Licence

Licence number	L8889/2015/1
Licence holder	Eastern Metropolitan Regional Council
Registered business address	226 Great Eastern Highway BELMONT WA 6104
DWER file number	DER2015/000777-1
Duration	19/05/2015 to 18/05/2022
Date of amendment	26/06/2020
Premises details	Red Hill Waste Management Facility Toodyay Road, RED HILL Legal description - Lot 1 on Diagram 15239, Lot 2 on Diagram 68630, Lot 11 on Diagram 69105 and Lot 12 on Deposited Plan 26468

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production / design capacity**
Category 12: Screening, etc of material: premises (other than premises within category 5 or 8) on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.	200,000 tonnes per annual period
Category 62: Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use.	10,000 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 Definitions 1996,* is accepted for burial.	350,000 tonnes per annual period
Category 65: Class IV secure 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.	Not applicable

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 of blended soils.	50,000 tonnes per annual period

This licence is granted to the licence holder, subject to the attached conditions, on 26 June 2020, by:

Melissa Chamberlain
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
19/05/2015	L8889/2015/1	Licence granted
29/04/2016	L8889/2015/1	Notice of amendment and schedule of licences with amended expiry dates
06/09/2017	L8889/2015/1	Amendment Notice 1: Approval to accept and bury PFAS contaminated solid waste in existing Class III landfill cells (Farm Stage 1 and 2 and Stage 15).
01/05/2018	L8889/2015/1	Amendment Notice 2: Approval to accept and store paint wastes and updates to landfill acceptance criteria for PFAS impacted solid wastes (Special Waste Type 3).
09/07/2018	L8889/2015/1	Amendment Notice 3: Construction and operation of three leachate ponds (1 holding pond and 2 evaporation ponds) to manage excess leachate currently being stored in the decommissioned Class IV cell.
9/08/2018	L8889/2015/1	Amendment Notice 4: Construction of an eastern leachate storage pond for disposal of green waste leachate by evaporation.
01/11/2018	L8889/2015/1	Amendment Notice 5: Increase of the capacity of leachate holding pond 1 by deepening the pond by 3 m.
06/05/2019	L8889/2015/1	Amendment Notice 6: Extension to licence duration
30/03/2020	L8889/2015/1	Revised Licence including: • approval for operation of the mechanical evaporator at the Class III leachate ponds; • increased Category 12 production capacity; • approval for relocation of green waste processing activities to the new hardstand on Lot 12; • incorporation of changes made via Amendment Notice 1 to 6; • reformatting of conditions into the current licence structure.

Date	Reference number	Summary of changes
27/05/2020	L8889/2015/1	DWER initiated amendment to correct minor omissions and errors in the March 2020 amended licence relating to contaminated solid waste processing, Class IV landfill cell and green waste windrows.
26/06/2020	L8889/2015/1	Revised Licence to approve: - installation of landfill gas flare system at power generation plant; and - operation of an interim FOGO processing facility on Lot 11 and 12.

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 means the version of the standard, guideline, or code of practice in force at the time of granting of this licence and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the licence;

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

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

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

Licence conditions

The Licence Holder must ensure that the following conditions are complied with:

Waste Acceptance

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

Table 1: Waste acceptance

Waste type	Category	Rate at which waste is received	Acceptance specification[1]
Hazardous Waste	62	10,000 tonnes per annual period including a maximum of 50 tonnes of Hazardous Waste per annual period	Paints and resins only
Clean Fill			None specified
Inert Waste Type 1			
Inert Waste Type 2			
Putrescible Waste			
Green Waste			
Special Waste Type 1			Before entry to the premises, any asbestos material is wrapped in heavy duty plastic.
Clean Fill	64	350,000 tonnes per annual period	None specified
Inert Waste Type 1			
Inert Waste Type 2			
Putrescible Waste			
Special Waste Type 1			Before entry to the premises, any asbestos material is wrapped in heavy duty plastic.
Special Waste Type 2			Excludes wastes which require incineration as specified in Department of Health *Operational Directive 0651/16 – Clinical and Related Waste Management Policy.* Low level radioactive waste must meet the requirements for landfill disposal specified in the Department of Health *Radioactive Waste Disposal Guidelines.*

Waste type	Category	Rate at which waste is received	Acceptance specification[1]
Contaminated solid waste	64	350,000 tonnes per annual period	Must meet the acceptance criteria for Class III landfills as specified in the Landfill Definitions.
Special Waste Type 3			Must meet the acceptance criteria for Class III landfills as specified in Schedule 3 and the acceptance criteria for Class III landfills as specified in the Landfill Definitions for contaminants other than PFAS.
Contaminated solid waste	65	N/A	Must meet the acceptance criteria for Class IV landfills as specified in the Landfill Definitions. Leachable concentrations assessed according to the ASLP using a leaching solution of deionized water.
Special Waste Type 2			Excludes wastes which require incineration as specified in Department of Health *OD 0651/16 – Clinical and Related Waste Management Policy.* Low level radioactive waste must meet the requirements for landfill disposal specified in the Department of Health *Radioactive Waste Disposal Guidelines.*
Green Waste	67A	40,000 tonnes per annual period	None specified
Food organics and garden organics (FOGO) waste		10,000 tonnes per annual period	Sourced from kerbside municipal collections of designated FOGO bins

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

2. The licence holder shall ensure the following procedures are in place for managing contaminated solid wastes:

(i) where such loads are identified, record the nature of the load, the delivery vehicle's registration number, driver's name and volume delivered; and

(ii) any identified contaminated solid waste shall be accompanied by documentary evidence that it meets the requirements of licence condition 1, from a NATA accredited laboratory.

3. The licence holder must ensure where waste does not meet the acceptance criteria set out in condition 1, it is removed from the premises by the delivery vehicle or, where that is not possible, stored in a quarantined storage area or container and removed to an appropriately authorised facility within 72 hrs.

Infrastructure and Equipment

4. The licence holder must ensure that the site infrastructure and equipment listed in Table 2 is maintained and operated in accordance with the corresponding operational requirement set out in Table 2.

Table 2: Infrastructure requirements

Infrastructure and equipment	Infrastructure requirement(s)	Infrastructure location
Landfill leachate ponds	Managed such that a freeboard equal to or greater than 500 mm is maintained.	'Class III and Class IV leachate ponds' as shown in Figure 2.
Stormwater drains	Kept clear of any waste to allow effective draining.	N/A
Stage 1 FOGO hardstand	Areas used for the storage of FOGO waste must be: • bunded to divert stormwater run-off from entering the hardstand; • bunded and maintained to contain leachate and drain it to the Stage 1 FOGO leachate sump; and • graded and maintained to prevent pooling of leachate and achieve drainage to the Stage 1 FOGO leachate sump.	'Stage 1 FOGO hardstand' as shown in Figure 2.
	Storage and processing of FOGO waste at this location is permitted until 31 December 2022	
Stage 1 FOGO leachate sump	Managed such that a freeboard equal to or greater than 500 mm is maintained.	'Stage 1 FOGO leachate sump' as shown in Figure 2.
	The following operational controls are implemented to maintain the specified minimum freeboard: • weekly inspection by site personnel to check compliance with the freeboard requirement in this table; • infrastructure in place to automatically pump excess leachate to landfill leachate ponds; and • excess leachate is managed by pumping to the landfill leachate ponds.	

Infrastructure and equipment	Infrastructure requirement(s)	Infrastructure location
Green waste leachate pond	Managed such that a freeboard equal to or greater than 500 mm is maintained.	'New green waste leachate pond' and 'Class III leachate ponds' as shown in Figure 2.
	The following operational controls are implemented to maintain the specified minimum freeboard: • weekly inspection by site personnel to assess and record compliance with the freeboard requirement in this table; • infrastructure in place to pump excess leachate to the Class III leachate ponds; and • excess leachate is managed by pumping to the Class III leachate ponds.	
Green waste processing hardstand	Areas used for the storage of Green Waste, FOGO waste, materials undergoing composting and Composting Products must be: • bunded to divert stormwater run-off from entering the hardstand; • bunded and maintained to contain leachate, drain it to the green waste leachate pond and prevent leachate drainage to the temporary laydown area; and • graded and maintained to prevent pooling of leachate and achieve drainage to the green waste leachate pond.	'Current green waste processing hardstand' and 'New green waste leachate pond' as shown in Figure 2.
	Located at least 25 m from the premises boundary and 25 m from any area being used for landfilling operations.	
	Storage and processing of FOGO waste at this location is permitted until 31 December 2022	
Green waste grinder	Operated within the hours of 7:00 am and 6:00 pm Monday to Saturday.	Located on the 'Current green waste processing hardstand' in Figure 2.
	Operated at the green waste processing hardstand area labelled in Figure 2	
Compost trommel screener	Operated within the hours of 7:00 am and 6:00 pm Monday to Saturday and 10:00 am and 4:00 pm Sunday.	Located on the 'Current green waste processing hardstand' in Figure 2.
	FOGO and Green Waste are damp before screening.	

