and screener must be fitted with a reticulated water injector to ensure sand moisture is retained during screening to limit dust production.
Water truck	Make available at the premises a water truck with: • A minimum 14,000 litre capacity. • a pump fitted to allow adequate pressurised release of water for undertaking dust suppression and fighting fires across the site where required.
Fire extinguishers	Portable fire extinguishers to be provided in all vehicles, mobile plant and equipment on the premises.
Washing and screening infrastructure	Must be located at the location identified in Schedule 1: Maps.
Holding and settlement dam	Must be located at the location identified in Schedule 1: Maps.
Stockpile	The stockpile of processed sand at the premises must not exceed 6000 tonnes at any one time.

Surface water controls

21. Prior to commencing construction of the works, the licence holder must construct:

(a) upstream surface water cut-off drains.

(b) erosion and sedimentation controls.

in accordance with the drawings 'Sediment and Erosion Control Layout Plan', 'Sediment and Erosion Control Details Plan' and 'Roadworks and Drainage Layout Plan' in Schedule 4: Design drawings of this licence.

Construction works

22. The licence holder must, for Putrescible Landfill Cells 1 & 2 and the Leachate Pond:

(a) construct, install and undertake the Works for the infrastructure specified in Table 10.

(b) in a manner that meets or exceeds the requirements specified in Table 10.

23. The licence holder must not depart from the requirements specified in Table 10 except:

(a) where such departure is minor in nature and does not materially change or affect the infrastructure.

(b) where such departure improves the functionality of the infrastructure and does not increase risks to public health, public amenity or the environment.

(c) all other conditions in this licence are still satisfied.

Table 10: Infrastructure and Requirements

Infrastructure	Requirements (design and construction)	Site plan/s reference (Schedule 4)
Cells 1 and 2		
Base liner and subgrade	The licence holder must design, excavate and construct the Cell 1 & 2 base liner and subgrade to achieve the following: (i) Base of leachate sump must be at least 2 m above the highest seasonal water table. (ii) Grades must meet specifications as depicted in the Design Drawings in Schedule 4. (iii) Must be proof rolled with at least 12 tonne roller, using at least six passes over the entire prepared surface. (iv) Unsuitable material must be removed[1]. (v) Must be free from sharp objects, stones, debris and water. (vi) Excavations and low points must be filled to design levels with material meeting the following parameters on placement: (a) moisture content on placement between 3% dry and 2% wet of optimum moisture content under standard compaction. (b) minimum standard compaction of 98%. (vii) Compacted subgrade must meet a permeability coefficient of ≤ 1 x 10^{-9} m/s. (viii) Must meet 'minimum values' specified in Table 12.	• Landfill Cells Earthworks Layout Plan • Landfill Liner Details Plan
External batters	External batters must be designed and constructed to meet the following: (i) Must be sloped at maximum 1:5 gradient. (ii) Fill must be keyed back in the natural ground material by at least 1.0 m. (iii) Width of the working platform must be at least 4.0 m up the entire batter slope.	• Landfill Cells Earthworks Layout Plan • Cell 1 – Top of Waste Surface Plan • Cell 2 – Top of Waste Surface Plan • Landfill Liner Details Plan
Internal batters	Internal batters must be designed and constructed to meet a maximum 1:3 gradient.	• Landfill Cells Earthworks Layout Plan

Infrastructure	Requirements (design and construction)	Site plan/s reference (Schedule 4)
		• Cell 1 – Top of Waste Surface Plan • Cell 2 – Top of Waste Surface Plan • Landfill Liner Details Plan
GCL	The Cell 1 and Cell 2 GCL must be designed and constructed to meet the following specifications: (i) No placement with folds or wrinkles in the overlap zone. (ii) Reinforced (needle-punched) comprised of two layers of non-woven geotextiles encompassing a layer of dry sodium bentonite clay. (iii) Designed and constructed to be free of any needles, whole or broken. (iv) Must maintain hydration in accordance with manufacturer's specifications prior to installation. (v) Panels must overlap a minimum of 300 mm on the sides and 500 mm on the ends. (vi) Panel overlaps must be sealed with bentonite paste or power/granules. (vii) Material properties meeting minimum values' as defined in Table 12.	• Landfill Liner Details Plan
HDPE	The Cell 1 and Cell 2 HDPE membrane must be designed and constructed to meet the following specifications: (i) Overlying and in contact with the subgrade. (ii) Manufacturer specified thickness of at least 2.0 mm. (iii) Must be textured on one side and installed with the textured surface in contact with the subgrade. (iv) Material properties must meet 'minimum values' specified in Table 13.	• Landfill Liner Details Plan
Cushion geotextile layer	The Cell 1 and Cell 2 protection geotextile must be designed and constructed to meet the following specifications: (i) Non-woven needle punched continuous filament polyester, polyethylene, polyamide or polypropylene fabric. (ii) Overlying and in contact with the HDPE geomembrane. (iii) Geotextile panel overlap must be a minimum of 300 mm on the sites and 500 mm on the ends. (iv) Material properties must meet 'minimum values' specified in Table 14.	• Landfill Liner Details Plan
Aggregate/	The Cell 1 and 2 aggregate/drainage layer must meet the	• Landfill Liner Details

Infrastructure	Requirements (design and construction)	Site plan/s reference (Schedule 4)
Drainage layer	following specifications: (i) Overlying the protection geotextile. (ii) Aggregate meeting the following specifications: o Hydraulic conductivity greater than $1x10^{-3}$m/s when tested in accordance with AS 1289.6.7.1 Determination of the Permeability of a Soil (constant head method). o Maximum particle size of at least 20mm and no greater than 50mm. o Fines content less than 1 per cent. o Containing no limestone or other calcareous material that would be subject to chemical attack. (iii) Installed in a continuous layer at least 300mm thick across the entire base of the landfill cell, sloped with at least a 1% longitudinal gradient and 3% transverse gradient. (iv) Mounded over the leachate collection pipe to maintain a 300mm depth across the landfill cell. (v) Source material should be tested to show that the drainage material meets these requirements.	Plan
Stormwater management		
Megaflow	A Geofabrics Megaflow 300 geocomposite panel drainage must be installed as a subsoil drain at the interface of the clay subgrade and the compacted clay side slope line.	• Leachate Details Plan 1 • Leachate Collection Layout Plan
Leachate collection		
Leachate collection system sump	Cell 1 and Cell 2 must comprise a leachate collection system that includes a leachate collection sump located at the lowest point at the base of each landfill cell.	• Leachate Details Plan 1 • Leachate Details Plan 2
Leachate collection system pipework	Cell 1 and Cell 2 must comprise a leachate collection system that includes leachate collection pipework in accordance with the following physical controls and limits: (i) Designed to direct all leachate and contaminated runoff to the Leachate Pond. Pipework must: (ii) Be flexible HDPE pipes (or similar) with an internal diameter matching those indicated in the design drawings in Schedule 4. (iii) Be perforated such that the size, frequency and layout of the perforations are sufficient to facilitate leachate inflow and extraction without clogging, prevent entry of drainage gravel, and maintain adequate pipe strength. (iv) Be joined using techniques and materials recommended by the pipe manufacturer.	• Landfill Liner Details Plan • Leachate Details Plan 1 • Leachate Details Plan 2

Infrastructure	Requirements (design and construction)	Site plan/s reference (Schedule 4)
	(v) Ensure drainage of the leachate is adequate to achieve a maximum 300mm leachate head above the landfill cell floor liner, excluding the leachate collection sump. (vi) Pipework must include: o A central leachate pipeline with a diameter of 225mm. o A leachate extraction point that can facilitate camera and blockage clearing equipment.	
Separation geotextile	The Cell 1 and 2 separation geotextile must meet the following specifications: (i) Overlying and in contact with the drainage layer. (ii) Must be non-woven and needle punched. (iii) Geotextile panel overlap must be a minimum of 500 mm. (iv) Material properties must meet 'minimum values' specified in Table 15.	• Landfill Liner Details Plan • Leachate Details Plan 1 • Leachate Details Plan 2
Anchor trench for cell liners	The anchor trench must be designed and constructed to meet the following specifications: (i) Depth of at least 750 mm. (ii) Situated at least 1.5 m back from the top of cell batters. (iii) Must be backfilled with material meeting the following parameters on placement: (a) moisture content on placement between 3% dry and 2% wet of optimum moisture content under standard compaction. (b) minimum standard compaction of 95%.	• Anchor Trench Details Plan
Leachate level monitors	Monitoring wells, sensors or similar must be installed to allow for the regular monitoring of leachate levels on top of the liner during operation.	N/A
Leachate Pond		
Pond construction	The leachate pond must be designed and constructed to meet the following specifications: (i) Must be constructed to the same specifications for the base liner and subgrade, internal batters and HDPE requirements for Cells 1 & 2 above. (ii) Must have a total storage capacity of at least 15,597 m^3.	• Leachate Details Plan 1 • Leachate Details Plan 2 • Leachate Pond Layout Plan • Landfill Liner Details Plan
Monitoring bores		
Groundwater monitoring bores	Must construct new bores MW17, MW18, MW19 and at least two (2) additional monitoring bores (MW20 and MW21) along the western side (down hydraulic gradient) of the proposed landfill. Bores must be: (i) Sited in accordance with WQPN #30 ("Siting of monitoring bores" section).	• Groundwater Monitoring Bore Network

Infrastructure	Requirements (design and construction)	Site plan/s reference (Schedule 4)
	(ii) Constructed in accordance with ASTM D5092/D5092M-16 Standard Practice for design and installation of groundwater monitoring wells. (iii) Logged as per AS1726-1993 for the unified classification system for soils. (iv) each location surveyed to allow the ground level (to AHD) at to be accurately determined. (v) Be screened to permit effective monitoring of groundwater levels and quality in all aquifers that may be affected by the landfill.	
Security		
Security fencing	Consisting of: (i) Minimum 2.0 metre high security fence around the perimeter of the landfill and leachate pond. (ii) Site access gates at the site entrance.	• Fence Layout Plan

Note 1: The suitability of material is defined in the Australian Standard AS 3798, Guidelines on earthworks for commercial and residential developments

24. Where a departure from the requirements specified in Table 10 occurs and is of a type allowed by condition 23, the licence holder must provide to the CEO a description of, and explanation for, the departure(s) along with the report required by condition 26.

25. The licence holder must provide to the CEO a Construction Quality Assurance Report within 28 days of the completion of the “Base liner and subgrade” Works specified in Table 10 for:

(a) Cell 1.

(b) Cell 2.

(c) Leachate Pond.

26. The licence holder must ensure the report required by condition 25 includes, but is not limited to, the following:

(a) certification by a suitably qualified Professional Engineer that each item of infrastructure or component of infrastructure specified in Table 10 for “Base liner and subgrade” has been constructed with no material defects and to the requirements specified in Table 10.

(b) contains ‘as constructed’ surveys reporting actual subgrade levels against planned levels (Schedule 2 “Works map”).

(c) results of construction quality assurance testing as required under condition 28.

(d) be signed by a person authorised to represent the licence holder and contains the printed name and position of that person within the company.

27. The licence holder must design, construct and install groundwater monitoring wells in accordance with the requirements specified in Table 11.

Table 11: Infrastructure requirements - groundwater monitoring wells

Infrastructure	Design, construction and installation requirements	Monitoring well locations	Timeframes
Groundwater monitoring bores	Must install two new groundwater monitoring bores (MW22 and MW23). Bore must be: (i) Designed and constructed in accordance with ASTM D5092-04: Standard practice for design and installation of groundwater monitoring wells. (ii) Logged as per AS1726-1993 for the unified classification system for soils. (iii) Each location surveyed to allow the ground level (to AHD) at to be accurately determined.	MW22 to be located immediately down hydraulic gradient of the compost retention pond. MW23 to be located up hydraulic gradient of the composting area.	Bores MW22 and MW23 must be installed as per the requirements listed in Condition 26 by 31 July 2024.

28. The licence holder must, within 60 calendar days of the monitoring wells being constructed, submit to the CEO a well construction report evidencing compliance with the requirements of condition 27.

Construction quality assurance

29. The licence holder must undertake quality assurance including visual inspection, materials testing for the GCL in accordance with the requirements specified in Table 12.

Table 12: GCL CQA

CQA item	Property	Standard	Frequency	Minimum value
Conformance testing upon shipment to site	Mass per unit area of bentonite content	ASTM D5993	4,000m^2	3,700g/m^2
	Montmorillonite content	X-ray diffraction method	10,000m^2	Equal to or greater than 80%
	Mass of GCL	ASTM D5993	4,000m^2	4,000g/m^2
	Moisture content (bentonite)	ASTM D5993 or AS 1289.2.1.1	4,000m^2	35% maximum (no minimum)
	Tensile strength	ASTM D6768 or ASTM D4595	20,000m^2	4kN/m
	Swell index (free swell of clay/bentonite)	ASTM D5890	50 tonnes	24ml/2g
	Peel strength	ASTM D6496	4,000m^2	360 N/m
	Permeability	ASTM D5887	25,000m^2	≤ 1x10^{-9}m/s

CQA item	Property	Standard	Frequency	Minimum value
	Index flux	ASTM D5887	25,000m^2	1x10^{-8}m^3/sec-m^2
Visual inspection	Colour, thickness, needle punching, presence of needles and sewing density or other faults in the material	N/A	Every roll	Number of needles per roll of GCL equal to or less than 1

30. The licence holder must undertake quality assurance including visual inspection, materials testing and weld testing for HDPE membranes in accordance with the requirements specified in Table 13.

