



Licence number	L9089/2017/1
Licence holder	Opalvale Pty Ltd
ACN	106 512 896
Registered business address	Opalvale Pty Ltd 50 Clune Street BAYSWATER WA 6053
DWER file number	DER2017/001530
Duration	5 February 2019 to 4 February 2031
Date of amendment	17 October 2022
Premises details	Salt Valley Road Class II Landfill Chitty Road, HODDYS WELL WA 6566 Part of Lot 11 on Deposited Plan 34937 Certificate of Title Volume 2535 Folio 391 As defined by the coordinates in Schedule 1 of the Licence

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed design capacity
Category 64: Class II putrescible landfill	150,000 tonnes per annum

This licence is granted to the licence holder, subject to the attached conditions, on 17 October 2022, by:

Abbie Crawford
A/Manager, Waste Industries

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

Licence history

Date	Reference number	Summary of changes
05/02/2019	L9089/2017/1	New Licence
06/05/2021	L9089/2017/1	Licence amendment to give effect to the Minister's appeal determination (Appeal Number 010 of 2019)
04/06/2020	L9089/2017/1	Licence amendment to allow waste to be deposited into Cell 2.
24/06/2021	L9089/2017/1	Licence amendment to include conditions relating to landfill capping and gas management.
17/10/2022	L9089/2017/1	Licence amendment to authorise waste disposal into Cells 3 & 4 and transfer of leachate into Leachate Pond 3.

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.

Definitions

In this licence, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Active Landfill Cell	means any cell approved by DWER to accept waste and which has not been rehabilitated.
Annual Period	means a 12 month period commencing from 1 January until 31 December.
Condition	means a condition to which this Licence is subject under s.62 of the EP Act.
Books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 JOONDALUP DC WA 6919 or info@dwer.wa.gov.au
Compliance Report	means a report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO (guidelines and templates may be available on the Department's website).
Contaminated Solid Waste	Means contaminated soil as defined by the Landfill Definitions
Closure and Post-Closure Management Plan	means the document titled Closure and Post-Closure Management Plan, Salt Valley Road Class II Landfill. Prepared for Opalvale Pty Ltd, by Talis Consultants. Version 1c. Dated 26 February 2021 DWER Reference: DWERDT424777
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.

Term	Definition
Department Request	<p>means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Licence Holder in writing and sent to the Licence Holder's address for notifications, as described at the front of this Licence, in relation to:</p> <ul style="list-style-type: none"> (a) compliance with the EP Act or this Licence; (b) the Books or other sources of information maintained in accordance with this Licence; or (c) the Books or other sources of information relating to Emissions from the Premises.
Discharge	has the same meaning given to that term under the EP Act.
DWER	Department of Water and Environmental Regulation.
Emission	has the same meaning given to that term under the EP Act.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure has been constructed in accordance with the licence.
Environmental Harm	has the same meaning given to that term under the EP Act.
EP Act	means the <i>Environmental Protection Act 1986 (WA)</i> .
EP Regulations	means the <i>Environmental Protection Regulations 1987 (WA)</i> .
Implementation Agreement or Decision	has the same meaning given to that term under the EP Act.
Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.
Landfill Definitions	means the document titled "Landfill Waste Classification and waste Definitions 1996" published by the CEO as amended from time to time.
Landfill Management Plan	means the document titled Opalvale Salt Valley Road Class II Landfill. Lot 11 Chitty Road, Toodyay. Landfill Management Plan. Prepared for Opalvale Pty Ltd, by IW Projects Pty Ltd. Rev 5. Dated 15 February 2020.
Licence	refers to this document, which evidences the grant of a Licence by the CEO under s.57 of the EP Act, subject to the Conditions.
Licence Holder	refers to the occupier of the premises being the person to whom this Licence has been granted, as specified at the front of this Licence.

Term	Definition
Material Change	<p>means a change to the activities carried out on the Premises as described by the Primary Activities set out in Schedule 2 and:</p> <ul style="list-style-type: none"> (a) that may result in an increased risk to public health, amenity or the environment; and (b) includes the types of changes specified in Schedule 2; and (c) does not include the excluded changes specified in Schedule 2.
Material Environmental Harm	has the same meaning given to that term under the EP Act.
NATA	National Association of Testing Authorities
NEPM	National Environment Protection (Assessment of Site Contamination) Measure
Phase	means the capping phases as depicted in Schedule 1, Figure S1-2
Pollution	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Licence applies, as specified at the front of this Licence and as shown on the map in Schedule 1 to this Licence.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Primary Activities	refers to the Prescribed Premises activities listed on the front of this Licence as described in Schedule 2, at the locations shown in Schedule 1.
Reportable Event	means an event referenced in Condition 37.
Serious Environmental Harm	has the same meaning given to that term under the EP Act.
Suitably qualified engineer	<p>means a person who:</p> <ul style="list-style-type: none"> (a) demonstrates competency in the area of civil or structural engineering; and (b) has a minimum of at least three years working in the area of civil or structural engineering; and (c) is employed by an independent third party external to the Works Approval Holder's business; <p>or is otherwise approved in writing by the CEO to act in this capacity.</p>

Term	Definition
Unreasonable Emission	has the same meaning given to that term under the EP Act.
Waste	has the same meaning given to that term under the EP Act.

Licence conditions

The licence holder must ensure that the following conditions are complied with:

Emissions

1. The Licence Holder must not cause any Emissions from the Primary Activities on the Premises except for the Emission types (including specified Emissions and general Emissions) described in Table 2 subject to the exclusions, limitations or requirements specified in Table 2.

Table 2: Authorised Emissions table

Emission type	Exclusions/Limitations/Requirements
Specified Emissions	
None	None
General Emissions (excluding Specified Emissions)	
<p>Emissions which:</p> <ul style="list-style-type: none"> • arise from the Primary Activities set out in Schedule 2; or • arise from a Material Change. 	<p>Emissions excluded from General Emissions are:</p> <ul style="list-style-type: none"> • Unreasonable Emissions; or • Emissions that result in, or are likely to result in, Pollution, Material Environmental Harm or Serious Environmental Harm; or • Discharges of Waste in circumstances likely to cause Pollution; or • Emissions that result, or are likely to result in, the Discharge or abandonment of Waste in water to which the public has access; or • Emissions or Discharges which do not comply with an Approved Policy; or • Emissions or Discharges which do not comply with a prescribed standard; or • Emissions or Discharges which do not comply with the conditions in an Implementation Agreement or Decision; or • Emissions or Discharges the subject of offences under regulations prescribed under the EP Act, including materials discharged under the Environmental Protection (<i>Unauthorised Discharges</i>) Regulations 2004.