Infrastructure and equipment	Infrastructure requirement(s)	Infrastructure location
	Operated at the green waste processing hardstand area labelled in Figure 2	
Mobile aerated floors	Maintained and serviced in accordance with the manufacturer's specifications.	Located at the 'Stage 1 FOGO hardstand' and 'Current green waste processing hardstand' in Figure 2.
	Each unit at the Stage 1 location is operated in reverse aeration mode (extracting air) while FOGO waste is loaded onto it.	
	Air extracted during reverse aeration mode at the Stage 1 location is pumped to the biofilter for treatment before emission to the atmosphere.	
Biofilter	Intake air is monitored on a weekly basis for temperature (ºC), relative humidity (%) and back pressure (Pa) and results are recorded.	Located at the 'Stage 1 FOGO hardstand' area in Figure 2.
	Process settings are adjusted to maintain air intake temperature between 10ºC and 40ºC and relative humidity of at least 85%.	
	The treatment bed comprises at least 10 m^3 of woodchip, bark or Composting Products. Composting Products must comprise no more than 50% of the treatment bed volume.	
	The whole treatment bed is maintained in a damp state with moisture content between 45% and 65%.	
	Shade cover maintained over the biofilter.	
	The treatment bed is replaced with fresh material when: • visual observations identify undulation on the biofilter surface, significant bed height changes or significant breakdown of the treatment bed media; or • a significant reduction in back pressure is recorded.	
Temporary laydown area	Bunded to divert stormwater run-off or leachate from the green waste processing hardstand from entering the temporary laydown area.	'Temporary laydown area' as shown in Figure 2.

Infrastructure and equipment	Infrastructure requirement(s)	Infrastructure location
Class III putrescible waste cells	Capping system with the following requirements installed immediately after the final contours have been reached: • immediately cap the cell with a permeable layer contoured to allow gas migration to extraction ports; • cap with 300 mm of clay with a hydraulic conductivity (K) of $1x10^{-7}$ m/s or less; and • protective capping cover.	'Class III' cells as shown in Figure 2.
	Landfill gas collection system installed at each of the Class III putrescible waste cells.	
Class IV waste cells	As per Ministerial Statement 462	'Class IV' cells as shown in Figure 2.
Mechanical evaporator	Operated in a manner which prevents visible overspray of evaporation droplets beyond the exclusion zone.	'Mechanical leachate evaporator' and 'southern Class III leachate holding pond' as shown in Figure 2. 'Exclusion zone' as shown in Figure 3.
	Operated using leachate stored in the southern Class III leachate holding pond.	
	Operated at the mechanical evaporator location labelled in Figure 2.	
	Operated during daylight hours only.	
	Not permitted to operate when the wind speed is greater than 7 m/s for a period of five minutes or more (as measured by the onboard weather station).	
	Maintained and serviced in accordance with the manufacturer's specifications.	
Screening and crushing equipment	Dust suppression from on-site water carts is used to prevent dust emissions from associated operational areas.	'Current crushing and screening area' and 'Additional crushing and screening area' as shown in Figure 2.
	The licence holder must ensure that no visible dust generated during the use of this equipment crosses the premises boundary.	
	Operated at the crushing and screening areas labelled in Figure 2.	

Infrastructure and equipment	Infrastructure requirement(s)	Infrastructure location
	Operated within the hours of 7:00 am and 6:00 pm Monday to Saturday.	
Landfill gas flares	Maintained to ensure safe operation at all times and achieve a minimum combustion temperature of 760ºC when gas flow rates are at least 100 m^3/hour.	'Landfill gas flare system' in Figure 2.
	Condensate collected and disposed to leachate ponds as shown in Figure 2.	
	Flow meter calibrated once per annual period.	
	Minimum separation distance of 10 metres maintained between landfill gas flares and surrounding vegetation.	
Vehicles	Where a vehicle has the potential to track waste or matter from the landfill off-site, it is washed down prior to departing the premises.	N/A
Fencing and security gate	Security fence around the perimeter of the premises or around the tipping face maintained to effectively control windblown waste and restrict access to the premises. The fence shall be 1.8 metres high topped with three barbed wire strands.	N/A
	The premises shall have one only public access point and this shall be equipped with a lockable gate. The gate shall be securely locked when the premises is unattended.	
	Weekly inspections of the fence and gates referred to above are undertaken and any damage to the fence is repaired within two working days of its discovery.	

Waste Processing Requirements

5. The licence holder shall ensure that wastes accepted onto the premises are only subjected to the process(es) set out in Table 3 and in accordance with any process limits or specifications described in that table.

Table 3: Waste processing

Waste type	Process(es)	Process limits or specifications[1, 2]
Clean Fill, Putrescible Waste, Inert Waste Type 1 and Inert Waste Type 2	Receipt, handling, storage and disposal or removal off-site	• Disposal is only permitted to Class III cells.
Up to Class III contaminated solid waste	Receipt, handling and disposal	• Disposal is only permitted to Class III cells.
Hazardous Waste	Receipt, handling and storage prior to removal off-site	• Paint and resins shall be stored in dedicated impermeable and bunded storage containers ('Stillages') provided by the Paintback Scheme. • Paint shall not be decanted or treated on the premises.
Special Waste Type 1	Receipt, handling, storage and disposal	• Disposal is only permitted to Class III cells. • The disposal area(s) for any more than one cubic metre of Special Waste Type 1 is defined by use of a satellite geographical positioning system or grid references on the premises plan. • A copy of the premises plan marked with the locations used for asbestos disposal as described above, should be kept as a permanent record. • A representative of the licence holder is available to witness the burial of the asbestos waste under 150 mm of fill or Putrescible Waste as soon as practical after placement in the landfill and sign a bound, numbered register, a numbered file register or record keeping equivalent within 2 hours of the burial to attest that it has been buried in accordance with these procedures.
Special Waste Type 2	Receipt, handling and disposal	• Disposal is permitted to Class III or Class IV cells. • Receipt, handling and disposal in accordance with the Department of Health *Radioactive Waste Disposal Guidelines.*
Special Waste Type 3	Receipt, handling and disposal	• Disposal is only permitted to Class III cells.
Class IV contaminated solid waste	Receipt, handling and disposal	• Disposal is only permitted to Class IV cells.

Waste type	Process(es)	Process limits or specifications[1, 2]
Green Waste	Receipt, handling, storage and mulching or composting for on-site use, removal off-site or disposal	• Green Waste is stored at the premises only for the purpose of mulching or composting for on-site use, or for removal from the premises. • Unprocessed Green Waste may be stored on the temporary laydown area for a maximum period of two weeks (14 days) or on the green waste processing hardstand. • All Green Waste being composted and all Composting Products are stored and processed on the green waste processing hardstand. • All Green Waste, materials undergoing composting and Composting Products stored on the green waste processing hardstand or temporary laydown area are stored in windrows. • Windrows of Green Waste are no more than 3 metres high and no more than 4 metres wide and separated by at least 4.5 metres of clear ground from any other row or from any other combustible waste. • Windrows of Green Waste and materials undergoing composting are maintained in an aerobic state. • Windrows of Green Waste and materials undergoing composting must be kept in a damp state and regularly inspected to check for any smoldering or smoke.

Waste type	Process(es)	Process limits or specifications[1, 2]
FOGO waste	Receipt, handling, storage and composting for on-site use, removal off-site or disposal	• FOGO waste is stored at the premises only for the purpose of composting for on-site use, or for removal from the premises. • FOGO waste and Composting Products are stored and processed on the Stage 1 FOGO hardstand or Stage 2 green waste processing hardstand in Figure 2. • FOGO waste received at the premises is delivered directly to the Stage 1 FOGO hardstand in Figure 2 and immediately placed onto a mobile aerated floor. • FOGO waste is not transferred to the Stage 2 green waste processing hardstand until it has undergone a minimum of three weeks aerobic composting on a mobile aerated floor. • FOGO waste is stored in windrows on mobile aerated floors at all times, with the exception of materials awaiting transfer from the Stage 1 FOGO hardstand to the Stage 2 green waste processing hardstand, these may be stored away from a mobile aerated floor for up to 48 hours. • FOGO waste is maintained in an aerobic state by forward or reverse aeration from the mobile aerated floors. • FOGO waste is kept in a damp state. • Windrows are no more than 5 metres high, 16 metres wide and 30 metres long. • Windrows within each mobile aerated floor are separated by at least 1 metre of clear ground and windrows are separated from other combustible materials by at least 5 metres of clear ground. • Irrigation water used at the Stage 1 location is sourced from the Stage 1 FOGO leachate sump or siltation/water ponds as designated in Figure 2. • Irrigation water used at the Stage 2 green waste processing hardstand is sourced from siltation/water ponds as designated in Figure 2. • Residual physical contaminants are removed from the green waste processing hardstand and disposed to the landfill within 24 hours of being screened from the FOGO waste or compost.