Table 13: HDPE CQA

CQA item	Property	Standard	Frequency	Minimum value
Conformance testing upon shipment to site	Thickness	ASTM D5199 or ASTM D5994	Each roll	2.0 mm
	Density	ASTM D1505 ASTM D792	At least one sample per 10,000 m^2	0.94 g/cm^3
	Tensile properties: Yield strength Yield elongation Break strength Break elongation	ASTM D6693		 29 kN/m 12% 21 kN/m 100%
	Puncture resistance	ASTM D4833		534 N
	Tear resistance	ASTM D1004		249 N
	Carbon black content	ASTM D1603 or ASTM D4218		2-3%
	Stress crack resistance	ASTM D5397	As per GRI Guide GM10	500 hr
	Oxidative induction time: Standard OIT or High Pressure OIT	ASTM D3895 or ASTM D5885	Every 90,000 kg	 100 min 400 min
	Oven ageing and oxidative induction time: Standard OIT - % retained after 90 days High Pressure OIT - % retained after 90 days	ASTM D5721, ASTM D3895 or ASTM D5885	Per each formulation	 55% @ 85°C 80% @ 85°C
Start-up test weld	Welding equipment	N/A	Start of works daily and whenever the welding equipment is shut-off for more than 3 consecutive hours After significant changes in weather conditions	N/A

CQA item	Property	Standard	Frequency	Minimum value
	Weld conditions	N/A	Test weld strips will be required whenever personnel or equipment are changed and when wide temperature fluctuations are experienced Minimum 1.5 continuous seam	N/A
Destructive test weld	On-site, hand tensiometer in peel and shear	ASTM D6392	At least 1 test per 150 m of weld	Peel: 450 N/25mm Shear: 690 N/25mm
Non-destructive weld testing	Air pressure test	ASTM D5820	All seams over full length	Observed, validated and recorded by the consultant
	Vacuum box test	ASTM D5641		Presence/ absence of bubbles
Visual inspection	Tears, punctures, abrasions, cracks, indentations and thin spots	N/A	Every roll	N/A

31. The licence holder must undertake quality assurance, including visual inspection and materials testing for the protection geotextile layer, in accordance with the requirements specified in Table 14.

Table 14: CQA requirements table – cushion geotextile layer

CQA item	Property	Standard	Frequency	Minimum value
Non-woven needle punched geotextile conformance testing upon shipment to site	Mass per unit area	ASTM D5261	Minimum average roll value using frequency as prescribed in each standard	500 g/m^2
	Trapezoidal tear strength	AS 3706.3		1,000 N
	Puncture strength (CBR)	AS 3706.4		6.8 kN
	Grab tensile strength	AS 2001.2.3		2.8 kN
	UV[1] resistance	ASTM D4355 or AS 3706.11		45%

Note 1: UV resistance test results for the geotextile must be based on manufacturer batch results and must be less than 12 months old.

32. The licence holder must undertake quality assurance, including visual inspection and materials testing for the separation geotextile layer, in accordance with the requirements specified in Table 15.

Table 15: QA requirements table – separation geotextile

CQA item	Property	Standard	Frequency	Minimum value
Non-woven polyester or polypropylene geotextile conformance testing upon shipment to site	Trapezoidal tear strength	AS 3706.3	Minimum average roll value using frequency as prescribed in each standard	390 N
	Puncture strength (CBR)	AS 3706.4		2.65 kN
	Grab tensile strength	AS 2001.2.3		1.0 kN
	Pore size	AS 3706.7		100 µm
	Permeability	AS 3706.9		3.3×10^{-3} m/s
	UV[1] resistance	ASTM D4355		70%

Note 1: UV resistance test results for the geotextile must be based on manufacturer batch results and must be less than 12 months old.

33. The licence holder must ensure all laboratory tests are performed in a NATA Accredited geosynthetics laboratory.

34. The licence holder must provide to the CEO a Construction Quality Assurance Validation Report within 28 days of the completion of the works specified in Table 10 for:

(a) Cell 1.

(b) Cell 2.

(c) Leachate Pond.

35. The licence holder must ensure the report required by Condition 34 is written and certified by the Professional Engineer that completed the CQA and includes, but is not limited to, the following:

(a) documentation of the quality of the completed Works.

(b) demonstration that all requirements of the Works specifications and quality assurance provisions in Table 12, Table 13, Table 14 and Table 15 have been complied with.

(c) an assessment of test results against minimum values in Table 12, Table 13, Table 14 and Table 15.

(d) documentation of all repairs to subgrade and resulting from non-destructive weld testing.

(e) certification that the constructed infrastructure is free of fault of defect, built to the design specification and is fit for the intended purpose.

(f) copies of all surveys and drawings of the ‘as constructed’ cell, inspections, materials testing and weld testing results.

36. The licence holder must provide to the CEO following construction of the two (2) new bores required by Table 10;

(a) an updated Groundwater Monitoring Bore Network map showing the location of all bores.

(b) the bore logs and construction details including screening depth for the two (2) new bores.

Capping

37. The licence holder must provide to the CEO a capping plan no later than twelve months before the completion of waste disposal in Cell 1.

38. The licence holder must ensure the plan required by condition 37 includes, but is not limited to, the following:

(a) detailed design of the capping layer.

(b) material specifications of the capping layer.

(c) landfill gas management methods, informed by a landfill gas risk assessment.

(d) current and projected finished surveyed levels.

(e) construction quality assurance planning.

Monitoring

39. The licence holder shall ensure that:

(a) all compost samples are collected and preserved in accordance with AS 4454.
(b) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in relevant table.
(c) all water samples are collected and preserved in accordance with AS/NZS 5667.1.
(d) all groundwater sampling is conducted in accordance with AS/NZS 5667.11.
(e) all surface water sampling is conducted in accordance with AS/NZS 5667.10.

40. The licence holder shall ensure that:

(a) monthly monitoring is undertaken at least 15 days apart.
(b) annual monitoring is undertaken at least 9 months apart.
(c) quarterly monitoring is undertaken in each quarterly period such that there are at least 45 days in between the days on which samples are taken in successive quarters.
(d) annual monitoring of ambient groundwater is undertaken between the months of April and May in each year.

41. The licence holder must ensure that all monitoring equipment used on the premises complies with the conditions of this licence and is calibrated in accordance with the manufacturer's specifications.

42. The licence holder must ensure, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied by a report comprising details of any modifications to the methods.

Monitoring of inputs and outputs

43. The licence holder shall undertake the monitoring in Table 16 according to the specifications in that table.

Table 16: Monitoring of inputs and outputs

Input/ Output	Parameter	Units	Averaging period	Frequency
Inputs to the premises	Each applicable waste type (as detailed in Table 1) arriving on the premises	Tonnes	Annual period	Each load arriving at the premises
Inputs to composting process	Each applicable waste type (as detailed in Table 1) incorporated into the composting process			Each load incorporated into the composting process
Green waste	Green waste: (a) processed through the grinder; and (b) disposed of by burning.			Each load processed
Inputs to inert landfill	Each applicable waste type as detailed in Table 1 disposed of in the inert landfill site			Each load buried
Compost Outputs	Final recycled organic product	Tonnes	Annual period	Each batch produced and each load leaving the premises
Inputs to crushing and screening facility	Quantity of sand processed			Each load produced
Outputs of waste clay	Clay waste produced			Each load produced

Odour monitoring

44. The licence holder must retain the services of a suitably qualified person to:

(a) Plan and implement a minimum of one odour field assessment (OFA) which follows the plume measurement methodology as specified in the DWER Guideline: Odour Emissions and the European Standard EN 16841-2 (plume method). An OFA is to be undertaken:

(i) with the objective of characterising odour impacts to receptors from activities including, but not limited to, the receipt, mixing and handling of FOGO and Biosolids wastes, and the turning of compost windrows.

(ii) within six-months of receiving the first delivery of biosolids waste material at the premises.

(iii) by a suitably qualified person, as defined in Table 22.

(b) compile and submit to the licence holder within six weeks of completion of any OFA field campaigns, an OFA report in accordance with condition 45.

45. An OFA report prepared pursuant to condition 44(b) is to include:

(a) the objective of the assessment.
(b) a description of the measurement strategy, measurement conditions and the odour field survey standards that were followed.
(c) an overview of waste receipt and composting activities occurring onsite on the day of the OFA.
(d) an estimate of compost windrow volumes, FOGO and biosolids waste volumes and final product held onsite on the day of the OFA.
(e) the following details for each single measurement:

(i) odour intensity levels and odour characters.

(ii) location, date and time.

(iii) field survey odour patroller identification.

(f) the following representative meteorological measurements as recorded during the measurement cycle:

(iv) wind speed (metres per second).

(v) wind direction.

(vi) cloud cover estimate.

(vii) temperature.

(g) map(s) depicting the assessment area, odour sources at the premises and other potential odour sources (if relevant).
(h) a graphical summary of field survey results showing the recorded odour intensity levels as a percentage of total observations using pie charts superimposed at each measurement point on a map of the survey area.
(i) any deviations from the conditions targeted in the OFA strategy and those occurring during the measurement (conclusions should reflect the influence of such deviations on the results).
(j) detailed analysis, interpretation and conclusions with regard to the objectives of the assessment.
(k) recommendations for any remedial action required to address potential odour impacts at sensitive receptors in the event that such impacts are identified along with a timeline for the implementation of these actions.

46. The licence holder must submit to the CEO each OFA report prepared pursuant to condition 44(b) within 14 days of receipt.

47. The licence holder is to:

(a) ensure a minimum of two staff members employed at the premises have been trained by a suitably qualified person to undertake odour patrols
(b) ensure at least two staff members trained in accordance with 47(a) undertake each odour patrol at the following frequency:

(i) Weekly, for the first four weeks of FOGO and/or biosolids receival and composting.

(ii) Fortnightly, following a minimum of four weeks of odour patrols conducted in accordance with (i),where:

- no odour intensity levels of ‘distinct’ or stronger is detected by odour patrols conducted in accordance with (i), the OFA

conducted in accordance with condition 45 and/or DWER officers.
- no complaint is received by the Licence Holder, DWER or another regulatory authority relating to odour emitted from the premises.

(iii) Monthly, following a minimum of one year of odour patrols conducted in accordance with (ii) where:

- no recognisable odour intensity levels of 'distinct' or stronger is detected by odour patrols conducted in accordance with (ii) the OFA conducted in accordance with condition 45 and/or DWER officers.
- no complaint is received by the licence holder, DWER or another regulatory authority relating to odour emitted from the premises.

(c) All odour patrols are to document findings in a report which contains as a minimum:

(iv) Meteorological observations at the time of the odour patrol including, but not limited to, windspeed, wind direction, cloud cover and temperature.

(v) an overview of waste receipt and composting activities occurring onsite on the day of the odour patrol.

(vi) an estimate of compost windrow volumes, FOGO and biosolids waste volumes and final product held onsite on the day of the odour patrol.

(vii) the following details for each single measurement:

- odour intensity levels and odour characters.
- date and time.
- field survey odour patroller identification.
- an odour patrol map indicating measurement locations.

Compost product monitoring

48. The licence holder shall undertake the monitoring of compost parameters specified in Table 17 according to the specification in that table.

49. All recycled organic products must be analysed by laboratories with current NATA accreditation for the analysis specified unless otherwise specified in Table 17.

Table 17: Composting process monitoring

Monitoring point reference	Process description	Parameter	Units	Frequency	Method
Compost windrows	During composting process	Temperature[1]	ºC	Twice daily[2]	As specified in condition 5
		Moisture content[1]	%	Daily[3]	
Compost product	On completion	Quantity produced[1]	tonnes	Continuous	

Monitoring point reference	Process description	Parameter	Units	Frequency	Method
	of composting and before application to land on or off the premises	Arsenic	mg/kg	For each different product, a minimum rate of one composite sample per 1000 tonnes of product. Each composite sample is made up of 12 subsamples	As specified in AS 4454 As specified in the Biosolids Guidelines where composting material contains biosolids waste
		Cadmium			
		Boron			
		Chromium			
		Chromium (VI)[5]			
		Copper			
		Lead			
		Mercury			
		Nickel			
		Selenium			
		Zinc			
		DDT/DDD/DDE			
		Aldrin			
		Dieldrin			
		Chlordane			
		Heptachlor			
		HCB			
		Lindane			
		BHC			
		PCBs			
		Glass, metal and rigid plastics [4]	% w/w dry matter		
		Plastics – light, flexible or film including biodegradable and compostable types (>5 mm)[4]			
		Salmonella spp	MPN/g or CFU / g (dry weight)		
		Faecal coliforms			
		E.coli[5]			
		Somatic Coliphages[5]	PFU/g (dry weight)		
		Viable plant propagules	Nil germination after 21 days		

Note 1: In-field non-NATA accredited analysis permitted.
Note 2: Twice daily monitoring is to be undertaken at least five hours apart.
Note 3: Daily monitoring is to be undertaken at least 20 hours apart.
Note 4: Non-NATA accredited analysis permitted. Method must comply with Appendix I in AS 4454.

Note 5: Only required where the compost product contains biosolids or sewage sludge.

Ambient groundwater quality monitoring

50. The licence holder must undertake monitoring of ambient groundwater quality in accordance with the requirements of Table 18.

Table 18: Ambient groundwater monitoring requirements table

Monitoring point and reference location	Parameter	Units	Averaging period	Monitoring frequency
MW12, MW13, MW14, MW15, MW16 And monitoring bores: MW17, MW18, MW19, MW20 and MW21 once installed in accordance with Condition 23	Standing water level[1,2]	mAHD	Spot sample	Monthly
	pH[1]	No unit		Quarterly
	Electrical conductivity @ 25°C[1]	µS/cm		
	Redox potential[1]	mV		
	Dissolved Oxygen (DO)[1]	mg/L		
	Ammonia-Nitrogen (NH3-N) Chemical Oxygen Demand (COD) Nitrate-Nitrogen (NO3-N) Nitrite-Nitrogen (NO2-N) Phosphorus (total) Nitrogen (total) Total dissolved solids (TDS) Total organic carbon (TOC) <u>Major cations and ions:</u> calcium, magnesium, potassium, sodium, chloride, bicarbonate, sulfate <u>Metals and metalloids:</u> aluminium, arsenic, cadmium, chromium (total), copper, iron (total), lead, manganese, mercury, nickel, selenium, zinc			
	<u>Organics:</u> benzene, ethyl benzene, toluene, xylenes, Total Petroleum Hydrocarbons (TPH), organochlorines, organophosphates, phenols, polycyclic aromatic hydrocarbons (PAH), polychlorinated biphenyls (PCB)			Annual
MW22 and MW23 once installed in accordance with Condition 23	Standing water level[1,2]	mAHD	Spot sample	Quarterly
	pH[1]	No unit		
	Electrical conductivity @ 25°C[1]	µS/cm		
	Redox potential[1]	mV		
	Dissolved Oxygen (DO)[1]	mg/L		
	Total Dissolved Solids (TDS)			
	Biological oxygen demand			

Monitoring point and reference location	Parameter	Units	Averaging period	Monitoring frequency
	(BOD)			
	Total Organic Carbon (TOC)			
	Major Cations (Ca, Mg, Na, K)			
	Major Anions (Cl, SO_4, bicarbonate, carbonate)			
	Total Nitrogen (TN) as N			
	Nitrate (NO_3) as N			
	Nitrite (NO_2) as N			
	Total Kjeldahl Nitrogen (TKN) as N			
	Ammonia (NH_3) as N			
	Total Phosphorus (TP) as P			
	Arsenic			
	Cobalt			
	Iron			
	Manganese			

Note 1: In-field, non-NATA accredited analysis permitted.
Note 2: SWL to be determined prior to the collection of other samples.