Acceptance and throughput restrictions

2. The Licence Holder must only accept waste at the Premises if:
- It is of a type specified in in Table 3;
 - It meets the acceptance specification and is below the quantity limit specified in Table 3; and
 - Meets the waste acceptance criteria specified for Class II landfills as detailed in the Landfill Definitions.

Table 3: Waste types and acceptance specifications

Waste type	Acceptance specification ¹	Quantity limit per annual period
Clean fill and Uncontaminated fill	None specified	Combined total of 150,000 tonnes per annual period
Inert Waste Type 1	Waste containing visible asbestos or ACM shall not be accepted as Inert Waste Type 1	
Inert Waste Type 2	Tyres ² and plastic only	
Special Waste Type 1	Waste must only be accepted only if labelled, double wrapped in heavy duty polyethylene (0.2 mm thick) or otherwise contained to prevent generation of airborne fibres and labelled appropriately.	
Special Waste Type 2	Clinical waste may only be received that are contained and labelled appropriately. Radioactive wastes shall not be accepted.	
Putrescible Waste	Must meet the acceptance criteria for Class II landfills	
Contaminated solid waste		

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*.

Note 2: Information relating to the storage and burial of tyres can be found in the *Environmental Protection Regulations 1987*.

3. The Licence Holder shall ensure that where waste does not meet the waste acceptance criteria set out in Condition 2 it is removed from the Premises by the delivery vehicle or, where that is not possible, stored in a quarantined storage area or container within an Active Landfill Cell and removed to an appropriately authorised facility within 72 hours.

Infrastructure and equipment

4. The Licence Holder must ensure that the infrastructure and equipment specified in Table 4 is maintained in good working order and operated and maintained in accordance with the requirements specified in Table 4.
5. The Licence Holder shall ensure that waste material described in Table 4 is only disposed and stored within infrastructure and equipment with the corresponding infrastructure requirement(s) as detailed in Table 4.

Table 4: Containment Infrastructure

Infrastructure and equipment	Material	Infrastructure requirement(s)
Class II Landfill Cells	Clean Fill Class I and Class II Putrescible and Contaminated Solid Waste Inert Waste Type 1 Inert Waste Type 2 Special Waste Type 1	<ul style="list-style-type: none"> • Composite lining system to achieve a permeability of less than 5×10^{-11} metres per second or equivalent; and • Leachate collection system that extends across the base and sides of each cell to intercept all vertical and lateral seepage occurring through the waste. • A separation distance of at least two (2) metres shall be maintained between the maximum groundwater table elevation and the base of the lining system for each cell, with the exception of the leachate sump in Cell 1 (6 m x 6 m area below the sump)
Leachate Ponds 1, 2 and 3	Landfill leachate from Cells 1, 2, 3 and 4	<ul style="list-style-type: none"> • Composite lining system to achieve a permeability of less than 5×10^{-11} metres per second or equivalent; • Maintenance of a freeboard of no less than 500 mm; and • Maintained free of vegetation.

6. The Licence Holder must ensure that the infrastructure and equipment specified in Table 5 is maintained in good working order and operated and maintained in accordance with the requirements specified in Table 5.

Table 5: General operational infrastructure

Infrastructure and equipment	Infrastructure requirement(s)
Plant and Machinery	<ul style="list-style-type: none"> • Maintained according to manufacturer’s instructions • Be regularly maintained to limit unnecessary noise
Leachate management system (including pumps, pipework, sensors, monitoring devices and operational controls)	<ul style="list-style-type: none"> • Inspected and maintained (monthly) to ensure system is free of blockage, and sensors and monitoring devices are operating correctly and in accordance with the requirements of the Landfill Management Plan.
Firefighting equipment	<ul style="list-style-type: none"> • Comprises a water tanker or fire truck that is filled with water at all times; and • Fire water storage tank contains a minimum of 50 kL of water at all times.
Surface water diversion structure and bunds	<ul style="list-style-type: none"> • Inspected prior to onset of winter rainfall, and following significant storm events to ensure efficient conveyance of water; • Maintained to prevent sediment loads within the silt traps within 0.5 m of the top of the silt trap.
Groundwater monitoring bores	<ul style="list-style-type: none"> • Maintained to ensure accessibility for quarterly groundwater monitoring in accordance with the requirements of Conditions 27, 32 and 33).
Reticulation infrastructure	<ul style="list-style-type: none"> • Inspected and maintained (monthly) to ensure correct operation in the conveyance of leachate to active landfill cells for recirculation.

Operational requirements

7. The Licence Holder shall ensure that wastes accepted onto the Premises are only subjected to the process(es) set out in
8. Table 6 and in accordance with any process limits or specifications described in that Table.

Table 6: Waste processes

Waste type	Process(es)	Process limits or specifications ^{1,2,3}
All waste types received on the Premises	Disposal of waste by landfilling	Shall only take place within Cells 1, 2, 3 and 4 as shown in Schedule 1. No waste shall be temporarily stored or landfilled within 35 m from the boundary of the premises.
Contaminated Solid Waste	Receipt, handling and disposal by landfilling	Shall only be received with accompanying documentation verifying that it meets the Waste acceptance requirements of Condition 2.
Clean Fill or uncontaminated fill	Receipt, handling, Storage prior to removal offsite or disposal by landfilling	None specified
Inert Waste Type 1		Crushing and screening of Inert Waste Type 1 is not permitted.
Inert Waste Type 2		None specified
Special Waste Type 1	Receipt, handling and disposal by landfilling	Only to be disposed of into a designated asbestos disposal area within landfill cells as defined on a site map to be available onsite at all times. Not to be disposed within 2 m of the final tipping surface of the landfill. No works shall be carried out on the landfill that could lead to a release of asbestos fibres.
Special Waste Type 2	Receipt, handling and disposal by landfilling	Only to be disposed of into a designated biomedical waste disposal area within landfill cells as defined on a site map to be available onsite at all times. Not to be disposed within 2 m of the final tipping surface of the landfill. No works shall be carried out on the landfill that could lead to disturbance of biomedical wastes.