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 and Water Management

6. The licence holder must ensure that wastewater emanating from, or water that has come into contact with, waste contaminated areas must be contained and managed in accordance with the corresponding requirements in Table 4.

Table 4: Leachate and wastewater management requirements

Source	Operational requirement(s)	Infrastructure location
Class III leachate collection system	Recirculated to the active Class III cell or directed to the Class III leachate ponds for evaporation.	'Class III leachate ponds' in Figure 2
Class IV leachate collection system	Directed to the Class IV leachate ponds for evaporation. Mechanical evaporation of leachate from Class IV cells is not permitted.	'Class IV leachate ponds' in Figure 2
Leachate from the green waste processing hardstand	Directed to the green waste leachate pond for evaporation or transfer to the Class III leachate ponds for evaporation.	'New green waste leachate pond' and 'Class III leachate ponds' in Figure 2
Leachate from the Stage 1 FOGO hardstand	Directed to the Stage 1 FOGO leachate sump for reuse during composting at the Stage 1 location or transfer to the landfill leachate ponds for evaporation.	'Stage 1 FOGO leachate sump' and any leachate pond in Figure 2
Stormwater which has come into contact with waste contaminated areas or wash water from vehicle wash down areas	Directed to a leachate pond for evaporation. Stormwater from the temporary laydown area is permitted to discharge into stormwater drainage infrastructure for release to the environment, subject to compliance with condition 5.	'Temporary laydown area' and any leachate pond in Figure 2

7. The licence holder shall ensure stormwater is diverted from the active landfill cells, leachate ponds and from previously filled areas of the premises to dedicated stormwater drains.

8. The licence holder must ensure that water used for dust suppression is sourced from siltation/water ponds and not leachate ponds as designated in Figure 2 in Schedule 1.

Deposition of Waste

9. The licence holder shall ensure waste disposed to Class III cells is spread and compacted at regular intervals to optimise compaction of the type of waste being landfilled.

10. The licence holder shall ensure the Class III cell tipping face is at no time greater than two metres in vertical height.

11. The licence holder shall ensure waste disposed to Class III cells is compacted to a minimum of 850 kg/m^3 with a purpose-built compactor.

12. The licence holder shall ensure that all waste disposed to Class III cells is covered, with cover material, at the end of each day.

13. The licence holder shall ensure a stockpile containing sufficient cover material to allow waste to be covered in accordance with the conditions of this licence for a period of two weeks.

14. The licence holder shall restrict the Class III cell tipping area to a maximum linear length of 50 metres.

Fire Management

15. The licence holder shall not permit the burning of waste.

16. The licence holder shall ensure an adequate water supply and a means of distribution be provided at all times to extinguish a fire at any part of the premises.

17. In the event of a fire on the premises, the licence holder must advise the CEO within two hours of the fire being discovered.

Windblown Waste

18. The licence holder shall contain windblown waste within the boundaries of the premises by maintaining fences, installing litter screens and regularly compacting waste.

19. The licence holder shall ensure windblown waste is removed from fences, and access roads on a daily basis.

Composting product quality

20. Composting products produced from FOGO waste are processed to achieve pasteurization as defined in AS 4454.

21. Composting products produced from FOGO waste meet the maximum chemical, physical and biological contaminant concentrations set out in Table 5, Table 6 and Table 7.

22. Composting products produced from FOGO waste remain on the premises until monitoring results required by condition 30 are received to verify that condition 21 is satisfied.

Table 5: Maximum chemical contaminant concentrations

Contaminant	Maximum concentration dry weight basis (mg/kg)	Contaminant	Maximum concentration dry weight basis (mg/kg)
Arsenic	20	DDT/DDD /DDE	0.5
Cadmium	1	Aldrin	0.02
Boron	100	Dieldrin	0.02
Chromium	100	Chlordane	0.02

Contaminant	Maximum concentration dry weight basis (mg/kg)	Contaminant	Maximum concentration dry weight basis (mg/kg)
Copper	150	Heptachlor	0.02
Lead	150	HCB	0.02
Mercury	1	Lindane	0.02
Nickel	60	BHC	0.02
Selenium	5	PCBs	Not detectable (detection limit of 0.2 mg/kg)
Zinc	300		

Table 6: Maximum physical contaminant concentrations

Contaminant	Maximum concentration (% w/w dry matter)
Glass, metal and rigid plastics	0.5
Plastics – light, flexible or film	0.05

Table 7: Maximum pathogen indicator concentrations

Contaminant	Maximum concentration (dry weight equivalent)
Salmonella spp	Absent in 50 g
Faecal coliforms	1000 Most Probable Number (MPN)/g

Waste monitoring

23. The licence holder shall undertake the monitoring of parameters specified in Table 8 according to the specification in that table.

Table 8: Monitoring of inputs and outputs

Input/Output	Parameter	Units	Frequency
Waste inputs	Waste types as defined in the Landfill Definitions	tonnes	Each load arriving at the premises
Waste outputs			Each load leaving or rejected from the premises

Surface water and groundwater monitoring

24. The licence holder must undertake surface water monitoring in accordance with the requirements specified in Schedule 2.

25. The licence holder must undertake groundwater monitoring in accordance with the requirements specified in Schedule 2.

26. All surface water and groundwater samples must be analysed by laboratories with current NATA accreditation for the analysis specified unless otherwise specified in Schedule 2.

Odour monitoring

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

(a) Plan and implement a minimum of four odour field assessments (OFAs) which follow the plume measurement methodology as specified in the DWER *Guideline: Odour Emissions* and the *European Standard EN 16841-2 (plume method)*. OFAs are to be undertaken:

(i) with the prime objective of characterising odour plume extents in the directions of receptors which are most likely to be impacted by odour;

(ii) during meteorological and operational conditions most likely to cause impacts at these receptors;

(iii) over a maximum period of 18 months ceasing on 30 September 2021, with each OFA conducted at least two months apart and timed to capture seasonal variability;

(iv) by at least three odour panellists and one odour operator, as defined in Table 15; and

(b) compile and submit to the licence holder within six weeks of completion of each OFA field campaign, an OFA report in accordance with condition 28.

28. An OFA report prepared pursuant to condition 27(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) the following details for each single measurement:

(i) odour intensity levels and odour characters;

(ii) location and time;

(iii) field survey odour panellist identification;

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

(i) wind speed (metres per second);

(ii) wind direction;

(iii) cloud cover estimate;

(iv) temperature;

(e) map(s) depicting the assessment area, odour sources at the premises and other potential odour sources (if relevant);

(f) 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;

(g) 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); and

(h) detailed analysis, interpretation and conclusions with regard to the objectives of the assessment.

29. The licence holder must submit to the CEO each OFA report prepared pursuant to condition 27(b) within 14 days of receipt.

Composting product monitoring

30. The licence holder shall undertake the monitoring of FOGO composting parameters specified in Table 9 according to the specification in that table.

31. All composting products must be analysed by laboratories with current NATA accreditation for the analysis specified unless otherwise specified in Table 9.

Table 9: FOGO composting process monitoring

Monitoring point reference	Process description	Parameter	Units	Frequency	Method
Windrows of FOGO waste	During Stage 1 and Stage 2 composting	Temperature[1]	ºC	Twice daily[2]	None specified
Composting products	On completion of composting and before movement off the premises for sale or distribution	Quantity produced[1]	tonnes	Continuous	
		Arsenic	mg/kg	Each batch, at a minimum rate of one composite sample per 500 tonnes Each composite sample is made up of 12 subsamples	As specified in AS 4454
		Cadmium			
		Boron			
		Chromium			
		Copper			
		Lead			
		Mercury			
		Nickel			
		Selenium			
		Zinc			
		DDT/DDD/DDE			
		Aldrin			
		Dieldrin			
		Chlordane			
		Heptachlor			

Monitoring point reference	Process description	Parameter	Units	Frequency	Method
		HCB			
		Lindane			
		BHC			
		PCBs			
		Glass, metal and rigid plastics	% w/w dry matter		
		Plastics – light, flexible or film			
		Salmonella spp	MPN/g		
		Faecal coliforms			

Note 1: In-field non-NATA accredited analysis permitted.
Note 2: Twice daily monitoring is to be undertaken at least five hours apart.

Landfill gas flare monitoring

32. The licence holder shall undertake landfill gas flare monitoring for parameters specified in Table 10 according to the specification in that table.

Table 10: Monitoring of landfill gas inputs to flare

Emission point	Parameter	Units	Frequency	Method
Landfill gas flares	Cumulative duration of flaring	hours	Continuous	In line gas flow meter
	Cumulative flow volume of landfill gas input to flare	m^3	Continuous	

33. Within 60 days of the installation of the first landfill gas flare on the premises, the licence holder must retain the services of a person qualified and experienced in the area of emissions monitoring and assessment to:

(a) conduct verification monitoring of the emissions from the first landfill gas flare to be installed for parameters listed in Table 11 in accordance with the specifications in that table; and

(b) compile and submit to the licence holder within 60 days of being engaged by the licence holder a report which includes:

(i) a description of the methods used for monitoring emissions from the landfill gas flare; and

(ii) details the monitoring results collected under part (a) of this condition.