Improvement program

51. The licence holder shall complete the improvements in Table 19 by the date of completion in Table 19.

Table 19: Improvement program

Improvement reference	Improvement	Date of completion
IR1	The licence holder shall undertake an environmental monitoring review, and report on its findings. The review shall include (but not be limited to): (i) analysis of the effectiveness of all current environmental monitoring in place to detect environmental impacts resulting from activities; (ii) a proposed environmental monitoring regime for the site which enables effective monitoring of groundwater and surface water impacts from the activities on the premises; (iii) any proposed surface water monitoring locations and/or groundwater monitoring bore locations for the new regime, based on site specific hydrogeological information for the Premises; and (iv) timeframes for implementation of the new monitoring regime.	28 February 2015

Records and reporting

52. 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) the works conducted in accordance with conditions 21, 22, 27, 29, 30, 31 and 32 of this licence.
(c) any maintenance of infrastructure that is performed in the course of complying with conditions 13 and 20 of this licence.
(d) monitoring programmes undertaken in accordance with conditions 7, 43, 45, 47, 48, 49 and 50 of this licence.
(e) complaints received under condition 56 of this licence.

53. The books specified under condition 52 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.
(d) be available to be produced to an inspector or the CEO as required.

54. The licence holder shall ensure that:
(a) any person left in charge of the premises is aware of the conditions of the licence and has access at all times to the licence or copies thereof.
(b) any person who performs tasks on the premises is informed of all of the conditions of the licence that relate to the tasks which that person is performing.

55. The licence holder must:
(a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period.
(b) prepare and submit to the CEO by 1 March after the end of that annual period an Annual Audit Compliance Report in the approved form.

56. 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.
(d) the complete details and dates of any action taken by the licence holder to investigate or respond to any complaint.

57. The licence holder shall submit to the CEO an Annual Environmental Report by 1 March after the end of each annual period. The report shall contain the information listed in Table 20 in the format or form specified in that table.

Table 20: Annual Environmental Report

Condition or table	Parameter	Format or form
Condition 7 Table 4	Retention Pond monitoring results for each monthly period	None specified
Condition 48	Composted product monitoring summary (a) tabulated summary of data; (b) range of recorded concentrations for each parameter specified in Condition 49; (c) comparison of data to the maximum concentrations specified in Condition 11; and (d) identification of test results which did not comply with Condition 11 and description of how the relevant batch of compost was remediated to achieve compliance or otherwise managed.	None specified
Condition 43 Table 16	Monitoring results for inputs and outputs for the annual period	None specified
Condition 50	Groundwater monitoring results for each quarterly period	None specified
Condition 47	Odour patrol assessment records and reports	None specified
Condition 55	Compliance for the annual period	Annual Audit Compliance Report (AACR)
Condition 56	Complaints summary for the annual period	None specified
-	All Water Corporation testing results provided to the licence holder for biosolids waste accepted at the premises	None specified

58. The licence holder shall ensure that the parameters listed in Table 21 are notified to the CEO in accordance with the notification requirements of the table.

Table 21: Notification requirements

Condition or table	Parameter	Notification requirement[1]	Format or form[2]
-	Any failure or malfunction of any pollution control equipment or any incident, which has caused, is causing or may cause pollution	Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable	N1 (Schedule 5)
-	Fire at the premises	As soon as practicable	None specified

Condition or table	Parameter	Notification requirement[1]	Format or form[2]
Condition 3; Table 1 Condition 5; Table 2	Breach of any limit specified in the licence	As soon as practicable	None specified
-	Notification of receipt of first load of biosolids waste	Within 24 hours of receipt	Email notification to info@dwer.wa.gov.au

Note 1: Notification requirements in the licence shall not negate the requirement to comply with s72 of the EP Act

Definitions

In this licence, the terms in Table 22 have the meanings defined.

Table 22: Definitions

Term	Definition
Acceptance Criteria	has the meaning defined in Landfill Definitions.
ACM	means asbestos containing material and has the meaning defined in the Guidelines for Assessment, Remediation and Management of Asbestos Contaminated Sites, Western Australia, (DOH, 2009).
ACN	Australian Company Number.
AHD	means Australian Height Datum.
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	means the inclusive period from 1 January until 31 December in that year.
ARI	means Average Recurrence Interval.
AS 1289.2.1.1	means the most recent version and relevant parts of the Australian Standard AS 1289.2.1.1 *Methods of testing soils for engineering purposes Soil moisture content tests – Determination of the moisture content of a soil – Oven drying method (standard method).*
AS 1726-1993	means the most recent version and relevant parts of the Australian Standard AS 1726-1993 *Geotechnical site investigations.*
AS 2001.2.3	means the most recent version and relevant parts of the Australian Standard 2001.2.3 Methods of test for textiles Physical tests – Determination of breaking force and extension of textile fabrics.
AS 3706.3	means the most recent version and relevant parts of the Australian Standard 3706.3 Geotextiles – Methods of test Determination of tearing strength – Trapezoidal method.
AS 3706.4	means the most recent version and relevant parts of the Australian Standard 3706.4 Geotextiles – Methods of test Determination of burst strength – California bearing ratio (CBR) – Plunger method.
AS 3706.7	means the most recent version and relevant parts of the Australian Standard 3706.7 Geotextiles – Methods of test Determination of pore size distribution – Dry-sieving method.
AS 3706.9	means the most recent version and relevant parts of the Australian Standard 3706.9 Geotextiles – Methods of test Determination of permittivity, permeability and flow rate.
AS 3706.11	means the most recent version and relevant parts of the Australian Standard AS 3706.11 Geotextiles – Methods of test Determination of

Term	Definition
	durability – Resistance to degradation by light, heat and moisture.
AS 3798	means the most recent version and relevant parts of the Australian Standard AS 3798-2007 Guidelines on earthworks for commercial and residential developments.
AS 4323.1	means Australian Standard AS 4323.1 Stationary source emissions – selection of sampling positions.
AS 4454	means Australian Standard AS 4454 Composts, soil conditioners and mulches.
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 5667.4	means the Australian Standard AS/NZS 5667.4 Water Quality – Sampling – Guidance on sampling from lakes, natural and man-made.
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 Water Quality – Sampling – Guidance on sampling of groundwaters.
ASTM D792	means the Active Standard ASTM D792 *Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement.*
ASTM D1004	means the Active Standard ASTM D1004 *Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting.*
ASTM D1505	means the Active Standard ASTM D1505 *Standard Test Method for Density of Plastics by the Density-Gradient Technique.*
ASTM D1603	means the Active Standard ASTM D1603 *Standard Test Method for Carbon Black Content in Olefin Plastics.*
ASTM D3895	means the Active Standard ASTM D3895 *Standard Test Method for Oxidative-Induction Time of Polyolefins by Differential Scanning Calorimetry.*
ASTM D4218	means the Active Standard ASTM D4218 *Standard Test Method for Determination of Carbon Black Content in Polyethylene Compounds be the Muffle-Furnace Technique.*
ASTM D4355	means the Active Standard ASTM D4355 / D4355M *Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc-Type Apparatus.*
ASTM D4595	means the Active Standard ASTM D4595 *Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products.*
ASTM D4833	means the Active Standard ASTM D4833 / D4833M *Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products.*
ASTM D5092/ D5092M-16	means the Active Standard ASTM D5092 *Standard Practice for Design and Installation of Groundwater Monitoring Wells (Designation: ASTM*

Term	Definition
	D5092/D5092M-16), as amended from time to time.
ASTM D5199	means the Active Standard ASTM D5199 *Standard Test Method for Measuring the Nominal Thickness of Geosynthetics.*
ASTM D5261	means the Active Standard ASTM D5261 *Standard Test Method for Measuring Mass per Unit Area of Geotextiles.*
ASTM D5397	means the Active Standard ASTM D5397 *Standard Test Method for Evaluation of Stress Crack Resistance of Polyolefin Geomembranes Using Notched Constant Tensile Load Test.*
ASTM D5641	means the Active Standard ASTM D5641 *Standard Practice for Geomembrane Seam Evaluation by Vacuum Chamber.*
ASTM D5721	means the Active Standard ASTM D5721 *Standard Practice for Air-Oven Aging of Polyolefin Geomembranes.*
ASTM D5820	means the Active Standard ASTM D5820 *Standard Practice for Pressurized Air Channel Evaluation of Dual-Seamed Geomembranes.*
ASTM D5885	means the Active Standard ASTM D5885 / D5885M *Standard Test Method for Oxidative Induction Time of Polyolefin Geosynthetics by High Pressure Differential Scanning Caloriometry.*
ASTM D5887	means the Active Standard ASTM D5887 *Standard Test Method for Measurement of Index Flux Through Saturated Geosynthetic Clay Liner Specimens Using a Flexible Wall Permeameter.*
ASTM D5890	means the Active Standard ASTM D5890 *Standard Test Method for Swell Index of Clay Mineral Component of Geosynthetic Clay Liners.*
ASTM D5993	means the Active Standard ASTM D5993 *Standard Test Method for Measuring Mass Per Unit of Geosynthetic Clay Liners.*
ASTM D5994	means the Active Standard ASTM D5994 *Standard Test Method for Measuring Core Thickness of Textured Geomembranes.*
ASTM D6392	means the Active Standard ASTM D6392 *Standard Test Method for Determining the Integrity of Nonreinforced Geomembrane Seams Produced Using Thermo-Fusion Methods.*
ASTM D6496	means the Active Standard ASTM D6496 *Standard Test Method for Determining Average Bonding Peel Strength Between Top and Bottom Layers of needle-Punched Geosynthetic Clay Liners.*
ASTM D6693	means the Active Standard ASTM D6693 / D6693M *Standard Test Method for Determining Tensile Properties of Nonreinforced Polyethylene and Nonreinforced Flexible Polypropylene Geomembranes.*
ASTM D6768	means the Active Standard ASTM D6768 *Standard Test Method for Tensile Strength of Geosynthetic Clay Liners.*
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

Term	Definition
	any mixture containing 2 or more of those.
asbestos fibres	has the meaning defined in the document Guidelines for Assessment, Remediation and Management of Asbestos Contaminated Sites, Western Australia, published by Department of Health.
averaging period	means the time over which a limit is measured or a monitoring result is obtained.
batch	in relation to compost product - • refers to each distinct quantity of compost which has undergone the same processes and is produced at one time.
biosolids	means the stabilised organic solids, produced by wastewater treatment processes, which can include a mix or dilution of biosolids with other materials without further treatment. In most cases this material can be beneficially used (also known as sewage sludge).
Biosolids Guidelines	means the Western Australian guidelines for biosolids management
CBR	means California Bearing Ratio.
CEO	means Chief Executive Officer of the Department. for the purpose of correspondence means; Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 JOONDALUP DC WA 6919 or: info@dwer.wa.gov.au
clean fill	has the meaning defined in Landfill Definitions.
compost	means an organic product that has undergone controlled aerobic and thermophilic biological transformation through the composting process.
composting	means the process whereby organic materials are microbiologically transformed under controlled aerobic conditions.
composting hardstand area	means the hardstand area approved for composting activities, as defined and labelled “Composting hardstand area” in Figure 2, Schedule 1.
Condition	means a condition to which this Licence is subject under s.62 of the EP Act.
Construction Compliance Report	means a report to satisfy that works have been constructed in accordance with design specifications.
controlled waste	has the meaning defined in the *Environmental Protection (Controlled Waste) Regulations 2004.*

Term	Definition
CQA	means Construction Quality Assurance.
dangerous goods	has the meaning defined in the *Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007.*
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.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
environmental harm	has the same meaning given to that term under the EP Act.
EP Act	means the *Environmental Protection Act 1986.*
freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point.
FOGO	means Food Organics Garden Organics.
GCL	means Geosynthetic Clay Liner.
green waste	means waste that originates from flora and which does not contain or has not been treated or coated with, preserving agents, biocides, fire retardants, paint, adhesives, plastics or binders.
green waste burning management documents	means the documents "Fire Management Plan: Mindijup Multiple Use Facility", "Vancouver Waste Services Mindijup Facility – green waste burn plan" and green waste burn area map submitted to DER by the Licence Holder in July 2015.
GRI Guide GM10	means the current version of the standard guide for "The Stress Crack Resistance of HDPE Geomembrane Sheet" developed by the Geosynthetic Research Institute.
hardstand	means a surface with a permeability of 10^{-9} metres/second or less.
HDPE	means High Density Polyethylene.
inert landfill site	means area authorised for the burial of waste in accordance with this Licence, as defined and labelled on the Premises Map in Schedule 1.
inert waste type 1	has the meaning defined in Landfill Definitions.
inert waste type 2	has the meaning defined in Landfill Definitions.
kN	means kilonewton.
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.