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*.

Note 3: Additional requirements for the acceptance, handling and landfilling of biomedical wastes are set out in the *Environmental Protection (Rural landfill) regulations 2002*, and the *Biohazard Waste Industry Code of Practice for the Management of clinical and Related Waste (6th Ed)*, Waste Management Association of Australia, June 2010.

9. The Licence Holder shall manage the landfilling activities to ensure:
- The size of the tipping face is kept to a minimum and not larger than 30 m in width and 2 m in height;
 - The active tipping area is wet down as required to minimise dust generation associated with vehicle movement and during waste and cover placement;
 - Waste is levelled and compacted as soon as practicable after it is discharged and at a minimum of the end of the day; and
 - Waste is placed and compacted to ensure all faces are stable and capable of retaining further waste placement or placement of cover or rehabilitation material
10. The Licence Holder shall ensure that daily cover is applied and maintained on landfilled waste types in accordance with Table 7 and that sufficient stockpiles of appropriate cover materials, as specified in the Landfill Management Plan, are maintained on site at all times.

Table 7: Minimum daily cover requirements

Waste type	Cover requirement(s) ¹
Inert Waste Type 1	<ul style="list-style-type: none"> No cover required.
Inert Waste Type 2	<ul style="list-style-type: none"> To be covered by the end of the working day in which the waste was disposed with 150 mm of Inert Waste Type 1 or soil or other material as outlined in the Landfill Management Plan.
Special Waste Type 1	<ul style="list-style-type: none"> To be covered with 300 mm of soil as soon as practicable and not later than the end of the working day after being disposed, and before being compacted to prevent the release of asbestos fibres as a result of compaction and other landfilling activities.
Special Waste Type 2	<ul style="list-style-type: none"> To be covered with 300 mm of soil as soon as practicable and not later than the end of the working day after being disposed, and before being compacted to prevent further disturbance as a result of compaction and other landfilling activities.
All other Class I and Class II waste and Contaminated Solid Waste	<ul style="list-style-type: none"> To be covered by the end of the working day in which the waste was disposed with 150 mm of Inert Waste Type 1 or soil or other material as outlined in the Landfill Management Plan.

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

- 11.** The Licence Holder must manage the landfilling activities by:

 - (a) With the exception of Special Waste Type 1, covering surfaces which have not received active waste for more than 90 days with an intermediate cover of at least 300 mm with a graded slope of at least 2% to promote run-off away from the active tipping face;
 - (b) For Special Waste Type 1, covering surfaces which have not received active waste for more than 90 days with an intermediate cover of at least 1,000 mm with a graded slope of at least 2% to promote run-off away from the active tipping face; and
 - (c) Removing the intermediate cover when landfilling recommences to prevent perched water accumulating in the landfill.
- 12.** The Licence Holder shall implement the following security measures at the site:

 - (a) Erect and maintain suitable perimeter fencing to prevent unauthorised access to the operational areas of the Premises;
 - (b) Ensure that any entrance gates to the Premises are securely locked when the Premises is unattended;
 - (c) Undertake regular inspections of all security measures and repair damage as soon as practicable; and
 - (d) Erect and maintain a 2 m high fence around the active landfill and the perimeter of the leachate ponds.
- 13.** The Licence Holder shall take all reasonable and practical measures to ensure that no wind-blown waste escapes from the Premises including:

 - (a) Ensuring wind-blown waste is collected from the landfill area on a daily basis and from the greater Premises area on at least a weekly basis and returned to the tipping area or appropriately contained; and
 - (b) Installation of a 4 m high temporary or mobile litter panels near the active landfill area.
- 14.** The Licence Holder shall implement the following measures in regard to feral animals, vermin and weed management:

 - (a) Maintain a 2 m high chain link fence around the landfill cell disposal area;
 - (b) Install a 400 mm wire mesh skirt/apron around the landfill disposal area fence;
 - (c) Electrification of the landfill area fence by the installation of two hotwire lines on the outside of the fence;
 - (i) One wire to be approximately 200 mm from the base of the fence and the other near the top of the fence; and
 - (ii) Hotwires are to be strung such that they extend 150-200 mm out from the fence on insulated holders.
 - (d) The base of the gate entrances will, when closed, not allow cat or fox access by having a maximum 50 mm clearance at the base of the gate to the ground. The road surface at the gate entrance shall consist of hardstanding material (e.g. compacted road base);
 - (e) Place four motion sensor detection infrared cameras inside the fenced landfill cell area pointing down the line of the fence;

- (i) Cameras are maintained to ensure continuous surveillance;
 - (ii) Images are to be down loaded monthly;
 - (iii) The presence of feral animals is to be recorded monthly; and
 - (iv) Batteries are to be periodically checked and changed.
- (f) Landfill staff to look for visual signs of feral animals within the landfill area and record presence / visitation within the feral animal register;
- (g) Check perimeter fence on a weekly basis and undertake necessary repairs;
- (h) Undertake appropriate eradication measures including; baiting and trapping; and
- (i) Inspect the premises monthly for the presence of weeds and record observations made and management measures undertaken.
- 15.** The Licence Holder shall take all practical measures to ensure that the process control parameters in Table 8 comply with the trigger level specified in that Table.

Table 8: Process controls for leachate management

Reference	Parameter	Operational level
PC1	Leachate head within leachate sump 1 (location PM1 as depicted in the Figure S1-5 in Schedule 1)	Less than or equivalent to 800 mm within the sump ¹
PC2	Leachate Pond 1 freeboard	Greater than or equivalent to 500 mm
PC3	Leachate Pond 2 freeboard	Greater than or equivalent to 500 mm
PC4	Leachate Pond 3 freeboard	Greater than or equivalent to 500 mm
PC5	Leachate head within leachate sump 2 (location PM2 as depicted in the Figure S1-5 in Schedule 1)	Less than or equivalent to 600 mm within the sump ²

Note 1: An 800 mm leachate head within the Cell 1 sump (1) is equivalent to approximately 300 mm of leachate over the composite liner in the vicinity of the sump.

Note 2: An 600 mm leachate head within the Cell 3 sump (2) is equivalent to approximately 300 mm of leachate over the composite liner in the vicinity of the sump.

- 16.** In case of the occurrence of an Event at a corresponding reference point as specified in Table 9, the Licence Holder shall take the relevant Management action as specified in Table 9.