34. The licence holder must submit to the CEO the report prepared pursuant to condition 33(b) within 14 days of receiving it.

Table 11: Landfill gas flare emissions verification monitoring

Emission point	Parameter	Units	Averaging period	Method
First landfill gas flare installed at the premises	Oxides of nitrogen (NO_X as NO_2)	mg/m^3	30 mins	USEPA Method 7E
	Carbon monoxide			USEPA Method 10
	Sulfur dioxide			USEPA Method 6C
	Total volatile organic compounds			USEPA Method 18
	Stack temperature	ºC	Instantaneous	None specified

Noise validation

35. Within 60 days of the installation of the third landfill gas flare on the premises, the licence holder must retain the services of a person qualified and experienced in the area of environmental noise assessment and who by their qualifications and experience is eligible to hold membership of the Australian Acoustical Society or the Australian Association of Acoustical Consultants to:

(a) investigate the nature and extent of noise emissions from the premises;

(b) assess in accordance with the methodology required in the *Environmental Protection (Noise) Regulations 1997*, the compliance of the noise emissions from the primary activities, power generation and landfill gas flaring, against the relevant assigned levels specified in those Regulations; and

(c) compile and submit to the licence holder within three months of the installation of the third landfill gas flare on the premises, a report in accordance with condition 36.

36. A report prepared pursuant to condition 35(c) is to include:

(a) a description of the methods used for monitoring and/or modelling of noise emissions from the premises;

(b) details the results of the investigation undertaken pursuant to condition 35(a);

(c) details and results of the assessment of the noise emissions from the premises, against the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997* undertaken pursuant to condition 35(b); and

(d) an assessment of noise levels against the most recent previous noise assessment.

37. The licence holder must submit to the CEO the report prepared pursuant to condition 35(c) within 14 days of receiving it.

38. Where an assessment pursuant to condition 35(b) indicates that noise emissions do not comply with the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997*, the licence holder must:

(a) within 60 days of receiving an assessment report pursuant to condition 35(c) prepare a plan to ensure the undertaking of the licensed activity will no longer

lead to any contravention of the *Environmental Protection (Noise) Regulations 1997;* and

(b) provide to the CEO a copy of the plan prepared pursuant to condition 38(a) within 30 days of its preparation.

Records and Reporting

39. The licence holder must submit to the CEO by no later than 90 days after the end of each annual period, an Annual Environmental Report for that annual period for the conditions listed in Table 12, and which provides information in accordance with the corresponding requirement set out in Table 12.

Table 12: Annual Environmental Report

Condition	Requirement
N/A	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents (including fires) that have occurred during the annual period, and any action taken in response to the incident.
N/A	Any changes to on-site or off-site impacts or pollution
N/A	Final cell contours of any cells completed during the preceding annual period
11	Average compaction rates
23	Waste input and output monitoring data (including rejected loads)
24	Surface water monitoring summary (a) a clear statement of the scope of work carried out; (b) a description of the field methodologies employed; (c) a diagram with aerial image overlay showing all monitoring locations. Relevant site features including discharge points and other potential sources of contamination must also be shown; (d) an interpretive summary and assessment of the results against relevant assessment levels for water, as published in the DWER guideline *Assessment and management of contaminated sites*; (e) an interpretive summary and assessment of results against previous monitoring results; and (f) trend graphs to provide a graphical representation of historical results and to support the interpretive summary.

Condition	Requirement
25	Groundwater monitoring summary (a) a clear statement of the scope of work carried out; (b) a description of the field methodologies employed; (c) a diagram with aerial image overlay showing all monitoring locations and depicting groundwater level contours and flow direction. Relevant site features and other potential sources of contamination must also be shown; (d) an interpretive summary and assessment of the results against relevant assessment levels for water, as published in the DWER guideline *Assessment and management of contaminated sites*; (e) an interpretive summary and assessment of results against previous monitoring results; and (f) trend graphs to provide a graphical representation of historical results and to support the interpretive summary.
30	Composting product monitoring summary (a) tabulated summary of data; (b) range of recorded concentrations for each parameter specified in condition 30; (c) comparison of data to the maximum concentrations specified in condition 21; (d) identification of test results which did not comply with condition 21 and description of how the relevant batch of compost was remediated to achieve compliance or otherwise managed.
32	Landfill gas flare operation summary (a) frequency and duration of landfill gas flaring during the annual period; and (b) cumulative volume of landfill gas flared during the annual period.
40	The number and type of complaints received and action taken

40. 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; and

(e) the likely source of the complaint.

41. The licence holder must:

(a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and

(b) prepare and submit to the CEO by no later than 90 days after the end of that annual period an Annual Audit Compliance Report in the approved form.

42. The licence holder must maintain accurate and auditable books including the following records, information, reports, and data required by this licence:

(a) the calculation of fees payable in respect of this licence;

(b) any maintenance of infrastructure that is owned and operated by the licence holder and performed in the course of complying with condition 4 of this licence;

(c) monitoring programmes undertaken in accordance with conditions 4, 23 to 35 of this licence;

(d) process and monitoring records to provide evidence of compliance with conditions 20 and 21 of this licence; and

(e) complaints received under condition 40 of this licence.

43. The books specified under condition 42 must:

(a) be legible;

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

(c) be retained by the licence holder for the duration of the licence; and

(d) be available to be produced to an inspector or the CEO as required.

Works

44. The licence holder must:

(a) construct and install the infrastructure and equipment,

(b) in accordance with corresponding design and construction/installation requirements; and

(c) at the corresponding infrastructure location,

as set out in Table 13.

45. The licence holder must not depart from the requirements specified in Table 13 except:

(a) where such departure does not increase risks to public health, public amenity or the environment; and

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

Table 13: Design and construction / installation requirements

	Infrastructure/ equipment	Design and construction/ installation requirements	Infrastructure location
1.	Stage 1 FOGO hardstand	• Subgrade prepared to be smooth, free of debris, roots, sticks and sharp rocks by compaction with a sheepsfoot roller; • Constructed with a clay liner placed in layers not exceeding 300 mm and then compacted to achieve a thickness of at least 500 mm; • Clay liner achieving a permeability $1x10^{-9}$ m/s or less and compacted to at least 95% modified maximum dry density; • Clay liner covered by a protective ferricrete cover layer at least 100 mm thick; • Graded with a fall of at least 2% to the south-western corner; and • Surrounded by perimeter ferricrete bunding at least 0.5 m high.	'Stage 1 FOGO hardstand' in Figure 2 and detailed layout in Figure 4.
2.	Stage 1 FOGO leachate sump	• Constructed with a clay liner at least 300 mm thick, overlain by a 2 mm HDPE geomembrane liner; • Clay liner achieving a permeability $1x10^{-9}$ m/s or less and compacted to at least 95% modified maximum dry density; • Pond batter gradient of 1(V):3(H) or shallower; and • Total capacity of at least 185 m^3.	'Stage 1 FOGO leachate sump' in Figure 2 and detailed layout in Figure 4.
3.	Biofilter	• Located on the Stage 1 FOGO hardstand; • Piping intakes from mobile aerated floors enter the biofilter via the plenum floor at its base; • The treatment bed comprises at least 10 m^3 of woodchip, bark or Composting Products. Composting Products must comprise no more than 50% of the treatment bed volume; and • Shade cover installed over the biofilter.	'Stage 1 FOGO hardstand' in Figure 2.

	Infrastructure/ equipment	Design and construction/ installation requirements	Infrastructure location
4.	Mobile aerated floors	• Two mobile aerated floor systems installed on the Stage 1 hardstand, each comprising three units of one blower and four pipes each. • One mobile aerated floor system installed on the Stage 2 green waste processing hardstand, comprising three units of one blower and four pipes each.	'Stage 1 FOGO hardstand' in Figure 2 and detailed layout in Figure 4; and 'Current green waste processing hardstand' in Figure 2
5.	Landfill gas flares	• Up to three LMS 7000 Series Landfill Biogas Flares installed in accordance with manufacturer specifications; • Minimum separation distance of 10 metres achieved between landfill gas flares and surrounding vegetation; and • Installed by a suitably qualified person.	'Landfill gas flares' in Figure 2 and detailed layout in Figure 5

46. The licence holder must undertake quality assurance including visual inspection and materials testing requirements as specified in Table 14, at the corresponding frequency specified in that table.