Term	Definition
leachate	means liquid released by or water that has percolated through waste and which contains some of its constituents.
Licence	means this Licence numbered L7344/1998/10 and issued under the EP Act.
Licence Holder	means the person or organisation named as Licence Holder on page 1 of the Licence.
Minimum Construction Requirements for Water Bores in Australia	means the document *Minimum Construction Requirements for Water Bores in Australia*, National Uniform Drillers Licensing Committee (3rd Edition, 2012).
MPN	most probable number.
NATA	means the National Association of Testing Authorities, Australia.
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis.
Odour intensity	means the relative perceived strength of an odour. Intensity descriptor scales should be applied according to the German standards for the determination of odour intensity under field conditions (VDI 3940-3).
Odour operator	means a person who directly coordinates and instructs odour patrollers in the field and is independent of the Licence Holder.
Odour patrol	means an assessment conducted by a suitably qualified person or appropriately trained staff member of the Licence Holder to identify and record the presence of odour emissions at the points provided in an odour patrol map resulting from composting operations at the premises.
OFA	odour field assessment as described in the *Guideline: Odour Emissions*
P1C1	Classification for biosolids which are suitable for unrestricted use because they meet the P1 pathogen grade and C1 contaminant grade as outlined in the Biosolids Guidelines.
pasteurisation	means the process whereby organic materials are treated through heat to significantly reduce the numbers of plant and animal pathogens and plant propagules.
pollution	has the same meaning given to that term under the EP Act.
Premises	means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence.
Professional Engineer	means a person holding current certification from the Institution of Engineers Australia (IEAust).
recycled	means a fit-for-purpose product that has been produced from the

Term	Definition
organic product	substantial transformation of organic waste and feedstocks so that it is no longer waste.
retention pond	means the pond receiving runoff from the composting hardstand area, as defined and labelled in the Map of composting infrastructure in Schedule 1.
Schedule 1	means Schedule 1 of this Licence unless otherwise stated.
Schedule 2	means Schedule 2 of this Licence unless otherwise stated.
Schedule 3	means Schedule 3 of this Licence unless otherwise stated.
Schedule 4	means Schedule 4 of this Licence unless otherwise stated.
Schedule 5	means Schedule 5 of this Licence unless otherwise stated.
solid	means material that has an angle of repose of greater than 5 degrees, does not contain (or is not comprised of) any free liquids, does not contain (or is not comprised of) any liquids that are capable of being released when the waste is transported, does not become free flowing at or below 60 degrees Celsius or when it is transported, and is generally capable of being moved by a spade at normal temperatures (i.e. is spadeable).
spot sample	means a discrete sample representative at the time and place at which the sample is taken.
straw	'means fresh straw and/or used agricultural bedding straw from feedlots.
suitably qualified person	in relation to: • odour field assessments, means a person with at least three years' experience in planning, managing and undertaking odour field assessments.
treated timber	means wood which has been treated with a chemical preservative.
unreasonable emission	has the same meaning given to that term under the EP Act.
usual working day	means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia.
Works	means the Works described in Schedule 3, at the locations shown in Schedule 1 of this Licence to be carried out at the premises, subject to conditions.
WQPN #30	means the document *Water Quality Protection Note #30: Groundwater monitoring bores*, Department of Water (February 2006). Available at: www.water.wa.gov.au/_data/assets/pdf_file/0010/4033/59685.pdf

END OF CONDITIONS

Schedule 1: Maps

Premises map

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

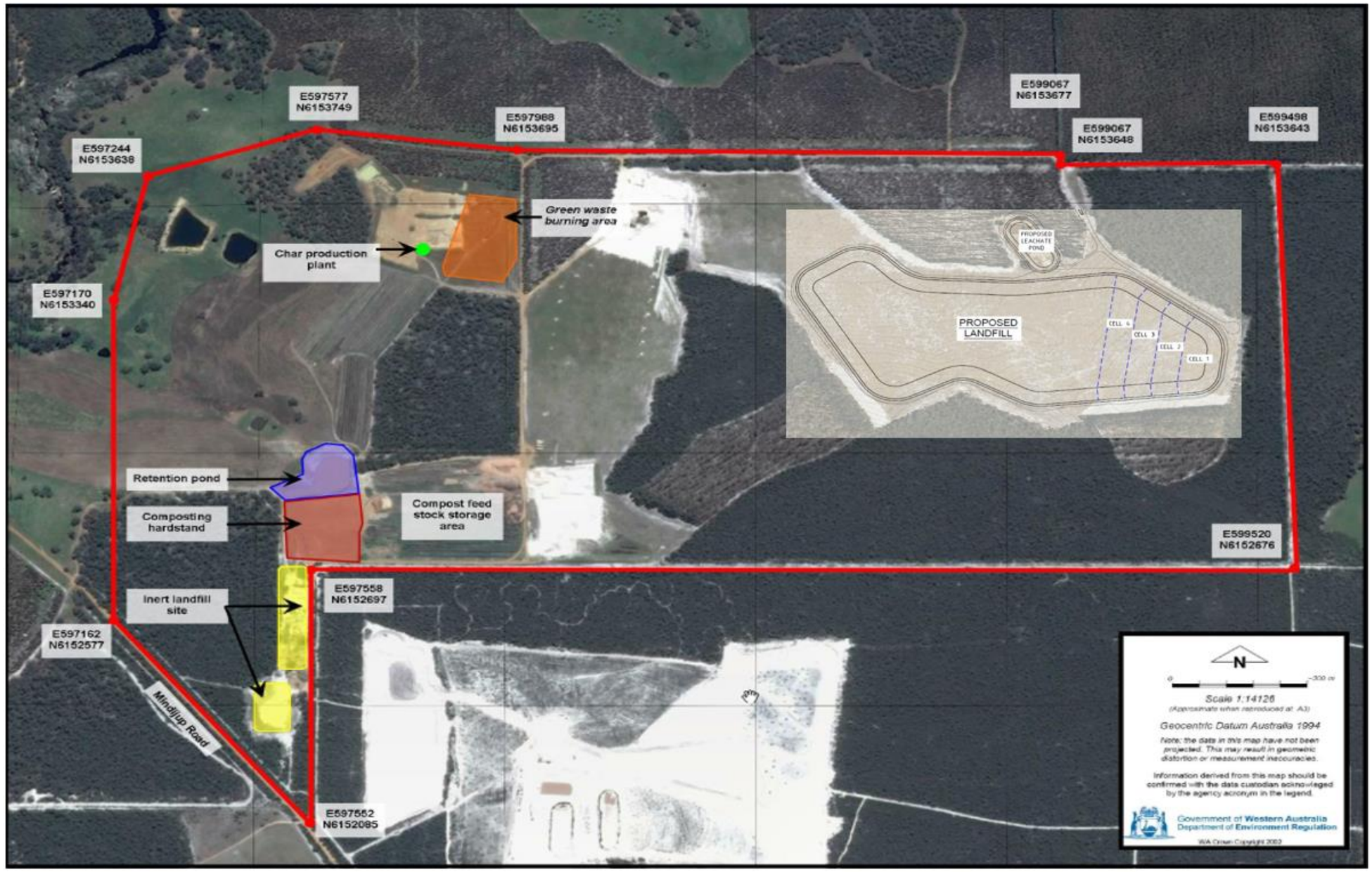


Figure 1: Map of the boundary of the prescribed premises

Composting infrastructure schematic

The location of the infrastructure associated with composting is shown below.

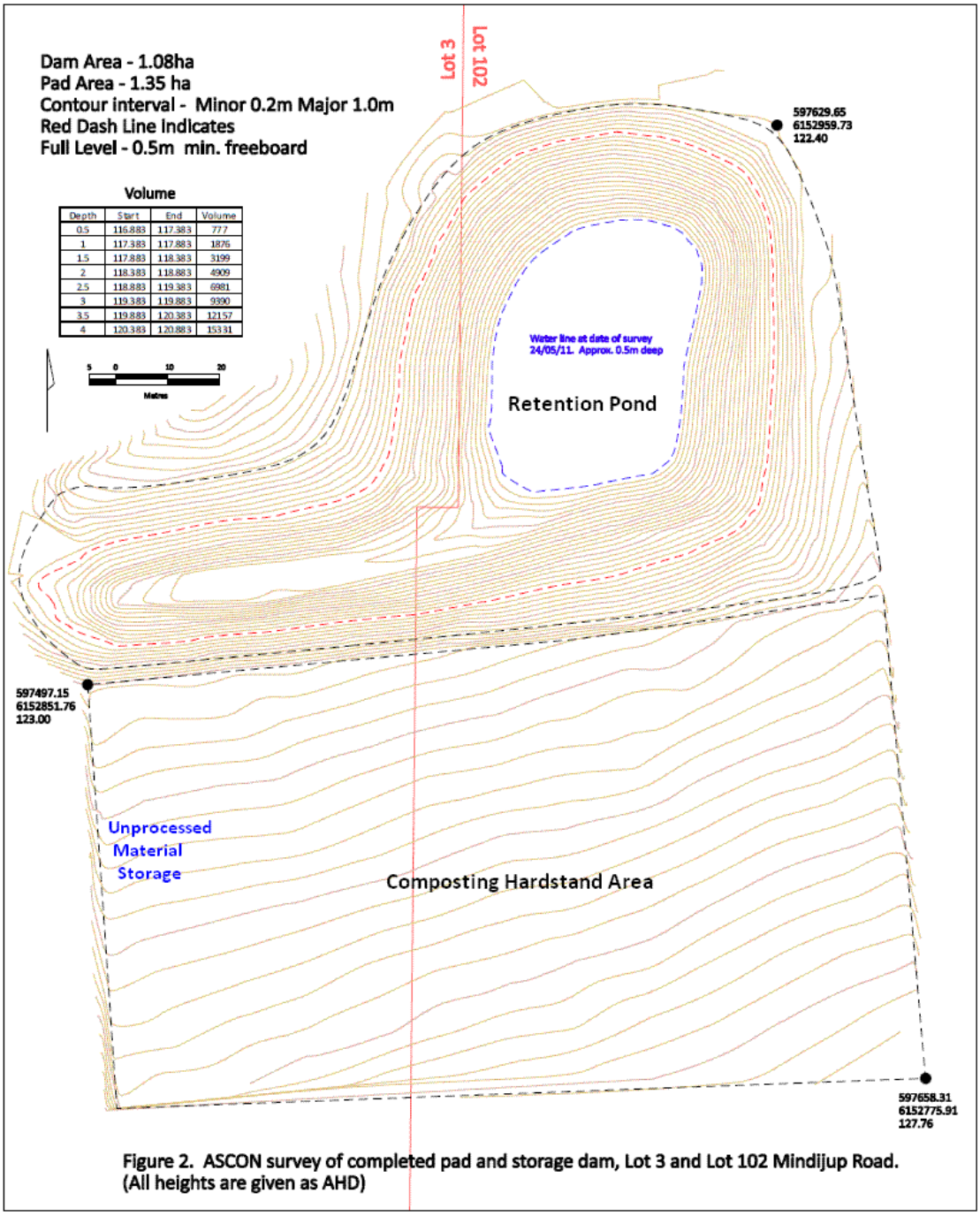


Figure 2: Composting infrastructure

Composting pad site plan layout

The composting operations site plan layout is shown below.

Figure 3: Composting pad site plan layout

Schedule 2: Premises boundary

The premises boundary is defined by the coordinates in Table 22.

Table 22: Premises boundary coordinates (GDA94)

Easting	Northing	Zone
597170	6153340	50
597244	6153638	50
597577	6153749	50
597988	6153695	50
599067	6153677	50
599067	6153648	50
599498	6153643	50
599520	6152676	50
597556	6152695	50
597552	6152085	50
597162	6152577	50

Schedule 3: Works

At the time of assessment, Emissions and Discharges from the Works listed in Table 23 were considered in the determination of the risk and related conditions for this Notice.

Table 23: Authorised Works

Cell 1 Works
Excavation and preparation of base liner and subgrade
Construction of external embankments (1:5 batter)
Construction of internal sidewall between Cell 1 and Cell 2 (1:3 batter)
Installation of subgrade on external embankments and internal sidewall between Cell 1 and Cell 2
Installation of HDPE barrier membrane layer,
Installation of cushion geotextile protection layer
Installation of anchor trenches on external embankments and internal sidewall between Cell 1 and Cell 2
Cell 2 Works
Excavation and preparation of base liner and subgrade
Construction of external embankments (1:5 batter)
Construction of internal sidewall between Cells 2 & 3 (1:3 batter)
Installation of subgrade on external embankments and internal sidewall between Cells 2 & 3
Installation of HDPE barrier membrane layer
Installation of cushion geotextile protection layer
Installation of anchor trenches on external embankments and internal sidewall between Cells 2 & 3
Leachate Pond Works
Excavation and preparation of base liner and subgrade
Construction of external embankments (1:5 batter)
Installation of subgrade
Installation of HDPE barrier membrane layer
Installation of cushion geotextile protection layer
Other
Construction of surface water drainage channels and sumps
Construction of access roads around landfill area

Schedule 4: Design drawings

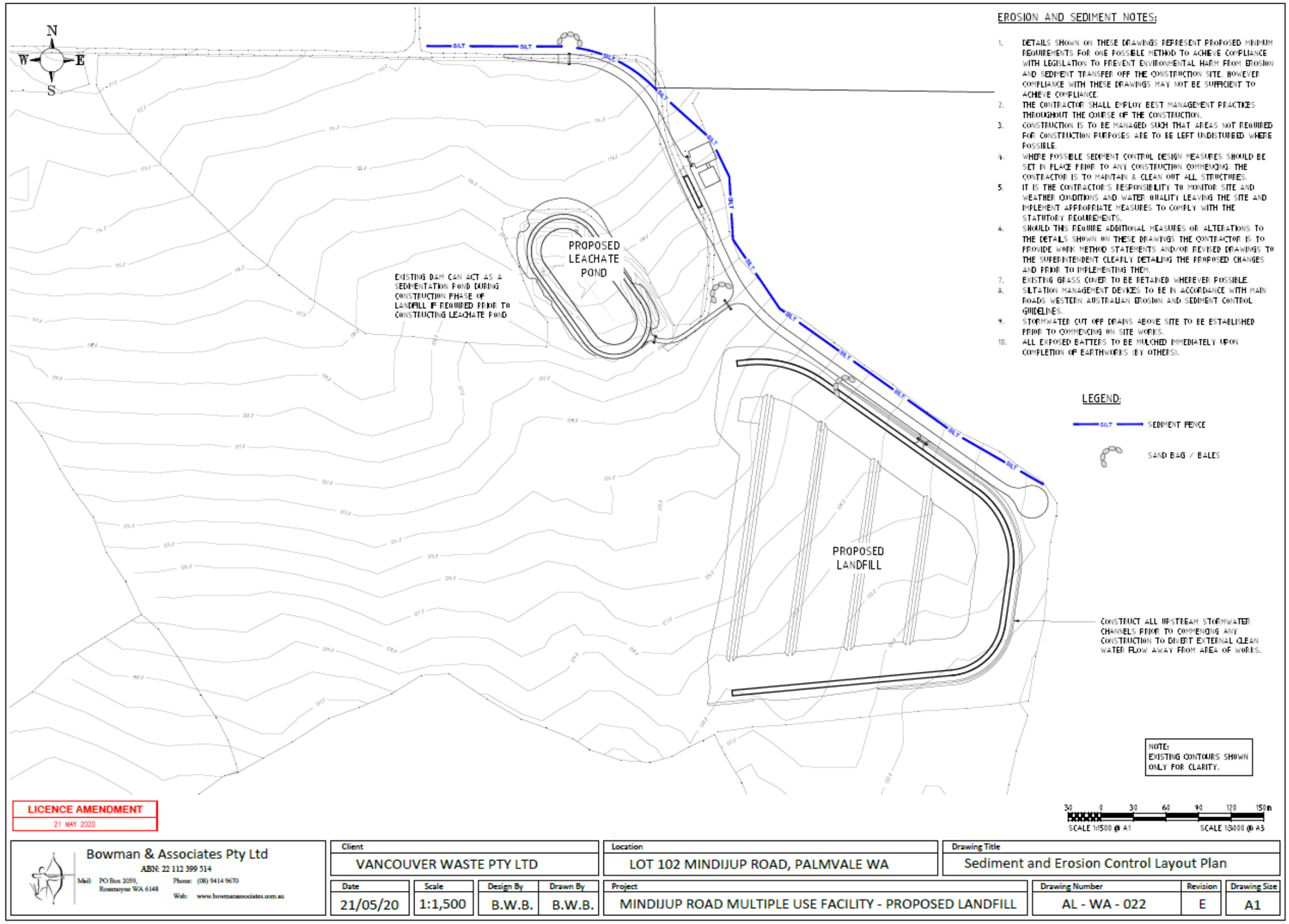
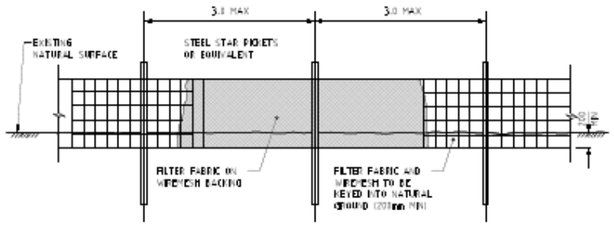
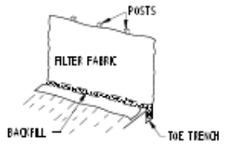