Table 9: Management actions

Event/ action reference	Event	Process control parameter reference in Table 8	Management action
EA1	Any time the leachate head exceeds the operational level in Table 8.	PC1 PC5	<p>The Licence Holder shall undertake leachate management measures as defined in the Landfill Management Plan within 24 hours of observing the exceedance.</p> <p>Where inspection and monitoring indicate failure or blockage of the leachate collection system, the Licence Holder shall remove leachate from the system via liquid waste transport to a licensed liquid waste facility within 48 hours of observing the exceedance.</p> <p>Where inspection and monitoring indicate failure or blockage of the leachate collection system, the Licence Holder shall notify the CEO in accordance with Condition 43.</p>
EA2	Any time the freeboard in Leachate Ponds 1, 2 or 3, is less than the operational level prescribed in Table 8.	PC2 PC3 PC4	<p>The Licence Holder shall undertake management measures as defined in the Landfill Management Plan within 24 hours of observing the exceedance.</p> <p>Where inspection and monitoring indicate failure or blockage of the leachate collection system, the Licence Holder shall remove leachate from the system via liquid waste transport to a licensed liquid waste facility within 48 hours of observing the exceedance.</p> <p>Where inspection and monitoring indicate failure or blockage of the leachate collection system, the Licence Holder shall notify the CEO in accordance with Condition 43.</p>

17. The Licence Holder must divert stormwater from areas of the Premises where waste is stored, and any stormwater which has come into contact with waste storage areas is to be retained within Cells 1, 2, 3 and 4, or associated leachate management infrastructure.
18. The Licence Holder must immediately clean any spills of waste or leachate outside of a vessel/container or infrastructure specified by Table 4.

- 19.** The Licence Holder must manage asbestos by:
- (a) Only disposing of asbestos and ACM within the designated areas of the landfill (as identified on a site map to be available at all times on the Premises, and by signage within the Active Landfill Cell), under the supervision of a person nominated by the Licence Holder;
 - (b) Covering asbestos and ACM by the end of the working day with a dense, inert and incombustible material to a depth of at least 300 mm;
 - (c) Maintaining a register of burials of asbestos and ACM stating as a minimum, the date, the person's name, that the waste has been covered in accordance with the licence conditions, and where more than one square metre of waste was covered, grid coordinates with reference to the plan of the landfill site so that the position of the waste can be easily and accurately ascertained; and
 - (d) Operating the landfill in such a way that asbestos and ACM is not buried within two metres of the final waste landform surface and ensuring that asbestos and ACM which has been buried remains undisturbed.
- 20.** The Licence Holder must manage Biomedical wastes by:
- (a) Only disposing of clinical and related wastes within the designated areas of the landfill (as identified on a site map to be available at all times on the Premises, and by signage within the Active Landfill Cell), under the supervision of a person nominated by the Licence Holder;
 - (b) Covering Clinical and related wastes by the end of the working day with a dense, inert and incombustible material to a depth of at least 300 mm;
 - (c) Maintaining a register of burials of clinical and related wastes stating as a minimum, the date, the disposer's details, the origin of the waste, that the waste has been covered in accordance with the licence conditions, and where more than one square metre of waste was covered, grid coordinates with reference to the plan of the landfill site so that the position of the waste can be easily and accurately ascertained; and
 - (d) Operating the landfill in such a way that clinical and related waste is not buried within two metres of the final waste landform surface and ensuring that waste which has been buried remains undisturbed.
- 21.** The Licence Holder must ensure that waste is not burnt at the Premises.
- 22.** The Licence Holder is not permitted to clear any native vegetation on the Premises under this licence.
- 23.** The Licence Holder must restrict vehicle speeds on the premises to below 40 km per hour.

Specified Actions

- 24.** The Licence Holder shall submit to the CEO the Information in Table 10 in accordance with the Requirements and Timescale outlined in Table 10.

Table 10: Specified actions

	Information	Requirement(s)	Timescale
1	Phase 2 Capping and Rehabilitation Design plan	Report including the final detailed design, stability risk assessment, technical/material specifications, landfill gas collection infrastructure details, current survey and proposed final waste heights, and construction quality assurance plan.	3 months prior to achieving the proposed final waste height as specified within the adopted site Closure and Post Closure Management Plan
2	Phase 3 Capping and Rehabilitation Design plan	Report including the final detailed design, stability risk assessment, technical/material specifications, landfill gas collection infrastructure details, current survey and proposed final waste heights, and construction quality assurance plan.	3 months prior to achieving the proposed final waste height as specified within the adopted site Closure and Post Closure Management Plan.

Works specifications (construction)

24. The Licence Holder must ensure that the construction works specified in Table 11 meet or exceed the specifications in the corresponding schedule as noted in Table 11.

Table 11: Works specifications

Works Type	Works description	Timing	Specifications reference
Landfill gas extraction infrastructure	Landfill gas well ground preparation and construction	Landfill gas well hole construction must commence within 9 months after disposal of waste into each Phase has been completed.	Schedule 4

Works Type	Works description	Timing	Specifications reference
Landfill gas destruction infrastructure	Flare construction	Landfill gas collection infrastructure must be connected to active landfill gas management systems capable of capture and combustion of landfill gas, once the production levels from the wells exceed 100m ³ /hr.	Schedule 4
Landfill closure and capping works	Landfill cap construction	The construction works for installation of the landfill cap of each Phase must commence no later than 6 months after disposal of waste into the Phase has been completed	Schedule 5

- 25.** The Licence Holder must within 45 calendar days of an item of infrastructure required by condition 24 being constructed:
- (a) undertake an audit of their compliance with the requirements of condition 24; and
 - (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.
- 26.** The Environmental Compliance Report required by condition 25, must include as a minimum the following:
- (a) certification by Suitably Qualified Engineer that the items of infrastructure or component(s) thereof, as specified in condition 24, have been constructed in accordance with the relevant requirements specified in condition 24;
 - (b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 24; and
 - (c) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

Monitoring requirements

- 27.** The Licence Holder shall ensure that:
- (a) Monthly monitoring is undertaken at least 15 days apart;
 - (b) Six (6) monthly monitoring is undertaken at least five (5) months apart; and
 - (c) Annual monitoring is undertaken at least nine (9) months apart.
- 28.** The Licence Holder shall undertake the monitoring of parameters specified in Table 12 according to the specifications on that table.