Table 14: Construction quality assurance requirements for Stage 1 FOGO hardstand and leachate sump

Infrastructure	Item	Property	Requirement	Frequency
Stage 1 FOGO hardstand	Clay liner	Permeability	Laboratory test in accordance with AS 1289.6.7.1 or AS 1289.6.7.2	One sample
		Compaction and density	In situ dry density/ moisture tests in accordance with AS 1289.5	One sample per 500 m^3 of clay fill
Stage 1 FOGO leachate sump	Clay liner	Permeability	Laboratory test in accordance with AS 1289.6.7.1 or AS 1289.6.7.2	One sample
		Compaction and density	In situ dry density/ moisture test in accordance with AS 1289.5	One sample per 500 m^3 of clay fill

Infrastructure	Item	Property	Requirement	Frequency
	HDPE geomembrane	Welding equipment	Checked for proper functioning	Daily at start of works, and whenever the welding equipment is shut-off for more than one hour. Also after significant changes in weather conditions.
		Welding conditions	Test weld strips comprising a minimum 1.5 m continuous seam.	Whenever personnel or equipment are changed and/or wide temperature fluctuations are experienced.
		Weld seal – destructive testing	Onsite, hand tensiometer in peel mode in accordance with ASTM D6392	One tab from start and finish of each weld for fusion welds
		Weld seal – non-destructive testing	Air pressure test in accordance with ASTM D5820 or vacuum box test in accordance with ASTM D5641	All seams, over full length
		Tears, punctures, abrasions, cracks, indentations, thin spots, or other faults	Visual inspection	Every roll of HDPE geomembrane

47. The licence holder must within 30 calendar days of an item of infrastructure or equipment required by condition 44 being constructed or installed:

(a) undertake an audit of their compliance with the requirements of conditions 44, 45 and 46; and

(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.

48. The Environmental Compliance Report required by condition 47, must include as a

minimum the following:

(a) certification by a suitably qualified person (as defined in Table 15) that the items of infrastructure and equipment or component(s) thereof, as specified in condition 44, have been constructed in accordance with the relevant requirements specified in conditions 44, 45 and 46;

(b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 44;

(c) be signed by a person authorised to represent the licence holder and contains the printed name and position of that person; and

(d) where a departure from the requirements in condition 44 occurs and is of a type allowed by condition 45, the licence holder must provide a description of, and explanation for, the departure.

Definitions

In this licence, the terms in Table 15 have the meanings defined.

Table 15: Definitions

Term	Definition
AACR	Annual Audit Compliance Report and 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 the same year.
approved and approval	means approved and approval in writing, respectively
ASLP	Australian Standard Leaching Procedure
AS 1289.5	means the Australian Standard AS 1289.5 Methods of testing soils for engineering purposes, Soil compaction and density test series
AS 1289.6.7.1	means the Australian Standard AS 1289.6.7.1 Methods of testing soils for engineering purposes, Soil strength and consolidation tests – Determination of permeability of a soil – Constant head method for a remoulded specimen
AS 1289.6.7.2	means the Australian Standard AS 1289.6.7.2 Methods of testing soils for engineering purposes, Soil strength and consolidation tests – Determination of permeability of a soil – Falling head method for a remoulded specimen
AS 4454	means the Australian Standard AS 4454 Composts, soil conditioners and mulches
AS/NZS 5667.6	means the Australian Standard AS/NZS 5667.6 Water Quality – Sampling – Guidance on sampling of rivers and streams, as amended from time to time
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 Water Quality – Sampling – Guidance on sampling of groundwaters, as amended from time to time;
ASTM D5641	means the American Society for Testing and Materials ASTM D5641 Standard practice for geomembrane seam evaluation by vacuum chamber
ASTM D5820	means the American Society for Testing and Materials ASTM D5820 Standard practice for pressurized air channel evaluation of dual-seamed geomembranes

Term	Definition
ASTM D6392	means the American Society for Testing and Materials ASTM D6392 Standard test method for determining the integrity of nonreinforced geomembrane seams produced using thermo-fusion methods
books	has the same meaning given to that term under the EP Act.
Category/Categories Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer of the Department- "submit to / notify the CEO" (or similar), means either: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
Clean Fill	means waste as defined in the Landfill Definitions
Composting Products	means final compost or soil improver produced by composting of Green Waste or FOGO waste
condition	means a condition to which this licence is subject under s.62 of the EP Act.
contaminated solid waste	means solid waste that has a substance in it at above background concentrations that presents, or has the potential to present, a risk of harm to human health, the environment or any environmental value
Cover material	means subsoil or other approved inert waste or proprietary alternative daily cover (ADC) treatments or other materials that satisfies the requirement to mitigates against any environmental health impacts
damp	means moist to the touch
daylight hours	means the hours between sunrise and sunset.
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.
discharge	has the same meaning given to that term under the EP Act.
DWER	Department of Water and Environmental Regulation.

Term	Definition
emission	has the same meaning given to that term under the EP Act.
EN 16841-2	means the European Standard EN 16841-2 Ambient air – determination of odour in ambient air by using field inspection – Part 2: Plume method, CEN (European Committee for Standardisation), as amended from time to time
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and equipment has been installed in accordance with the licence.
EP Act	means the *Environmental Protection Act 1986* (WA).
EP Regulations	means the *Environmental Protection Regulations 1987* (WA).
FOGO	means food organics and garden organics collected from kerbside municipal collections of designated FOGO bins
Freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point
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 or binders
Guideline: Odour Emissions	means the Department of Water and Environmental Regulation *Guideline: Odour Emissions*, June 2019, as amended from time to time
hardstand	means the material or a layer or a barrier with a permeability of hydraulic conductivity of 10^{-9} metres per second or less at unity hydraulic gradient
HDPE	high density polyethylene
Landfill Definitions	means the document titled 'Landfill Waste Classification and Waste Definitions 1996' published by the CEO as amended from time to time
leachate	means liquid that has percolated through and/or been generated by the decomposition of waste material including water that has interacted with waste, material undergoing composting or Composting Products
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.

Term	Definition
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.
Minister	the Minister responsible for the EP Act and associated regulations
Ministerial Statement 462	refers to Ministerial Statement 462 issued on 20 November 1997 by the Minister under s.45 of the EP Act, and including any changes made under s.45C and s.46 of the EP Act.
MPN	most probable number
NATA	National Association of Testing Authorities
Hazardous Waste	means waste as defined in the Landfill Definitions
OD 0651/16	refers to the document Department of Health *Operational Directive 0651/16 – Clinical and Related Waste Management Policy*, January 2016.
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 panellists in the field and is independent of the licence holder
Odour panellist	means a person who is qualified to perform field inspections as described in EN 16841-2 and is independent of the licence holder
OFA	odour field assessment as described in the *Guideline: Odour Emissions*
PFAS	perfluoralkyl and polyfluoralkyl substances
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 Schedule 1 to this licence
prescribed premises	has the same meaning given to that term under the EP Act.
Putrescible Waste	means 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
Radioactive Waste Disposal Guidelines	Department of Health *Radioactive Waste Disposal: Limits and Procedures for the Disposal of Medical and Research Wastes at Landfill Sites Licensed by the Department of Environmental Protection,* June 1996, updated 2007

Term	Definition
Residual physical contaminants	means physical contaminants such as plastics, glass and metals which have been screened or otherwise removed from composting feedstocks.
Special Waste Type 1	means waste as defined in the Landfill Definitions
Special Waste Type 2	means waste as defined in the Landfill Definitions
Special Waste Type 3	means waste as defined in the Landfill Definitions
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; • construction of the Stage 1 FOGO hardstand and leachate sump, means a civil engineer with at least three years' experience supervising the construction of waste containment infrastructure; • installation of the mobile aerated floors and biofilter, means a person who has experience supervising the installation of this equipment; and • installation of the landfill gas flares, means a mechanical engineer and qualified gas fitter with at least three years' experience undertaking or supervising the installation of landfill gas flares.
USEPA Method 6C	means the United States Environmental Protection Agency Method 6C Determination of sulfur dioxide emissions from stationary sources (Instrument Analyzer Procedure)
USEPA Method 7E	means the United States Environmental Protection Agency Method 7E Determination of nitrogen oxides emissions from stationary sources (Instrument Analyzer Procedure)
USEPA Method 10	means the United States Environmental Protection Agency Method 10 Determination of carbon monoxide emissions from stationary sources (Instrument Analyzer Procedure)
USEPA Method 18	means the United States Environmental Protection Agency Method 18 Determination of gaseous organic compounds by direct interface gas chromatography-mass spectrometry

Term	Definition
VDI 3940-3	refers to the German Standard *Measurement of odour impact by field inspection – Determination of odour intensity and hedonic odour tone;* Verein Deutscher Ingenieure (Association of German Engineers), Düsseldorf, Germany, as amended from time to time
Waste	has the same meaning given to that term under the EP Act.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown by the red line in the map below (Figure 1). Cadastral boundaries within the Premises are shown in yellow.