Figure 4: Sediment and Erosion Control Layout Plan

EROSION AND SEDIMENT CONTROL NOTES:

1. GRASS SEED TO ALL STORMWATER CHANNEL AND TABLE DRAINS
2. PROVIDE 10m² MIN. STONEPITCHING AT ALL STORMWATER OUTLETS.
3. PROVIDE INLET PROTECTION MEASURES TO ALL INLETS.
4. GRASS SEED ALL DISTURBED AREAS (BY OTHERS).
5. DUST CONTROL BY WATERING AS NECESSARY TO PREVENT VISIBLE DUST CLOUDS AT PROPERTY BOUNDARIES.



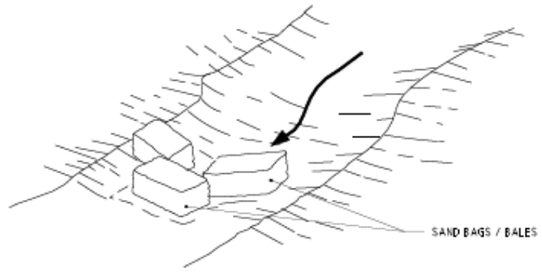


MAINTENANCE PROGRAM FOR SILT FENCES

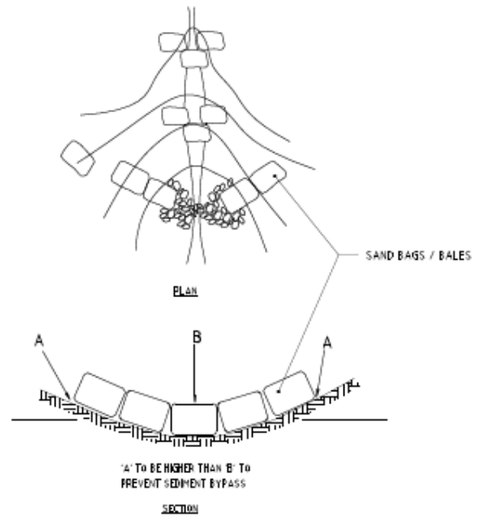
1. REGULAR INSPECTIONS WILL BE REQUIRED TO CONTROL DAMAGE CAUSED BY ON SITE VEHICLES OR MOVEMENT OF STOCKPILES.
2. INSPECTED AFTER EACH STORM EVENT THAT RESULTS IN RUN-OFF.
3. REMOVE EXCESS SEDIMENT DEPOSITS.
4. INVESTIGATE THE SOURCE OF ANY EXCESSIVE SEDIMENT.

NOTE:SILT MANAGEMENT
SILT FENCES ARE TO BE EMPLOYED WHERE CONDITIONS DURING CONSTRUCTION REQUIRE THE CONTROL OF ANY POSSIBLE SILT MOVEMENT ON THE SITE,AS DIRECTED BY THE SUPERVISOR.

TYPICAL SEDIMENT FENCE DETAIL
NOT TO SCALE



TYPICAL SAND BAG / BALE OPEN DRAIN DETAIL
NOT TO SCALE



TYPICAL SEDIMENT AND EROSION CONTROL DETAIL
NOT TO SCALE

LICENCE AMENDMENT
21 MAY 2020

Bowman & Associates Pty Ltd ABN: 22 112 399 514 Mail: PO Box 2059, Rossmoyne WA 6148 Phone: (08) 9414 9670 Web: www.bowmanassociates.com.au	Client: VANCOUVER WASTE PTY LTD	Location: LOT 102 MINDIJUP ROAD, PALMVALE WA	Drawing Title: Sediment and Erosion Control Details				
	Date: 21/05/20	Scale: N.T.S.	Design By: B.W.B.	Drawn By: B.W.B.	Project: MINDIJUP ROAD MULTIPLE USE FACILITY - PROPOSED LANDFILL	Drawing Number: AL - WA - 023	Revision: E	Drawing Size: A1