Table 12: Monitoring of inputs and outputs

Input/Output	Parameter	Units	Frequency
Waste Inputs	Clean Fill, Uncontaminated Fill, Inert Waste Type 1, Inert Waste Type 2, Special Waste Type 1, Putrescible waste and Contaminated Solid Waste.	tonnes	Each load arriving at the Premises
Waste Outputs	Waste types as defined in the Landfill Definitions		Each load leaving or rejected from the Premises

- 29.** The Licence Holder shall ensure that:
- (a) All liquid samples are collected and preserved in accordance with AS/NZS 5667.1;
 - (b) All wastewater sampling is conducted in accordance with AS/NZS 5667.10;
 - (c) All surface water sampling is conducted in accordance with AS/NZS 5667.4;
 - (d) All groundwater sampling is conducted in accordance with AS/NZS 5667.11;
 - (e) All laboratory samples are submitted to and tested by a laboratory with NATA accreditation for the parameters being measured unless indicated otherwise within the relevant table.
- 30.** The Licence Holder shall inspect and monitor the leachate management system at a minimum of weekly to monitor leachate levels in all ponds and sumps, and manage movement of leachate between sumps and ponds and the recirculation system. The Licence Holder shall monitor and record, at a minimum, the Parameters specified in Table 11 at the locations, levels and recording frequency specified in the Table.

Table 11: Leachate Management System monitoring requirements

Parameter	Location	Operational levels	Recording period
Depth of leachate	Leachate Sump 1 (Cell 1) Leachate Sump 2 (Cell 3)	300 mm over landfill liner	Minimum of once a week
	Leachate Ponds 1, 2 and 3	Less than minimum freeboard as specified in Table 8	Weekly

Parameter	Location	Operational levels	Recording period
Volume of leachate	Pumped from sump to ponds	N/A	Weekly
	Pumped out of leachate ponds	N/A	Weekly

31. The Licence Holder shall undertake the process monitoring at the monitoring point reference locations specified in Table 12, and shown on the map in Schedule 3, according to the specifications in that Table.

Table 12: Process monitoring

Monitoring point reference	Process description	Parameter	Units	Frequency	Method
PM1 PM2	Leachate head within leachate sump 1 (Cell 1) and leachate sump 2 (Cell 3)	Depth	mm	Daily	Depth to be measured prior to commencement of pumping of leachate from the sump
PM1 PM2	Leachate extracted from leachate sump 1 (Cell 1) and leachate sump 2 (Cell 3)	pH ¹	pH units	Quarterly	In accordance with Condition 29
		Electrical conductivity ¹	µS/cm		
		Total soluble solids	mg/L		
		Cations and anions – Potassium, chloride and sulfate			
		Total metals – arsenic (total) cadmium, chromium, copper, iron (total), lead manganese, mercury, molybdenum, nickel, selenium, zinc			
		Nutrients – Ammoniacal nitrogen, nitrate-nitrogen, total nitrogen, total phosphorus, total organic carbon, chemical oxygen demand			
		Total recoverable hydrocarbons	µg/L	6 monthly	
		Monocyclic aromatic hydrocarbons –			

Monitoring point reference	Process description	Parameter	Units	Frequency	Method
		benzene, toluene, methylbenzene, xylene (total) Polycyclic aromatic hydrocarbons – acenaphthene, anthracene, ben(a)pyrene, fluoranthene, naphthalene, pyrene Organochlorine pesticides – Aldrin, chlordane (and metabolites), DDT (and metabolites), dieldrin, chlorpyrifos, HCB, heptachlor (and its epoxide), lindane Organophosphates – parathion, demeton-S-methyl, maldison, diazinon, dimethoate, fenamiphos, fenthion Other – atrazine, TCE, PCE and polychlorinated biphenyls (total)			

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

32. The Licence Holder shall undertake the monitoring at the monitoring point reference locations specified in Table 13 and Table 14, and shown on the map in Schedule 3 according to the specifications in those tables.

Table 13: Monitoring of ambient surface water quality

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency	Method
SW3	pH ¹	pH units	Spot sample	6 monthly, when runoff water is being released to the farm dam.	In accordance with Condition 29
	Electrical conductivity ¹	µS/cm			
	Cations and anions – Potassium, chloride and sulfate	mg/L or ug/L	Spot sample		
	Total metals – arsenic (total) cadmium, chromium, copper, iron (total), lead manganese,				

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency	Method
	mercury, molybdenum, nickel, selenium, zinc				
	Nutrients – Ammoniacal nitrogen, nitrate-nitrogen, total nitrogen, total phosphorus, total organic carbon, chemical oxygen demand				
	Total recoverable hydrocarbons				
SW1 and SW2	pH ¹	pH units	Spot sample	Two sampling events between the months of May and September, separated by at least 30 days (when water is flowing)	In accordance with Condition 29
	Electrical conductivity ¹	µS/cm			
	Total suspended solids	mg/L or ug/L	Spot sample		
	Total soluble solids				
	Cations and anions – Potassium, chloride and sulfate				
	Total metals – arsenic (total) cadmium, chromium, copper, iron (total), lead manganese, mercury, molybdenum, nickel, selenium, zinc				
	Nutrients – Ammoniacal nitrogen, nitrate-nitrogen, total nitrogen, total phosphorus, total organic carbon, chemical oxygen demand				
Total recoverable hydrocarbons					

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

Table 14: Monitoring of ambient groundwater quality

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency	Method
SE1, SE2, SE3, SE4, SE5, SE6,	Standing water level ¹	mAHD	Instantaneous	Quarterly	In accordance with Condition 29
	pH ¹	pH units	Spot sample		

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency	Method
SE7, SE8, SE9 and C1.	Electrical conductivity ¹	µS/cm			
	Total soluble solids	mg/L	Spot sample		
	Cations and anions – Potassium, chloride and sulfate				
	Dissolved metals – arsenic (total) cadmium, chromium, copper, iron (total), lead manganese, mercury, molybdenum, nickel, selenium, zinc				
	Nutrients – Ammoniacal nitrogen, nitrate-nitrogen, total nitrogen, total phosphorus				