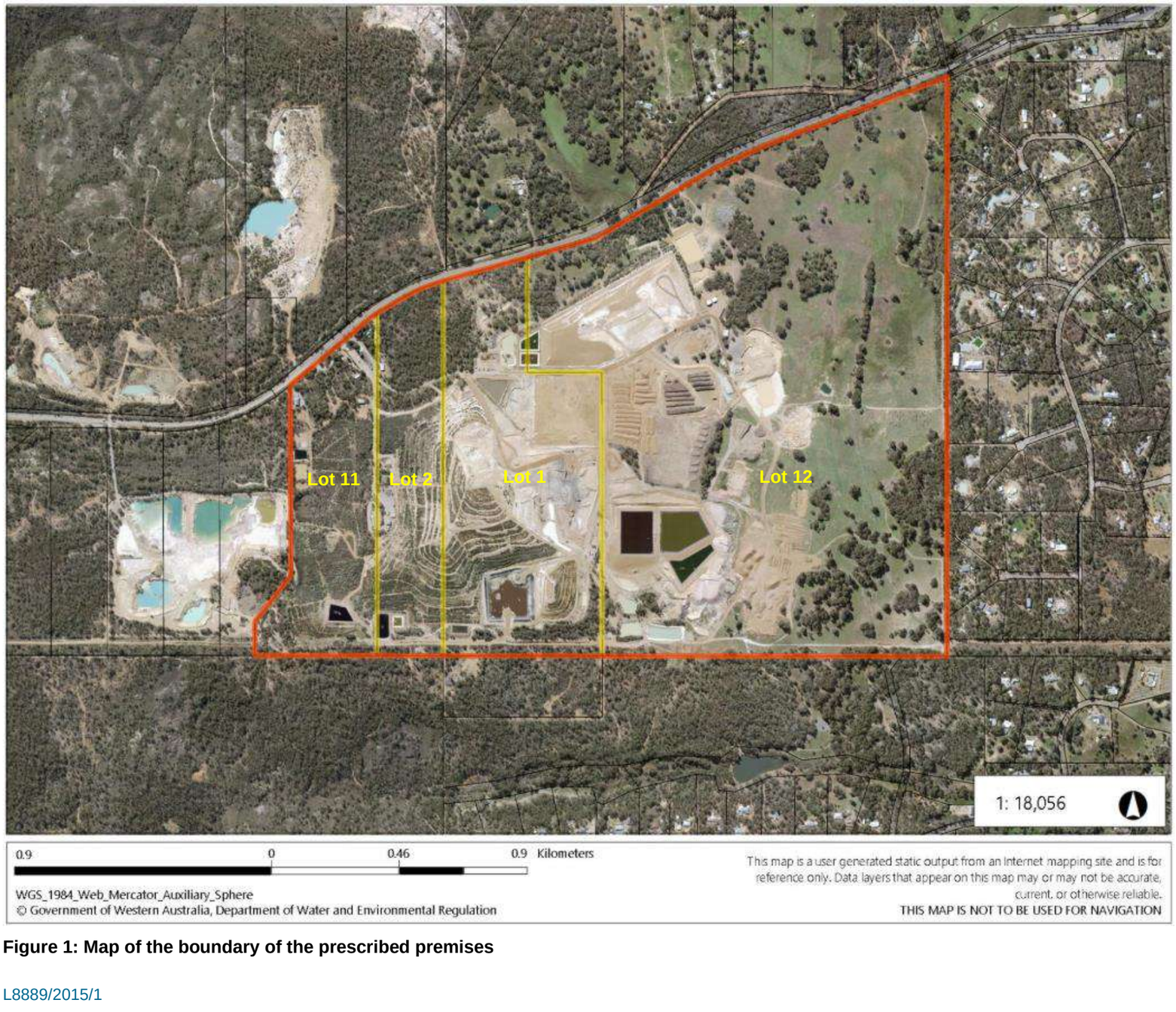


Figure 1: Map of the boundary of the prescribed premises

Premises layout

The layout of the prescribed premises is shown in the map below (Figure 2).