Figure 5: Sediment and Erosion Control Details Plan

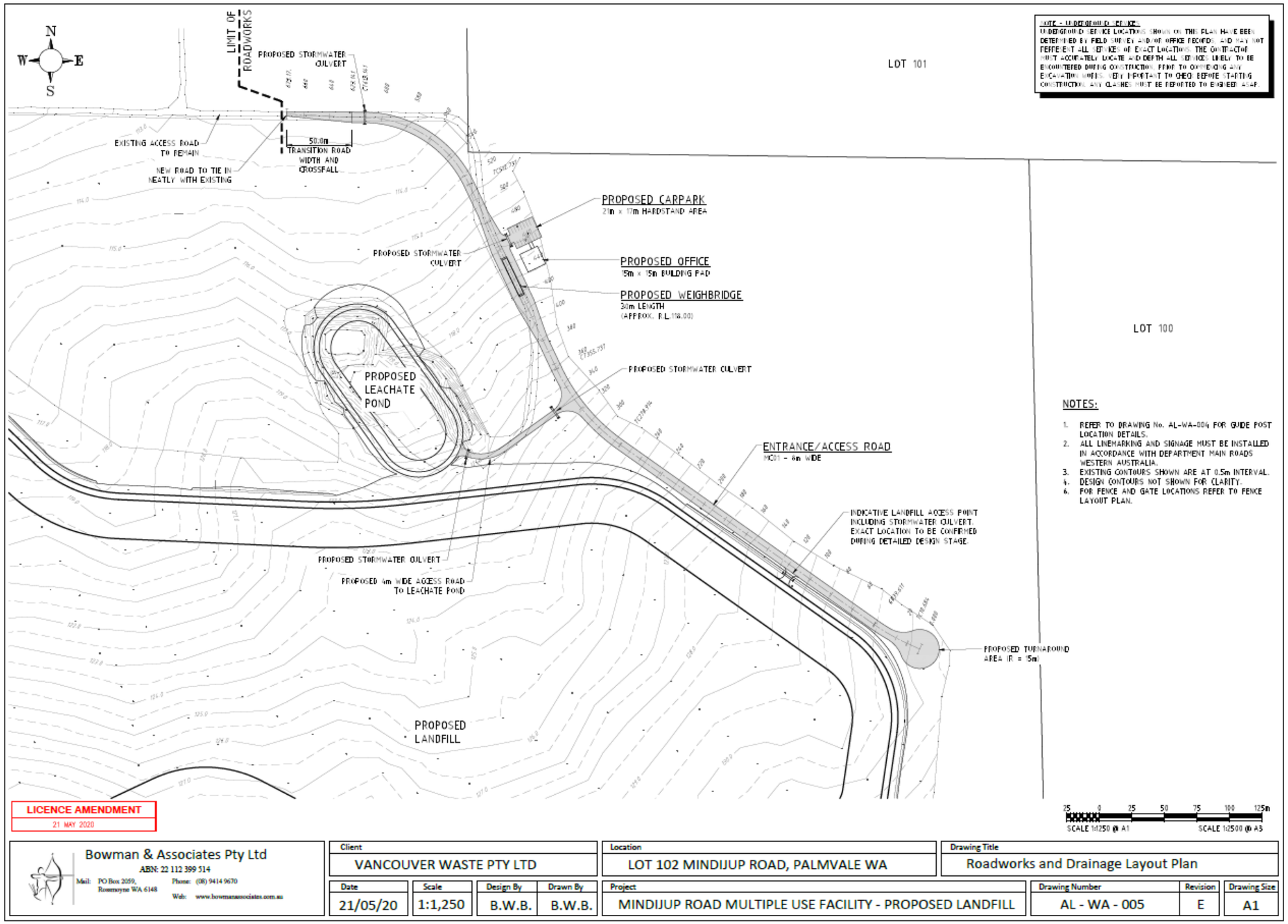


Figure 6: Roadworks and Drainage Layout Plan

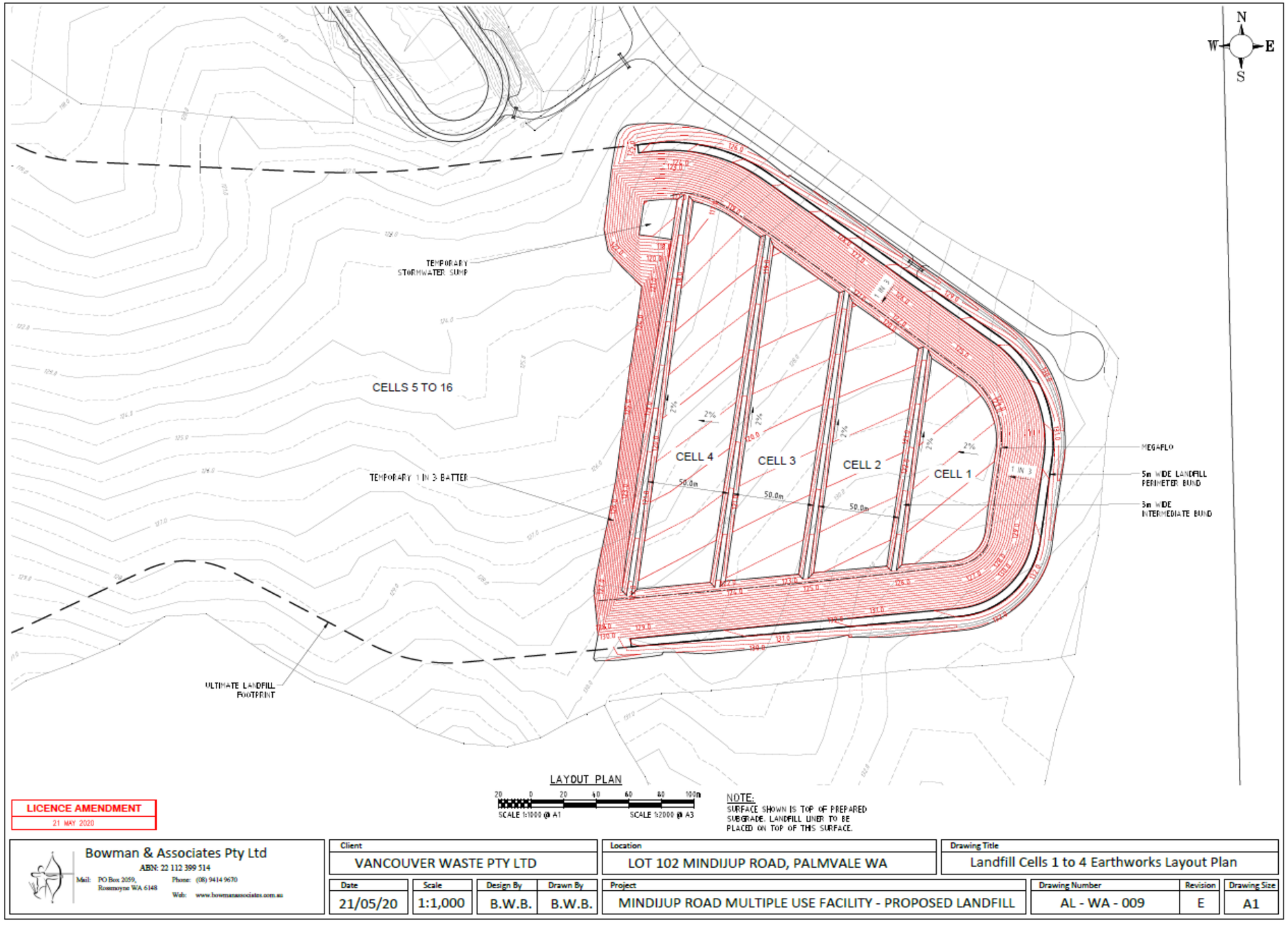


Figure 7: Landfill Cells Earthworks Layout Plan

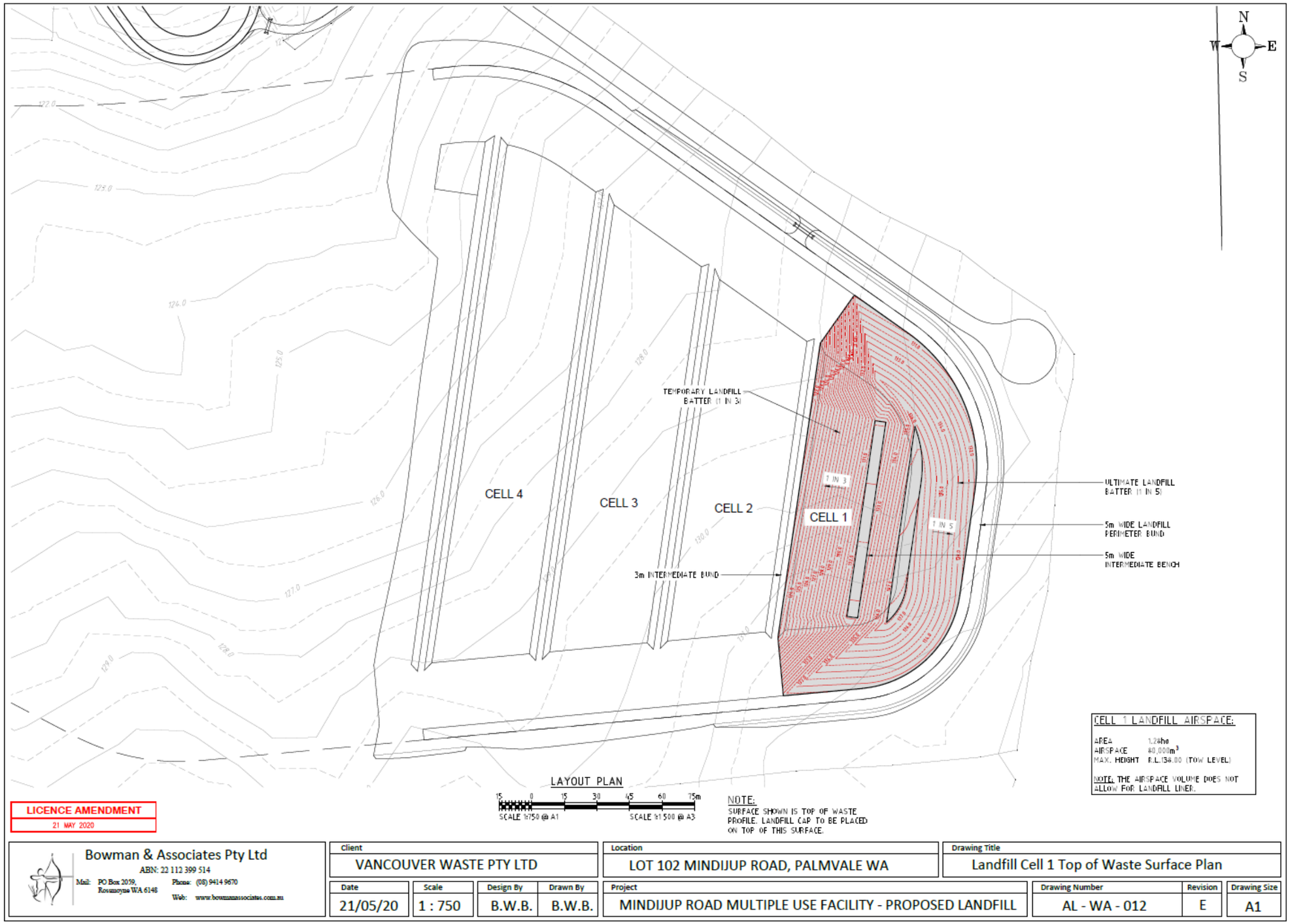


Figure 8: Cell 1 – Top of Waste Surface Plan

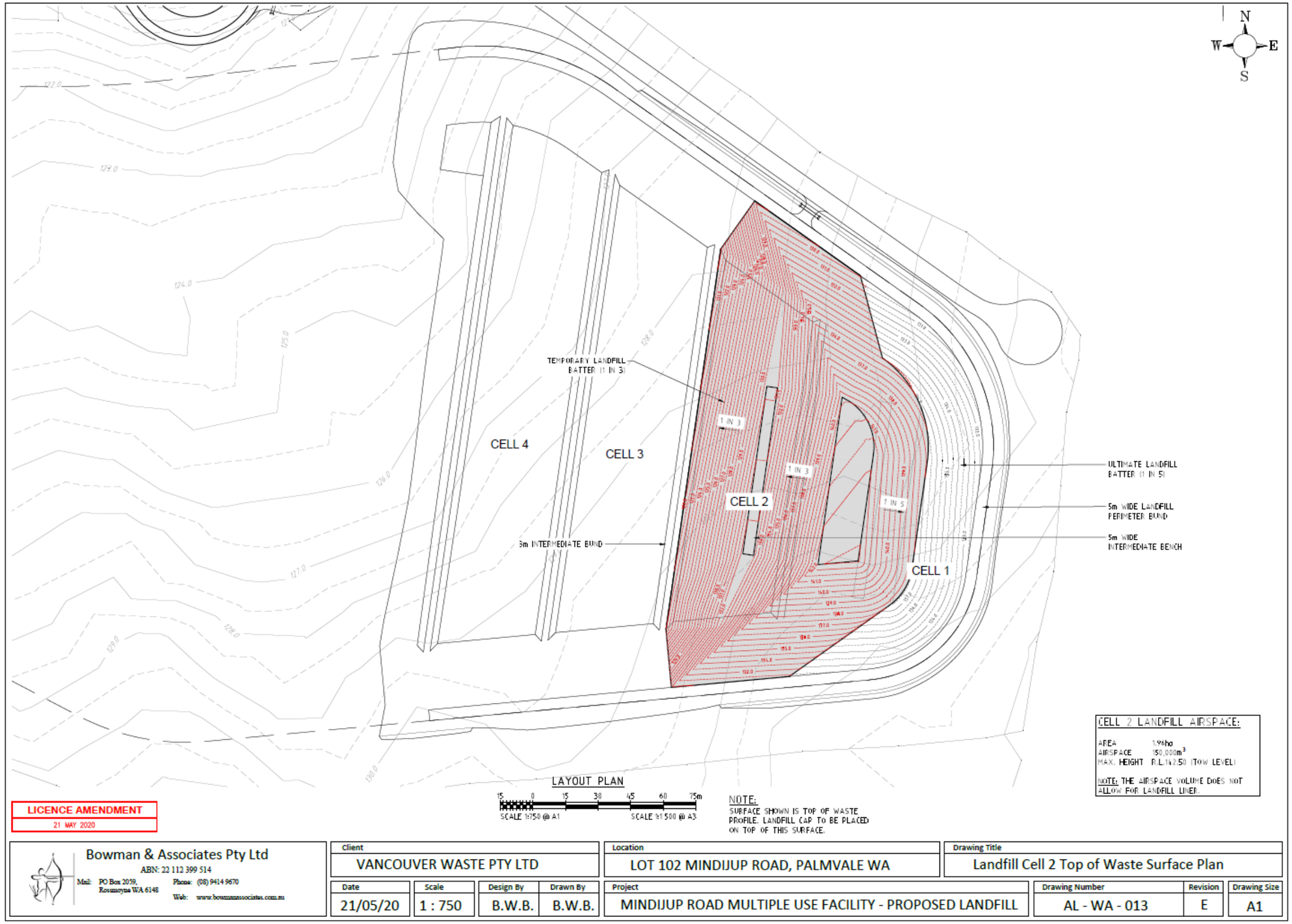


Figure 9: Cell 2 – Top of Waste Surface Plan

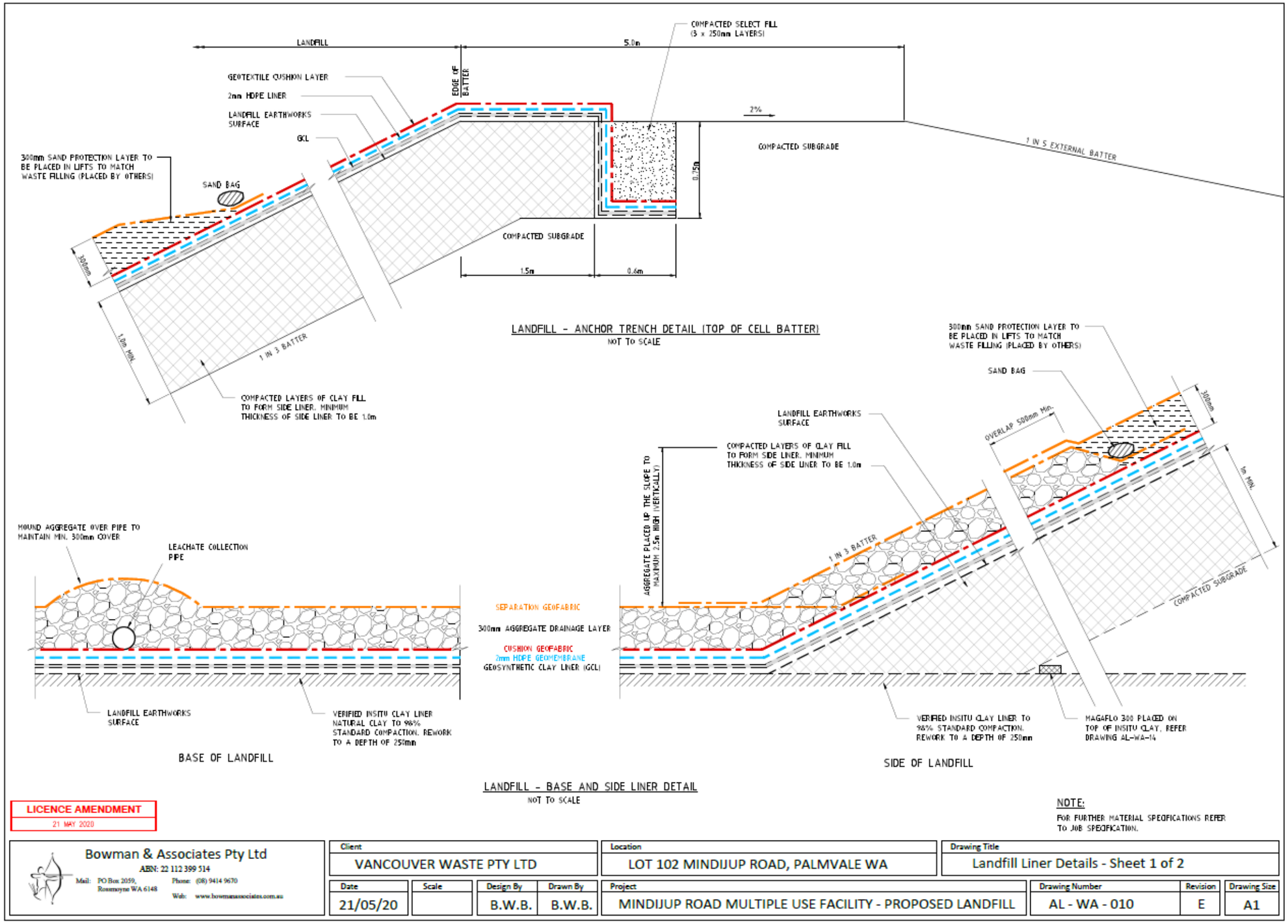


Figure 10: Approximate Landfill Liner Plan (refer to design specifications for detail)