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency	Method
	Total recoverable hydrocarbons Monocyclic aromatic hydrocarbons – benzene, toluene, methylbenzene, xylene (total) Polycyclic aromatic hydrocarbons – acenaphthene, anthracene, ben(a)pyrene, fluoranthene, naphthalene, pyrene Organochlorine pesticides – Aldrin, chlordane (and metabolites), DDT (and metabolites), dieldrin, chlorpyrifos, HCB, heptachlor (and its epoxide), lindane Organophosphates – parathion, demeton-S-methyl, maldison, diazinon, dimethoate, fenamiphos, fenthion Other – atrazine, TCE, PCE and polychlorinated biphenyls (total)	µg/L		6 monthly	

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

33. Field records should be kept for sampling undertaken in accordance with Conditions 30, 31 and 32 should be and must include as a minimum:

- (a) Date, location and time of sampling;
- (b) Sampling equipment and methodology of sample collection;
- (c) Depth sample was collected from;
- (d) Sample collection point description and information (height of water depth, height of casing, total depth of water, etc.);
- (e) SWL before and after sampling (where relevant);
- (f) Purge volume (where relevant); and
- (g) Observations of sample (e.g. colour, turbidity, odour, presence of sheen, effervescence etc.)

- 34.** The Licence Holder must adhere to the following field quality assurance and quality control procedures as specified in Schedule B2 of the Assessment of Site Contamination NEPM and must include as a minimum:
- (a) Decontamination procedures for the cleaning of tools and sampling equipment before sampling and between samples;
 - (b) Field instruction calibration for instruments used on site;
 - (c) Blind replicate samples and rinsate blanks must be collected in the field and sent to the relevant laboratory to determine the precision of the field sampling and laboratory analytical program;
 - (d) Completed field monitoring sheets/sampling logs for each sample collected, time, location, initials of sampler, sampling method, field analysis results, duplicate type/location (if relevant) and site observations and weather conditions; and
 - (e) Chain-of-custody documentation must be completed which details the following information: site identification; the sampler; nature of the sample; collection time and date; analyses to be performed; sample preservation method; departure time from site; dispatch courier(s); and arrival time at laboratory.
- 35.** The Licence Holder shall undertake the monitoring of parameters specified in Table 17 according to the specifications in that table.

Table 17: Monitoring of landfill gas

Monitoring point reference and location	Parameter ¹	Units	Frequency
Each well, as depicted in Schedule 1, Figure S1-3	Volumetric flow rate	m ³ /hr	Within four weeks of completion of construction of each well and flare and Monthly thereafter
Each well, as depicted in Schedule 1, Figure S1-3; or The Flare as depicted in Schedule 1, Figure S1-3	Methane	Volume %	
	Carbon dioxide	Volume %	
	Oxygen	Volume %	
	Nitrogen	Volume %	
	Carbon monoxide	ppm	
	Gas temperature	°C	
	Pressure	Pa	

Note 1: non-NATA accredited analysis permitted

- 36.** All monitoring must be undertaken by laboratories with current NATA accreditation for the analysis specified unless otherwise specified in Conditions 30, 31, 32 and 35.

Record-keeping

- 37.** 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 specific actions required by Condition 24 of this Licence;
 - (c) The maintenance of infrastructure required to ensure that it is kept in good working order in accordance with Condition 6 of this Licence;
 - (d) Management measures undertaken in accordance with Condition 13 of this Licence;
 - (e) Monitoring undertaken in accordance with Conditions 27 to 36 and Schedule 3 of this Licence;
 - (f) Reportable Events reported in accordance with Condition 16 of this Licence;
 - (g) Complaints received under Condition 38 of this Licence; and
 - (h) Any material change
- In addition, the Books must:
- (i) Be legible;
 - (j) If amended, be amended in such a way that the original and subsequent amendments remain legible and are capable of retrieval;
 - (k) Be retained for at least 3 years from the date the Books were made; and
 - (l) Be available to be produced to an Inspector or the CEO.
- 38.** The Licence Holder must record the number and details of any complaints received by the Licence Holder relating to its obligations under this Licence and its compliance with Part V of the EP Act at the Premises, and any action taken by the Licence Holder in response to the complaint. Details of complaints must include:
- (a) An accurate record of the concerns or issues raised, for example a copy of any written complaint or a written note of any verbal complaints made;
 - (b) The name and contact details of the complainant, if provided by the complainant;
 - (c) The date of the complaint; and
 - (d) The details and dates of the actions taken by the Licence Holder in response to the complaints.
- 39.** The Licence Holder must record and report any unauthorised fires, to the CEO, within 14 days of the fire and include:
- (a) Details of the date, time and location of the fire;
 - (b) Measures used to control the fire;
 - (c) The cause, or suspected cause, of the fire; and
 - (d) Any residual issues related to the fire.
- 40.** The Licence Holder must submit to the CEO, no later than 90 days after the annual period, an Annual Audit Compliance Report indicating the extent to which the Licence Holder has complied with the Conditions in this Licence, and any previous

licence issued under Part V of the EP Act for the Premises for the preceding Annual Period. The Annual Audit Compliance Report shall be submitted using the Form available at the DWER website: www.dwer.wa.gov.au under the publications section

41. The Licence Holder must comply with a Department Request, within 14 days from the date of the Department Request or such other period as agreed to by the Inspector or the CEO.
42. The Licence Holder shall submit to the CEO and Annual Environmental Report within 90 calendar days after the end of the annual period. The report shall contain the information listed in Table 15 in the format or form specified in that table. The Annual Environmental Report shall also contain:
 - (a) An assessment of the information contained within the report against previous drawings, monitoring results and licence limits and/or trigger levels;

Table 15: Annual environmental report

Condition or Table (if relevant)	Information required	Format or form
N/A	Updated site plan.	Map at least A3 size. All maps and plans in electronic format
N/A	A summary of leachate collection infrastructure performance including inputs, outputs, calculations and explanation of any changes that may indicate an issue with the leachate collection or management system or a breach of the landfill or leachate pond liner.	None specified
Including Condition 15	Summary of any failure or malfunction of any pollution control equipment (detailed in the Landfill Management Plan); and any environmental incidents that have occurred during the annual period, and any action taken in response to the incident	None specified
Table	Waste input and output data (including rejected loads)	None specified
Table 12	Process monitoring data	Including the information required by Conditions 27 to 36
Table 13	Ambient surface water quality monitoring data	
Table 14	Ambient groundwater quality monitoring data	

Condition or Table (if relevant)	Information required	Format or form
Table 17	<p>Landfill gas monitoring data</p> <p>A summary of landfill gas infrastructure operational performance including an annual review of flare rate against landfill gas generation capacity.</p> <p>A review of gas generation rates to determine if sustained generation rates warrant gas utilisation.</p> <p>A description of changes to operational performance that may indicate an issue with the landfill gas management system and actions taken to investigation and mitigate issues.</p>	None specified
Condition 38	Summary of complaints received	None specified

43. The Licence Holder shall submit the information in Table 16 to the CEO according to the specifications in that table.