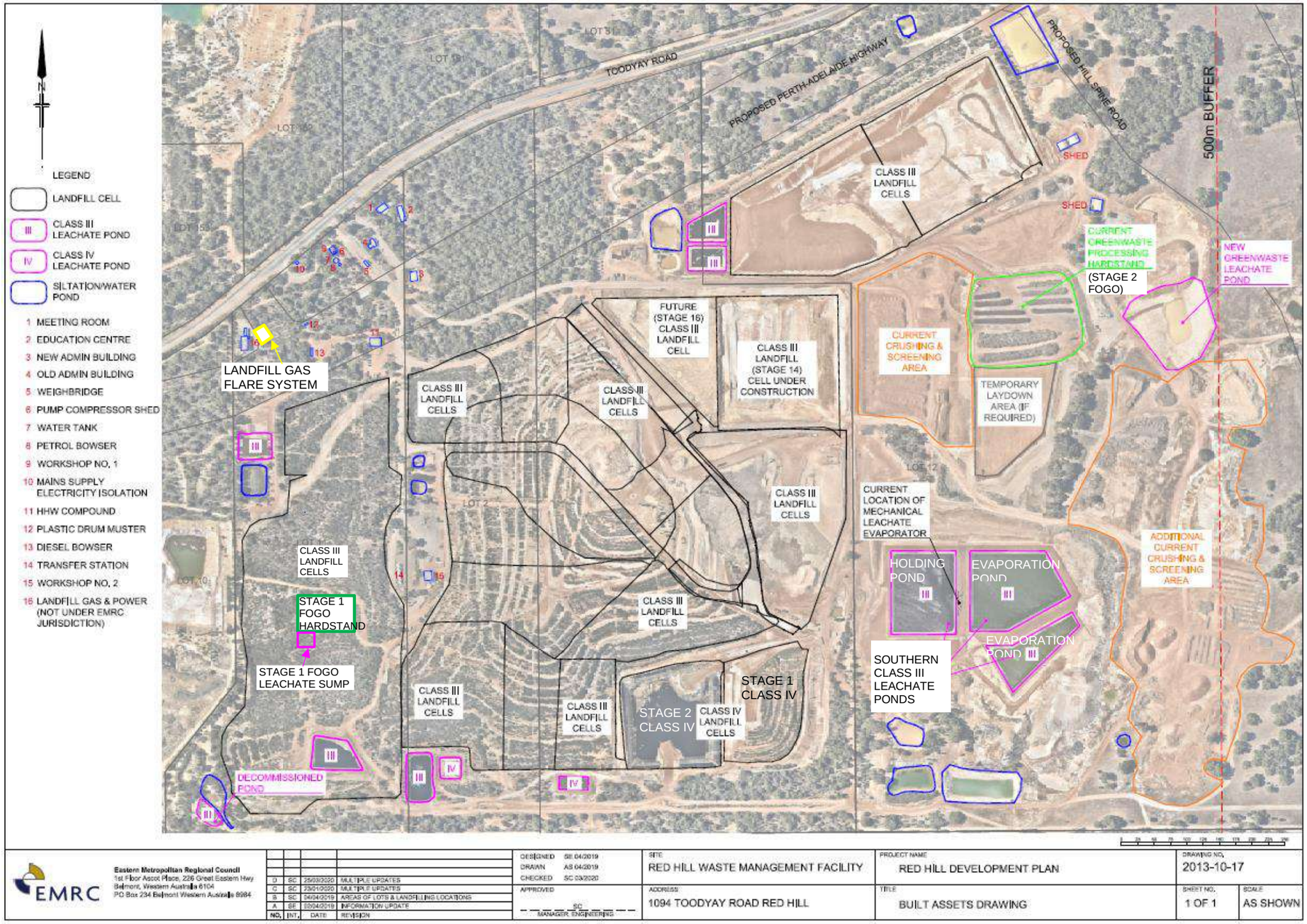


Figure 2: Map of the premises layout

Mechanical evaporator exclusion zone

Figure 3: Map of the mechanical evaporator exclusion zone

Stage 1 FOGO infrastructure layout

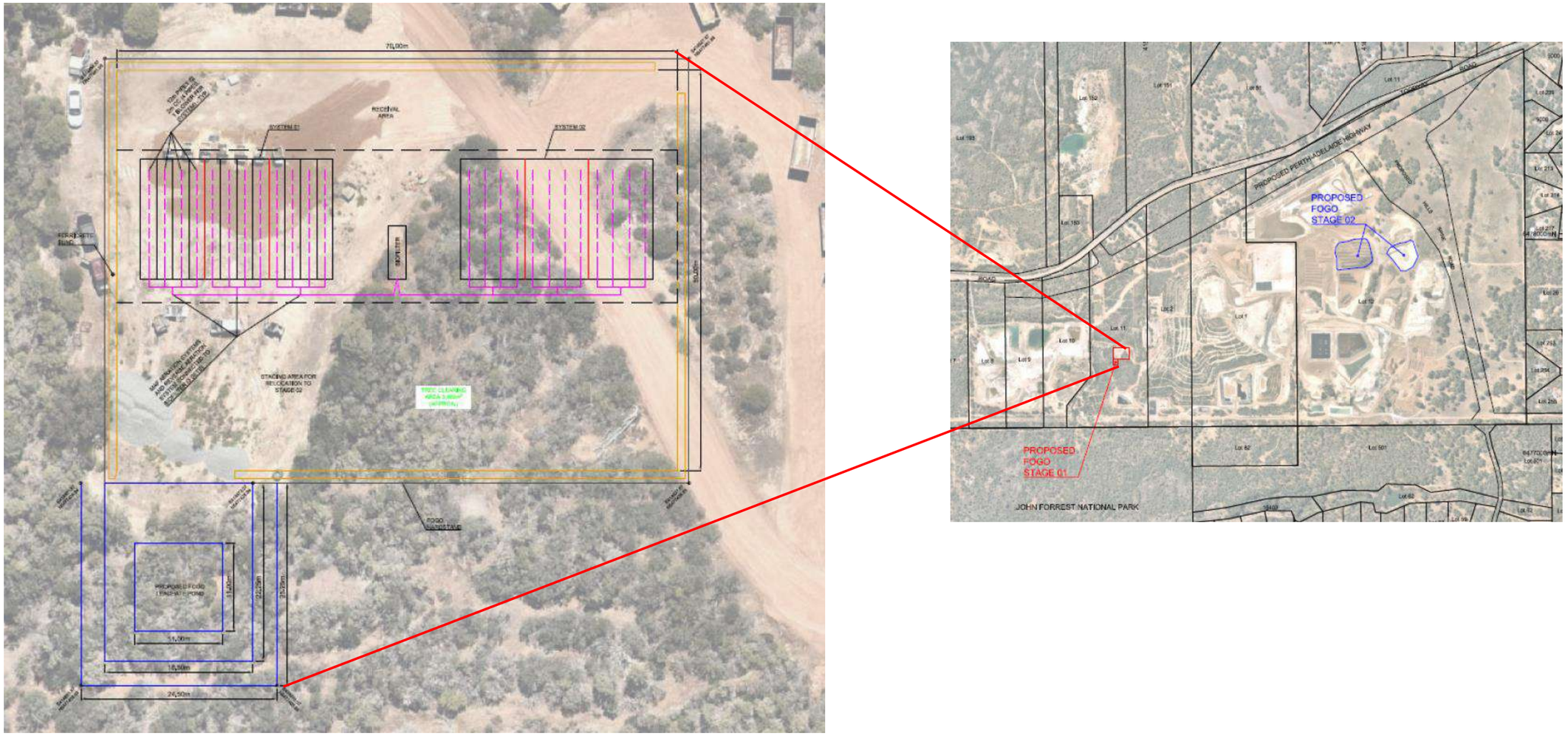


Figure 4: Map of the Stage 1 FOGO infrastructure and equipment layout

Landfill gas flare layout

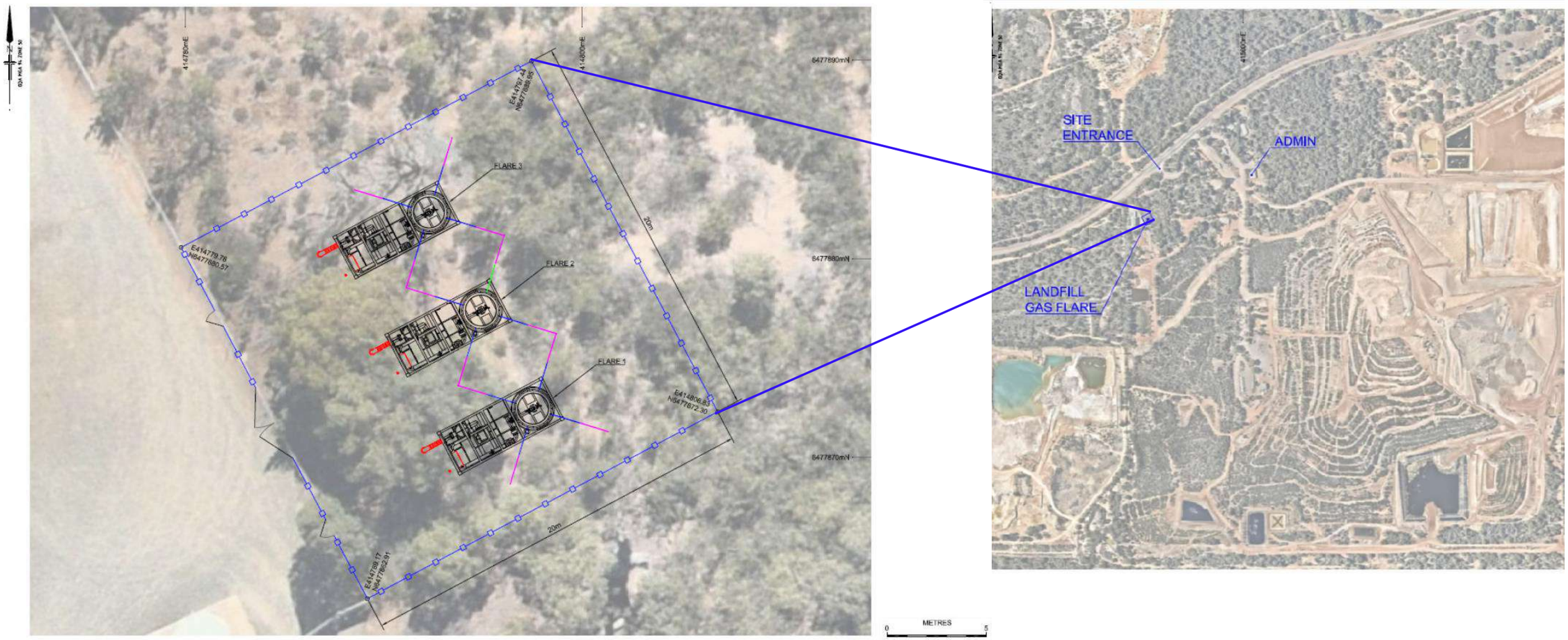


Figure 5: Layout of landfill gas flare system

Schedule 2: Monitoring

Surface water monitoring – PFAS waste disposal

The licence holder must monitor the locations specified in Column 1 for the parameters specified in Column 2 of Table 16. Emissions must be calculated as an average over the period specified in Column 4, at the frequency specified in Column 5, and in accordance with the method specified in Column 6.

Table 16: Surface water monitoring table

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Location	**Parameter**	**Units**	**Averaging period**	**Frequency**	**Method**
CTC1, CTC2, S7, FSP1 As depicted in the 'Map of surface water monitoring locations' in this schedule	pH[1]	pH units	Spot sample	Annually	AS/NZS 5667.6
	Temperature[1]	Degrees C			
	Electrical conductivity[1]	µS / cm			
	Perfluorooctane sulfonate (PFOS)	µg/L			
	Perfluorooctanoic acid (PFOA)				
	6:2 Fluorotelomer sulfonate (6:2 FtS)				
	8:2 Fluorotelomer sulfonate (8:2 FtS)				
	Perfluoroheptanoic acid (PFHpA)				
	Perfluorobutane sulfonate (PFBS)				
	Perfluorobutanoic acid (PFBA)				
	Perfluorohexanoic acid (PFHxA)				
	Perfluorohexane sulfonate (PFHxs)				
	Perfluoropentanoic acid (PFPeA)				

Note 1: In-field non-NATA accredited analysis permitted.

Groundwater monitoring – PFAS waste disposal

The licence holder must monitor the locations specified in Column 1 for the parameters specified in Column 2 of Table 17. Emissions must be calculated as an average over the period specified in Column 4, at the frequency specified in Column 5, and in accordance with the method specified in Column 6.