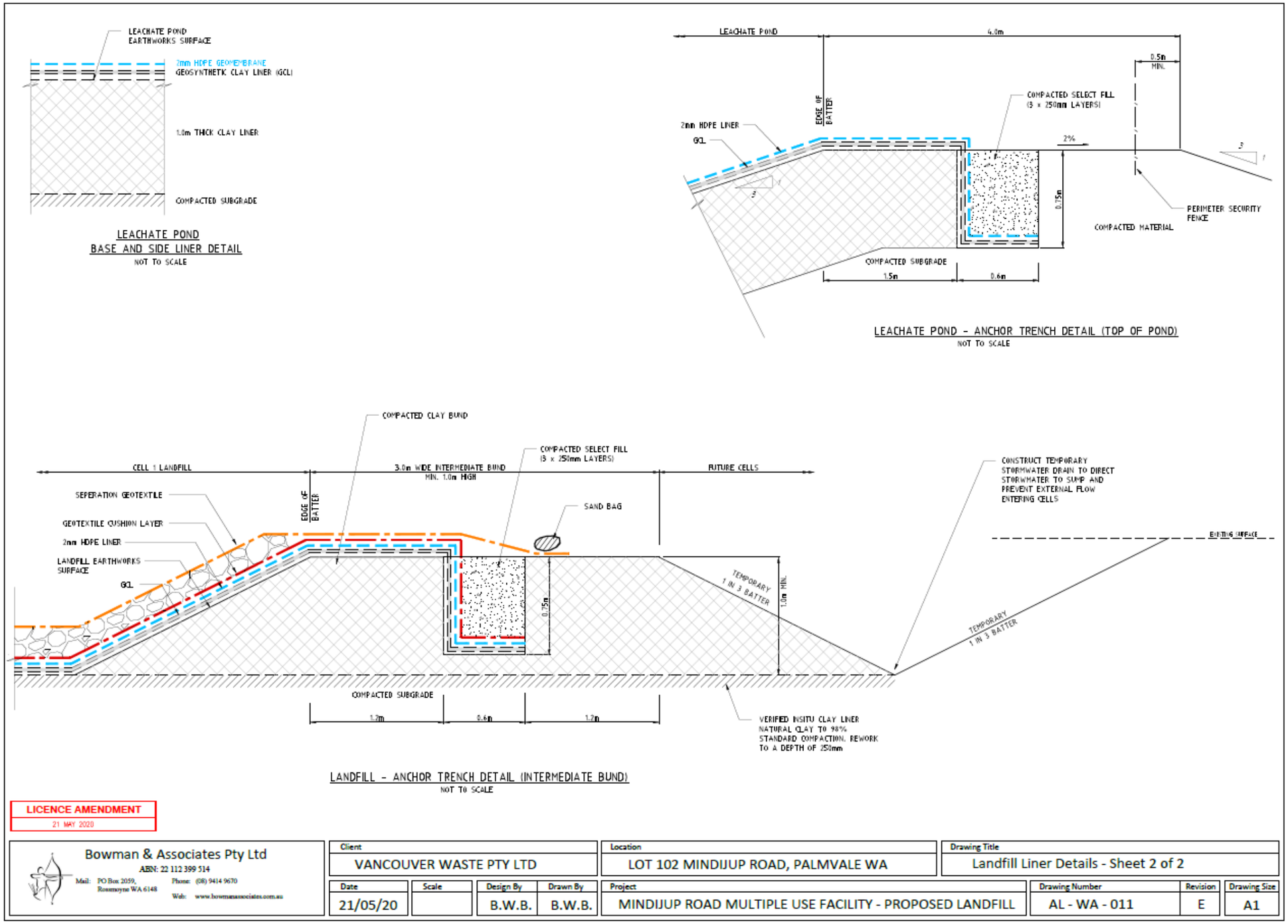


Figure 11: Anchor Trench Details Plan

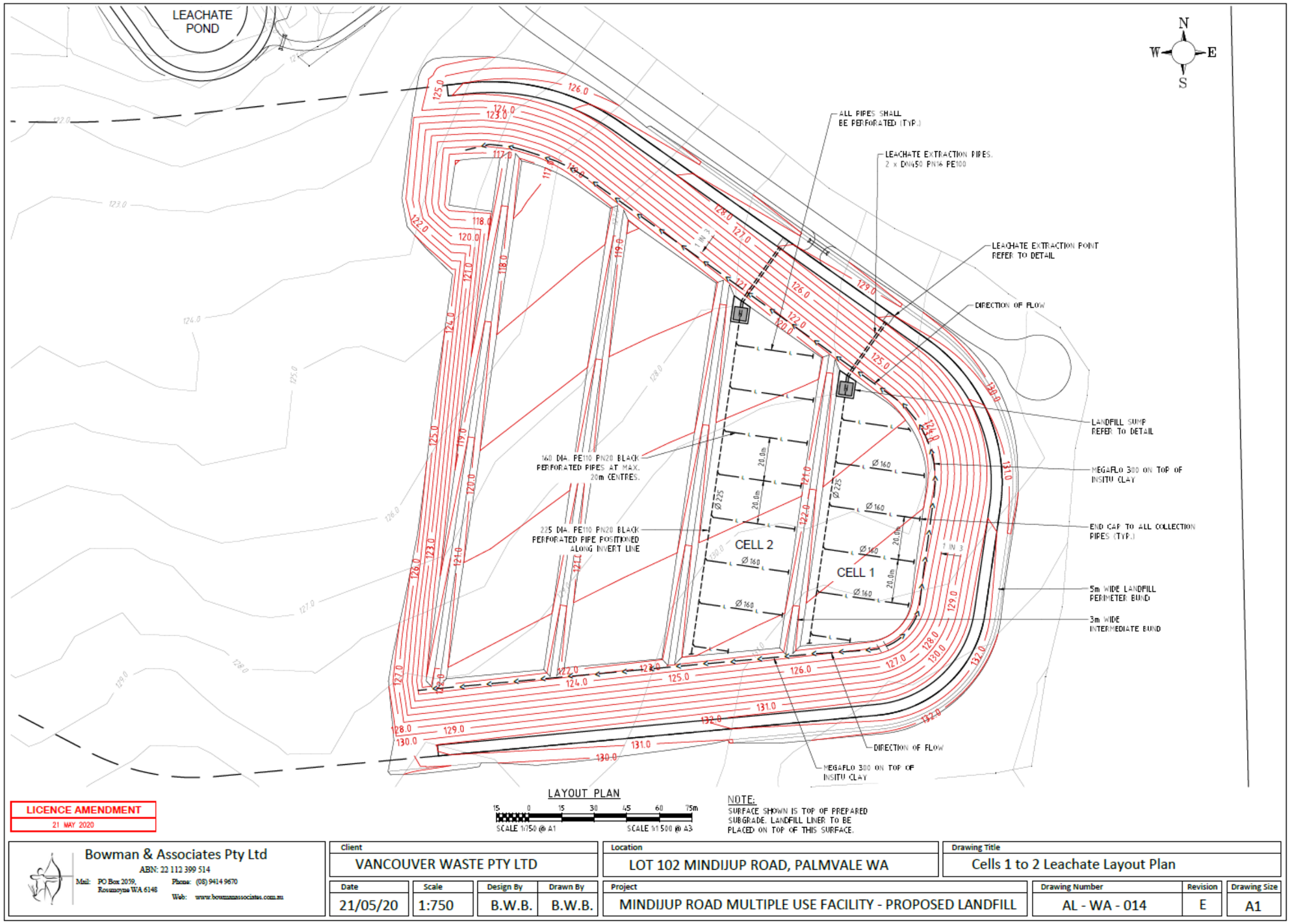


Figure 12: Leachate Collection Layout Plan

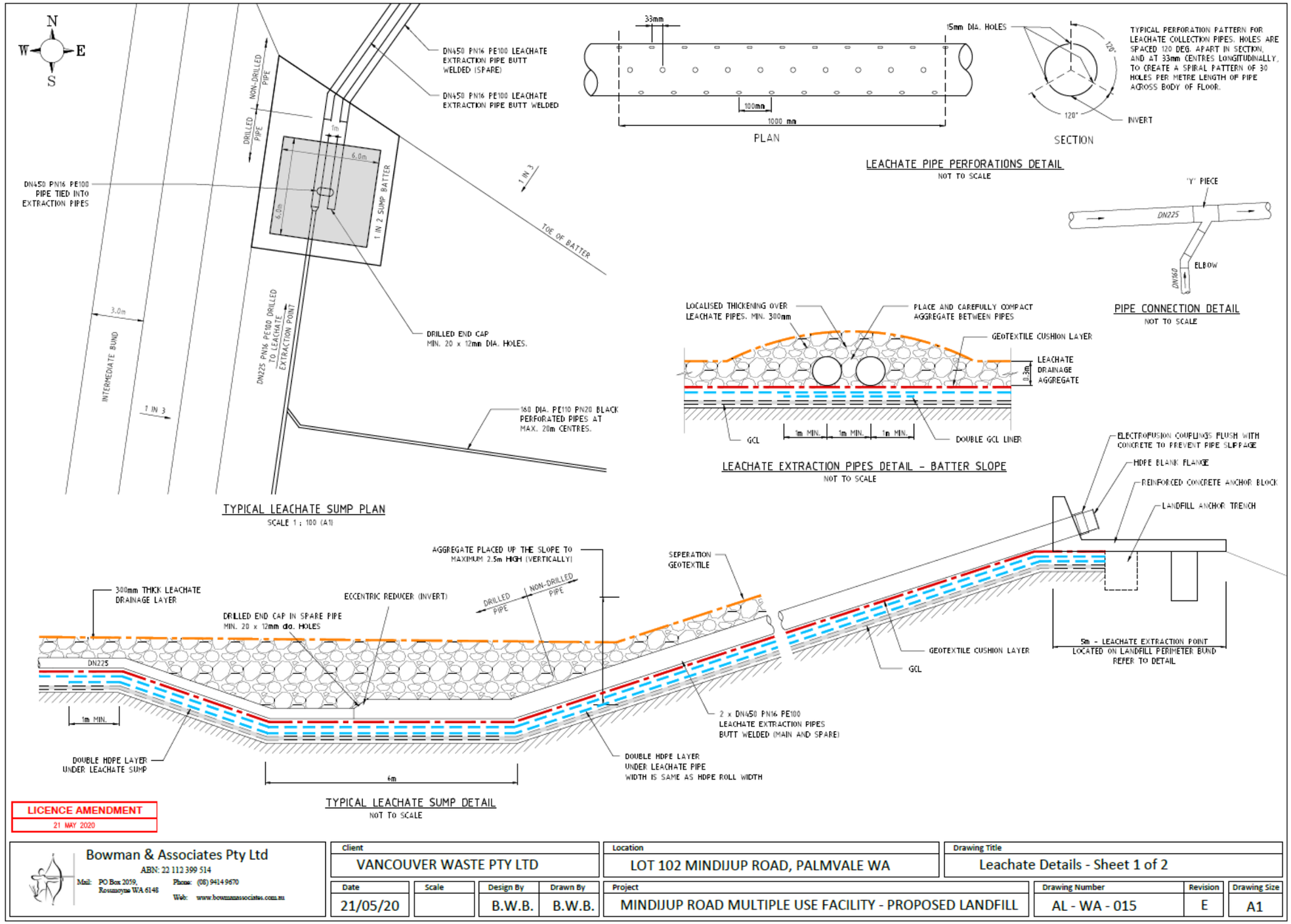
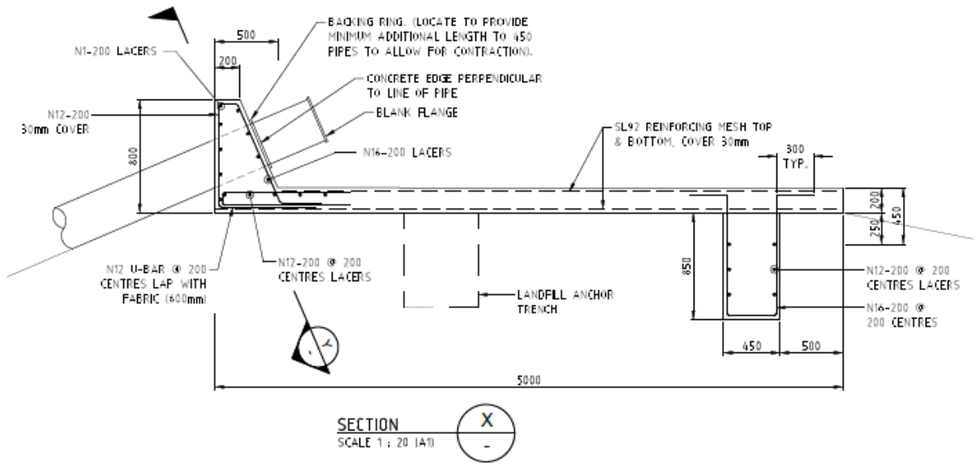
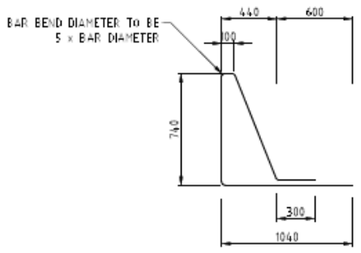


Figure 13: Leachate Details Plan 1



SECTION X
SCALE 1 : 20 (A1)



REO BAR DETAIL A
SCALE 1 : 20 (A1)

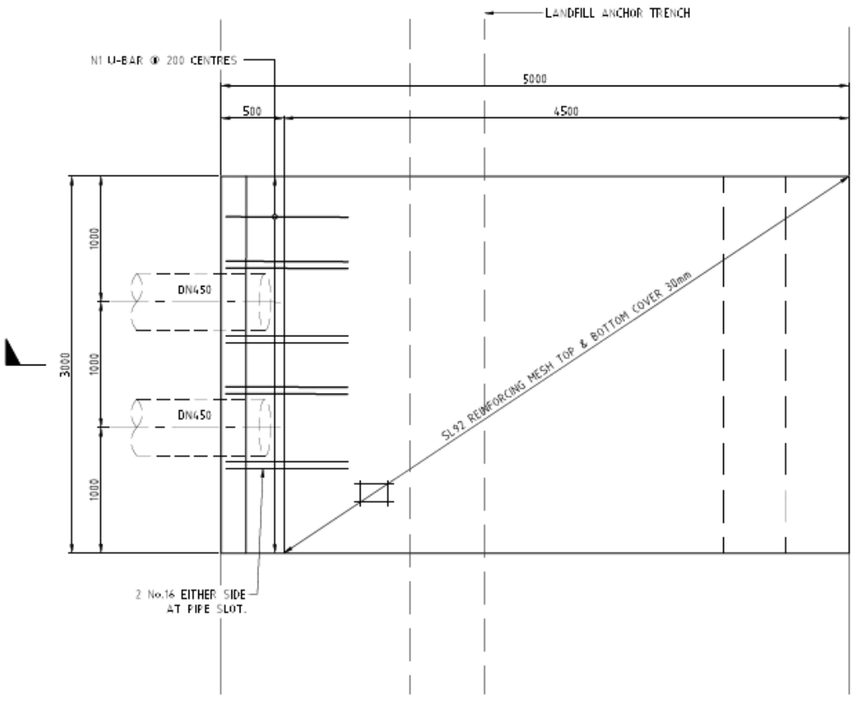
GENERAL NOTES:

GENERAL:
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND SPECIFICATIONS.
2. WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE LATEST REVISION OF AUSTRALIAN STANDARDS AND STATUTORY AUTHORITY REGULATIONS.
3. PROVIDE ALL TEMPORARY SUPPORTS REQUIRED FOR SAFE CONSTRUCTION.
4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

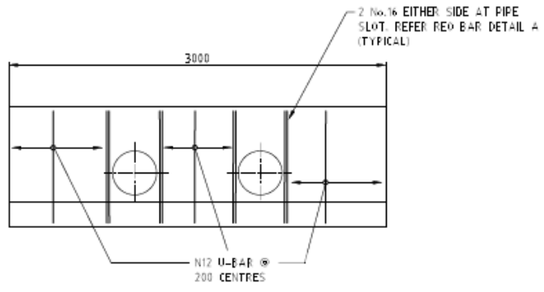
GROUND AND SLAB FORMATION:
5. FOUNDATIONS SHALL BE INSPECTED AND APPROVED BY THE SUPERINTENDENT PRIOR TO CONSTRUCTION.
6. ALL CONCRETE SLABS ON GROUND TO BE CONSTRUCTED ON 200mm THICK CRUSHED LIMESTONE BASE FORMED TO WITHIN 15mm OF DESIGNATED FALLS AND LEVELS AND COMPACTED TO 95% MAX. DRY DENSITY.
7. CONCRETE SLABS TO BE UNDERLAIN BY 200um POLY-ETHYLENE SHEETING LAPPED WITH 200mm AND SEALED WITH APPROVED ADHESIVE TAPE AT ALL JOINTS.

CONCRETE AND FORMWORK:
8. FORMWORK SHALL BE IN COMPLIANCE WITH AS3610 WITH EXPOSED FACES OF CONCRETE HAVING A SURFACE FINISH MINIMUM QUALITY EQUIVALENT TO CLASS 3.
9. ALL CONCRETE WORK SHALL BE IN COMPLIANCE WITH AS3600.
10. CONCRETE MIX TO BE N32 GRADE, WITH 32MPa MINIMUM 28d COMPRESSIVE STRENGTH, 20mm MAX. AGGREGATE SIZE.
11. ALL CONCRETE POURS SHALL BE VIBRATED.
12. CONCRETE SHALL BE CURED BY KEEPING EXPOSED SURFACES CONTINUOUSLY WETTED FOR 7 DAYS AFTER POURING.
13. CONCRETE SURFACE SHALL BE BROOM FINISHED.