Table 16: Notification requirements

Condition or Table (if relevant)	Information required	Notification requirement ¹	Format or form ²
Condition 15 and 16, including Table 8 and Table 9.	Failure or malfunction of the leachate collection and management system	<p>Part A: As soon as practicable, but no later than 1700 hrs of the next usual working day</p> <p>Part B: As soon as practicable</p>	N1

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

Note 2: Forms are in Schedule 6

Schedule 1: Maps

Premises map

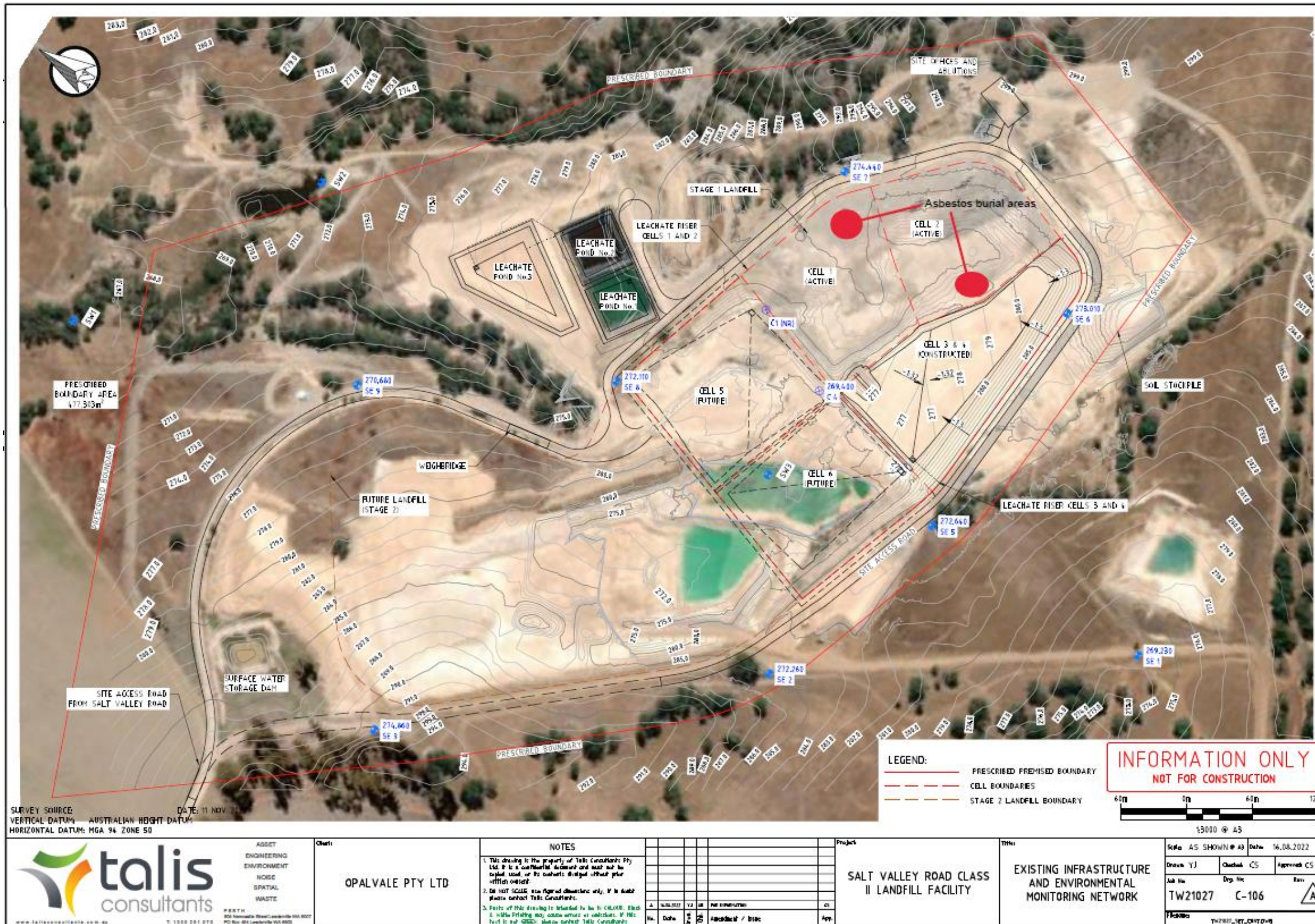


Figure S1-1: Site Layout source (Provided by Applicant in January 2019)