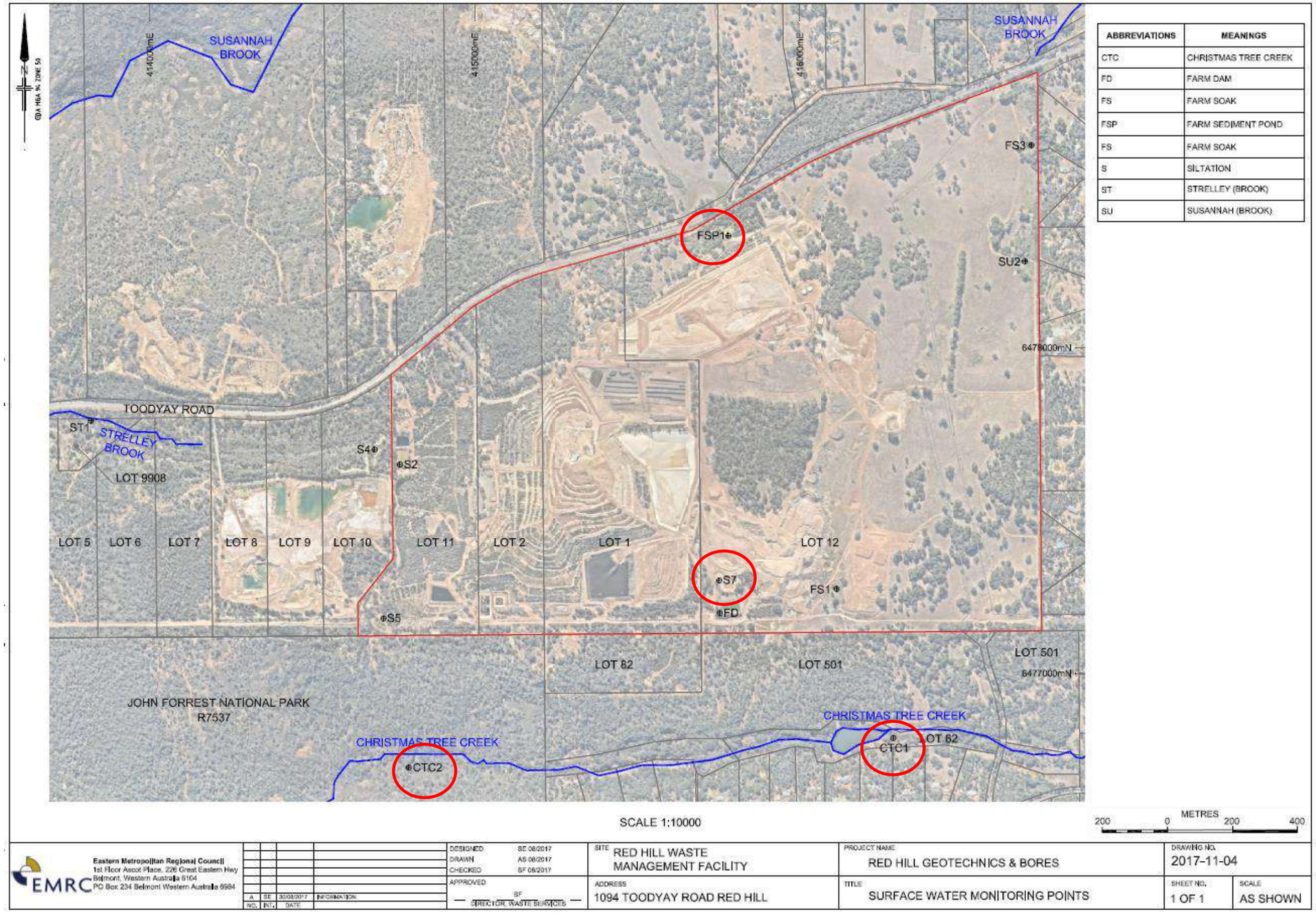
Table 17: Groundwater monitoring table

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Location	**Parameter**	**Units**	**Averaging period**	**Frequency**	**Method**
Farm Stage 1 and 2: FMB5, FMB6, FMB7 and FMB8 Stage 15: SP36D, SP37D, SP5D and SP46D As depicted in the 'Map of groundwater monitoring locations' in this schedule	Standing water level[1]	m(AHD) and m(BGL)	Spot sample	Six monthly; (at least five months apart)	AS/NZS 5667.11
	pH[1]	pH units			
	Electrical conductivity[1]	µS / cm			
	Perfluorooctane sulfonate (PFOS)	µg/L			
	Perfluorooctanoic acid (PFOA)				
	6:2 Fluorotelomer sulfonate (6:2 FtS)				
	8:2 Fluorotelomer sulfonate (8:2 FtS)				
	Perfluoroheptanoic acid (PFHpA)				
	Perfluorobutane sulfonate (PFBS)				
	Perfluorobutanoic acid (PFBA)				
	Perfluorohexanoic acid (PFHxA)				
	Perfluorohexane sulfonate (PFHxs)				
	Perfluoropentanoic acid (PFPeA)				

Note 1: In-field non-NATA accredited analysis permitted.

Surface water monitoring locations map

Map of surface water monitoring locations (PFAS Waste Disposal). Locations required for monitoring in Schedule 2 are circled in red.



ABBREVIATIONS	MEANINGS
CTC	CHRISTMAS TREE CREEK
FD	FARM DAM
FS	FARM SOAK
FSP	FARM SEDIMENT POND
FS	FARM SOAK
S	SILTATION
ST	STRELLEY (BROOK)
SU	SUSANNAH (BROOK)

Figure 6: Map of the surface water monitoring locations

Groundwater monitoring locations map

Map of groundwater monitoring locations (PFAS Waste Disposal). Locations required for monitoring in Schedule 2 are circled in blue.

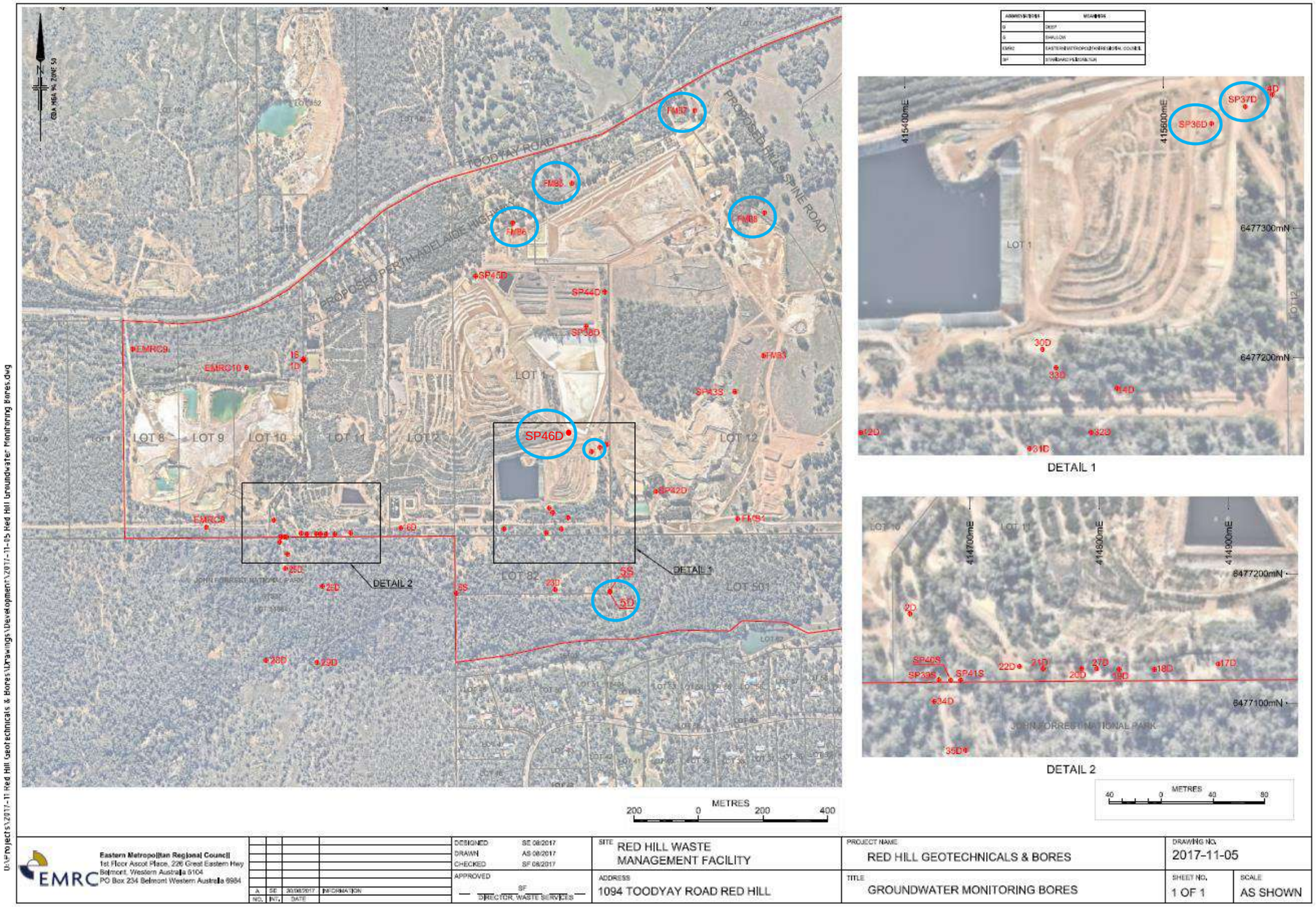


Figure 7: Map of the groundwater monitoring locations

Schedule 3

Landfill acceptance criteria for Special Waste Type 3

Landfill Class		**Landfill Acceptance Criteria[1]**	
		PFOS + PFHxS	PFOA
Class III landfill	ASLP leachable concentration (µg/L) (ASLP 3)	0.7 µg/L	5.6 µg/L
	Concentration Limit (CL3) (mg/kg)	50 mg/kg	50 mg/kg

Note 1: Concentrations must be less than both the relevant leachable concentration and the concentration limit.