REINFORCING STEEL:
14. ALL REINFORCEMENT SHALL COMPLY WITH THE REQUIREMENTS OF AS4671.
15. MESH AND BAR REINFORCEMENT SHALL BE D500 GRADE.
16. BOTTOM MESH SHEETS SHALL BE SUPPORTED ON APPROVED PLASTIC STOOLS AT 1m C/C IN BOTH DIRECTIONS AND NOT HOOKED UP DURING CONCRETE POUR.
17. COVER TO SLAB REINFORCEMENT TO BE 30mm MINIMUM ALL ROUND.
18. ALL MESH OVERLAPS SHALL COVER AT LEAST 2 x TRANSVERSE BARS.
19. REINFORCEMENT SHALL NOT BE RE-BENT OR WELDED WITHOUT APPROVAL OF THE SUPERINTENDENT.



LEACHATE EXTRACTION POINT LAYOUT
REINFORCED CONCRETE SLAB ON TOP OF LANDFILL BUND
SCALE 1 : 20 (A1)



SECTION Y
SCALE 1 : 20 (A1)

LICENCE AMENDMENT
21 MAY 2020

Bowman & Associates Pty Ltd ABN: 22 112 399 514 Mail: PO Box 2059, Rossmoyne WA 6148 Phone: (08) 9414 9670 Web: www.bowmanassociates.com.au	Client: VANCOUVER WASTE PTY LTD	Location: LOT 102 MINDIJUP ROAD, PALMVALE WA			Drawing Title: Leachate Details - Sheet 2 of 2		
	Date: 21/05/20	Scale:	Design By: B.W.B.	Drawn By: B.W.B.	Project: MINDIJUP ROAD MULTIPLE USE FACILITY - PROPOSED LANDFILL	Drawing Number: AL - WA - 016	Revision: E	Drawing Size: A1

Figure 14: Leachate Details Plan 2

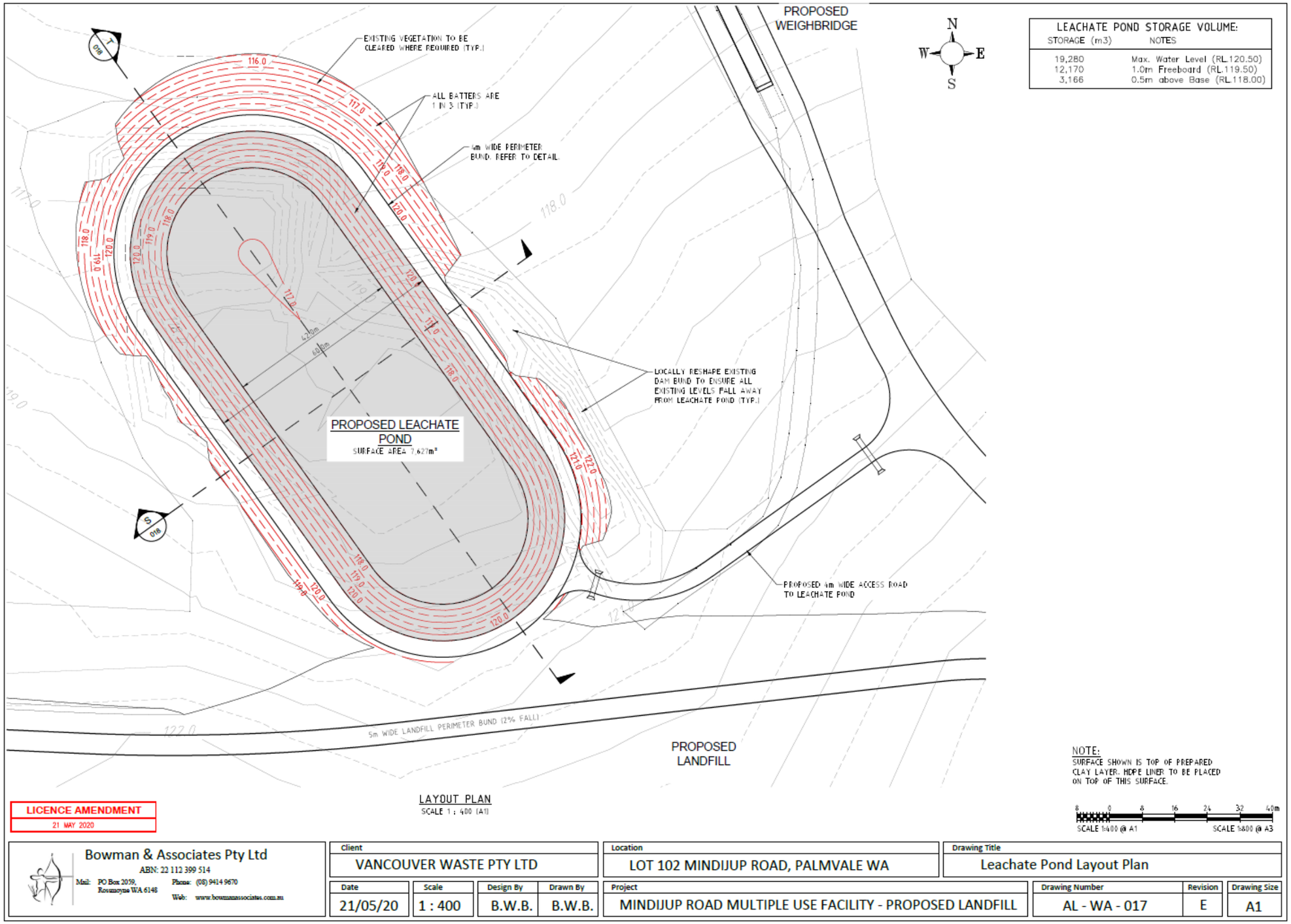


Figure 15: Leachate Pond Layout Plan

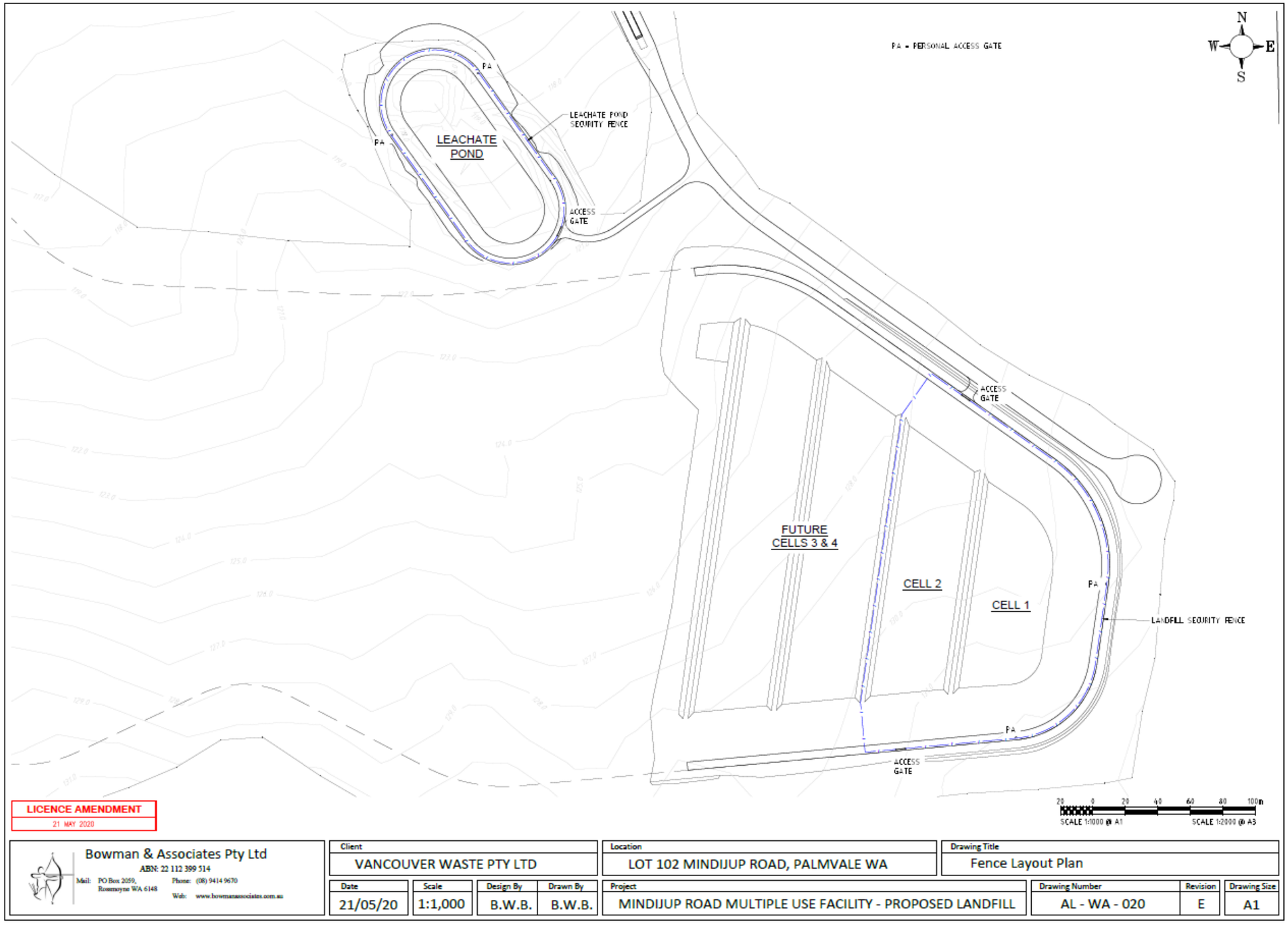


Figure 16: Fence Layout Plan

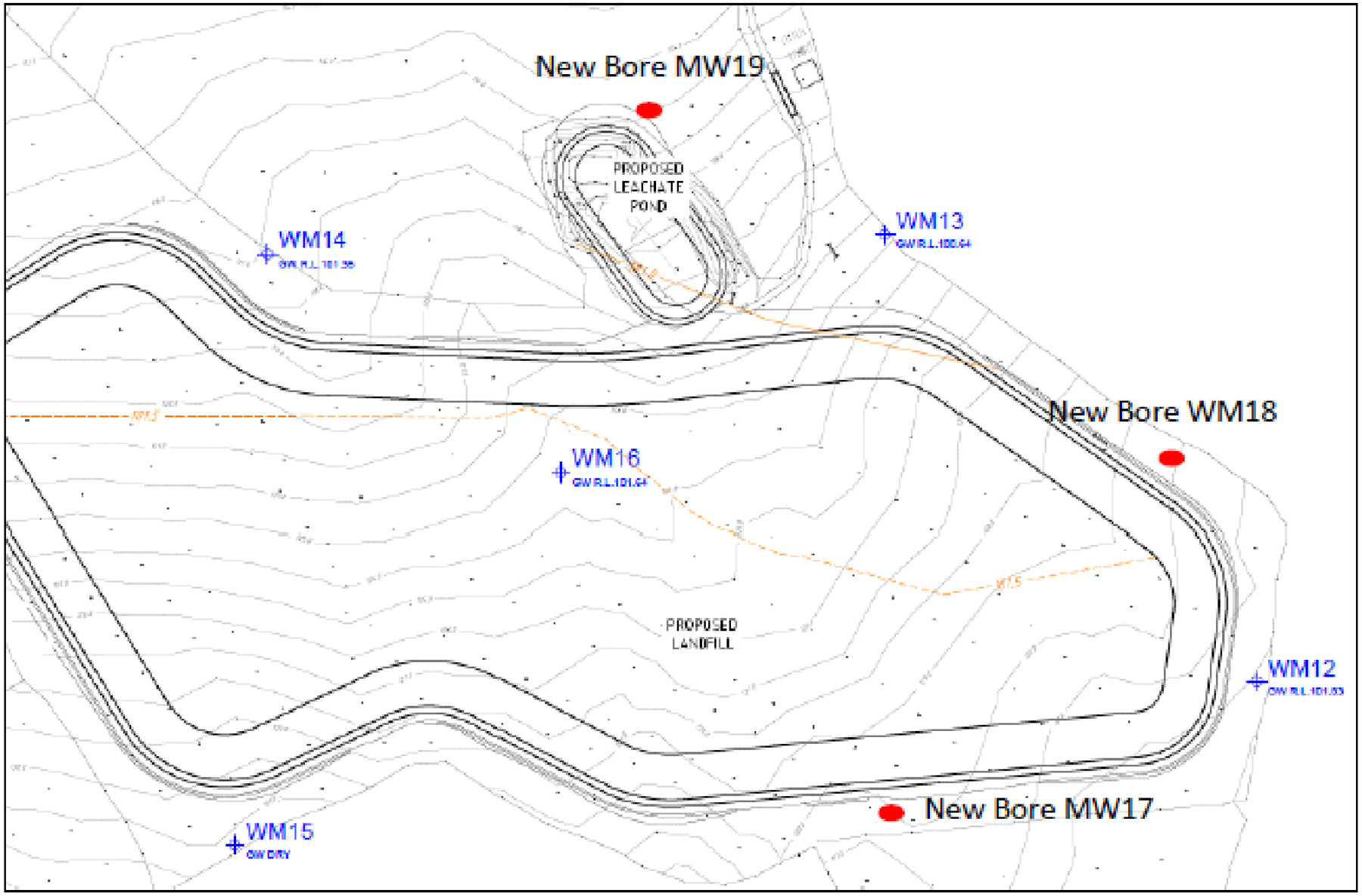


Figure 17: Groundwater Monitoring Bore Network (excluding 2 additional bores required to be constructed by Condition 21)

Schedule 5: Reporting & notification forms

N1 form

The licence holder is to submit this form in accordance with the requirements of the licence.

Government of **Western Australia**
Department of **Water and Environmental Regulation**

Licence:	Licence holder:
Form: N1	Date of breach:

Notification of detection of the breach of a limit.

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

Licence number	
Name of operator	
Location of premises	
Time and date of the detection	

Notification requirements for the breach of a limit	
Emission point reference/source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Part B

Any more accurate information on the matters for notification under Part A.	

Measures taken, or intended to be taken, to prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission.	
The dates of any previous N1 notifications for the Premises in the preceding 24 months.	

Name	
Post	
Signature on behalf of licence holder	
Date	