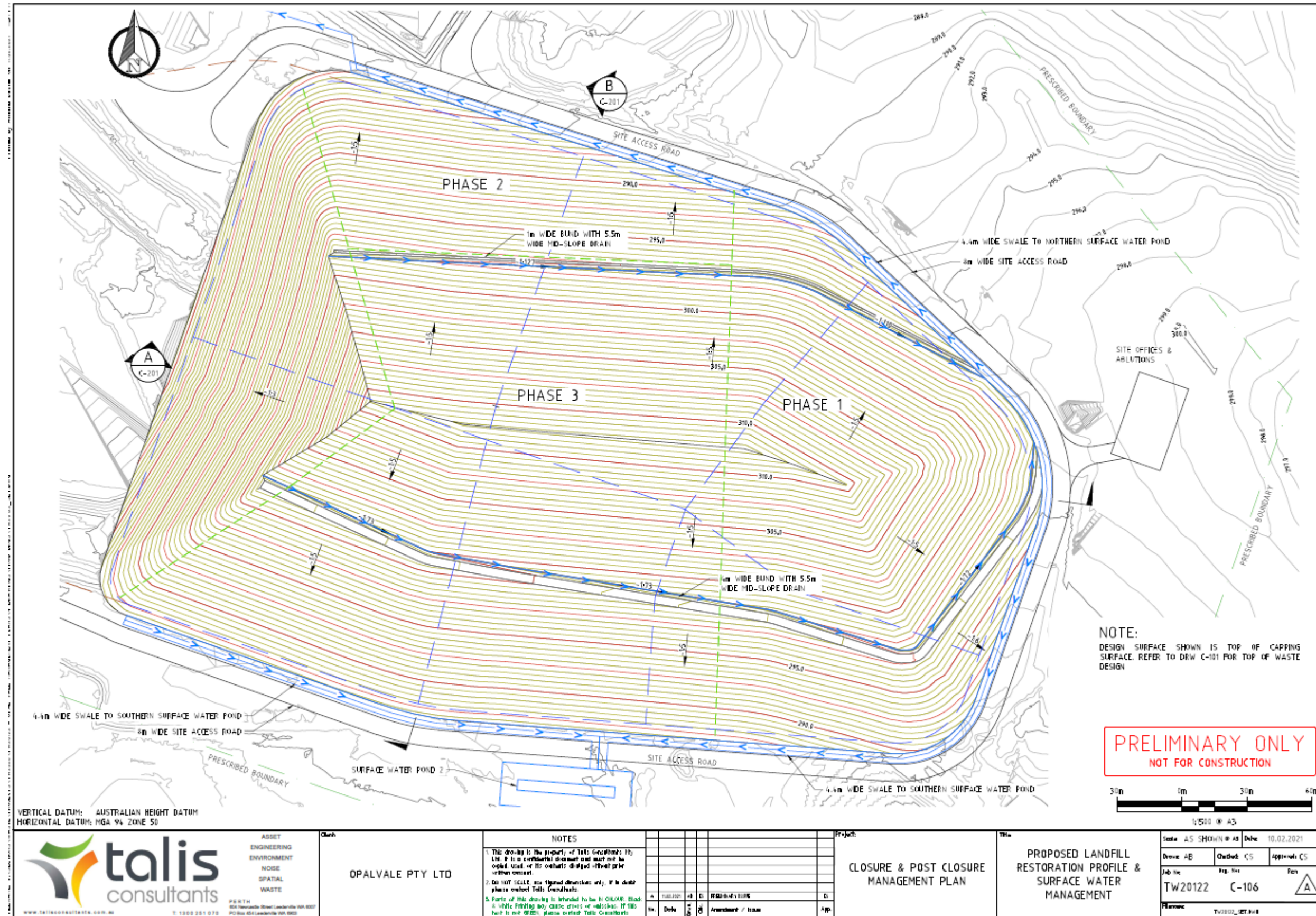


Figure S1-2: Landfill closure and capping Phases

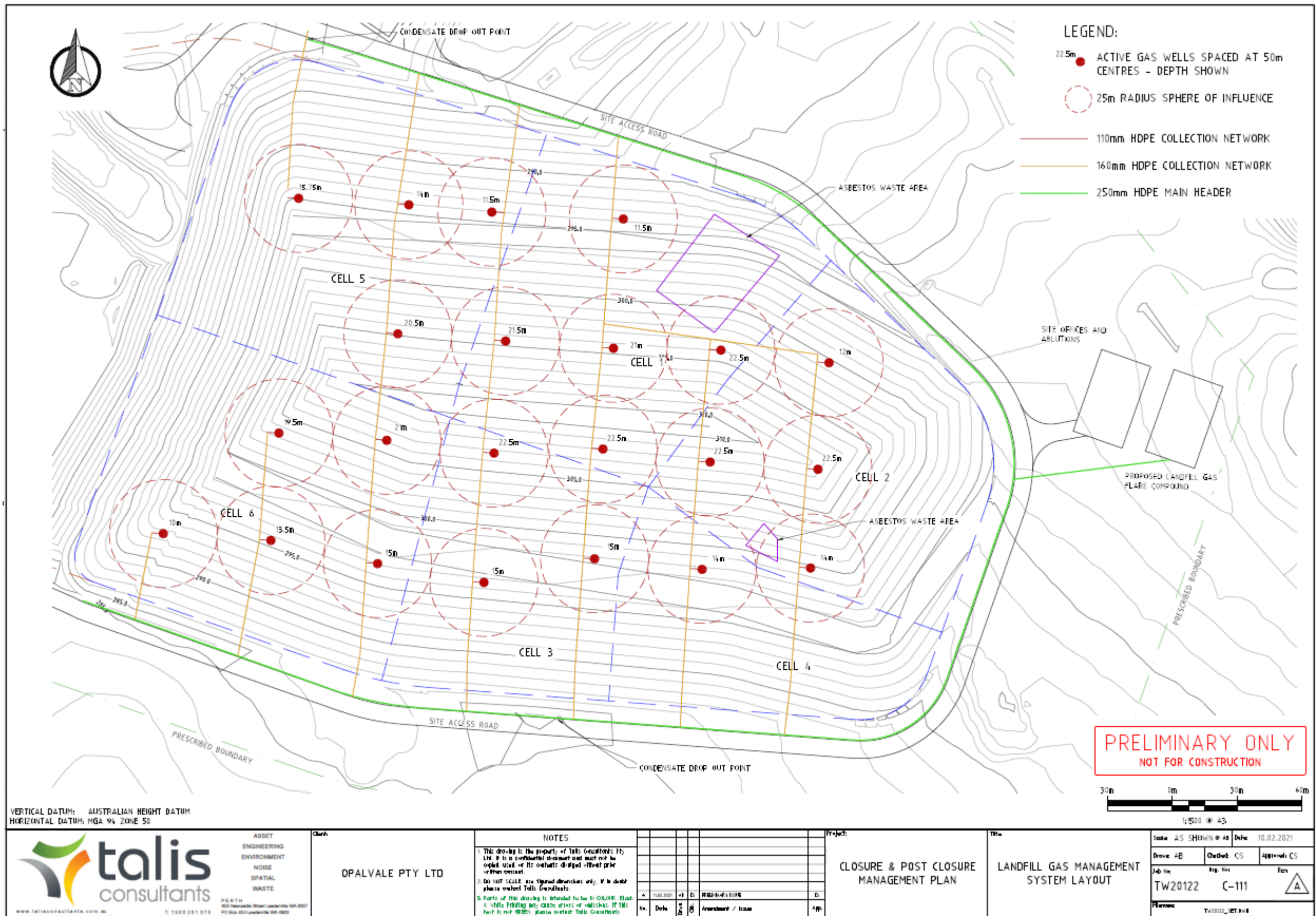


Figure S1-3: Landfill gas management system layout

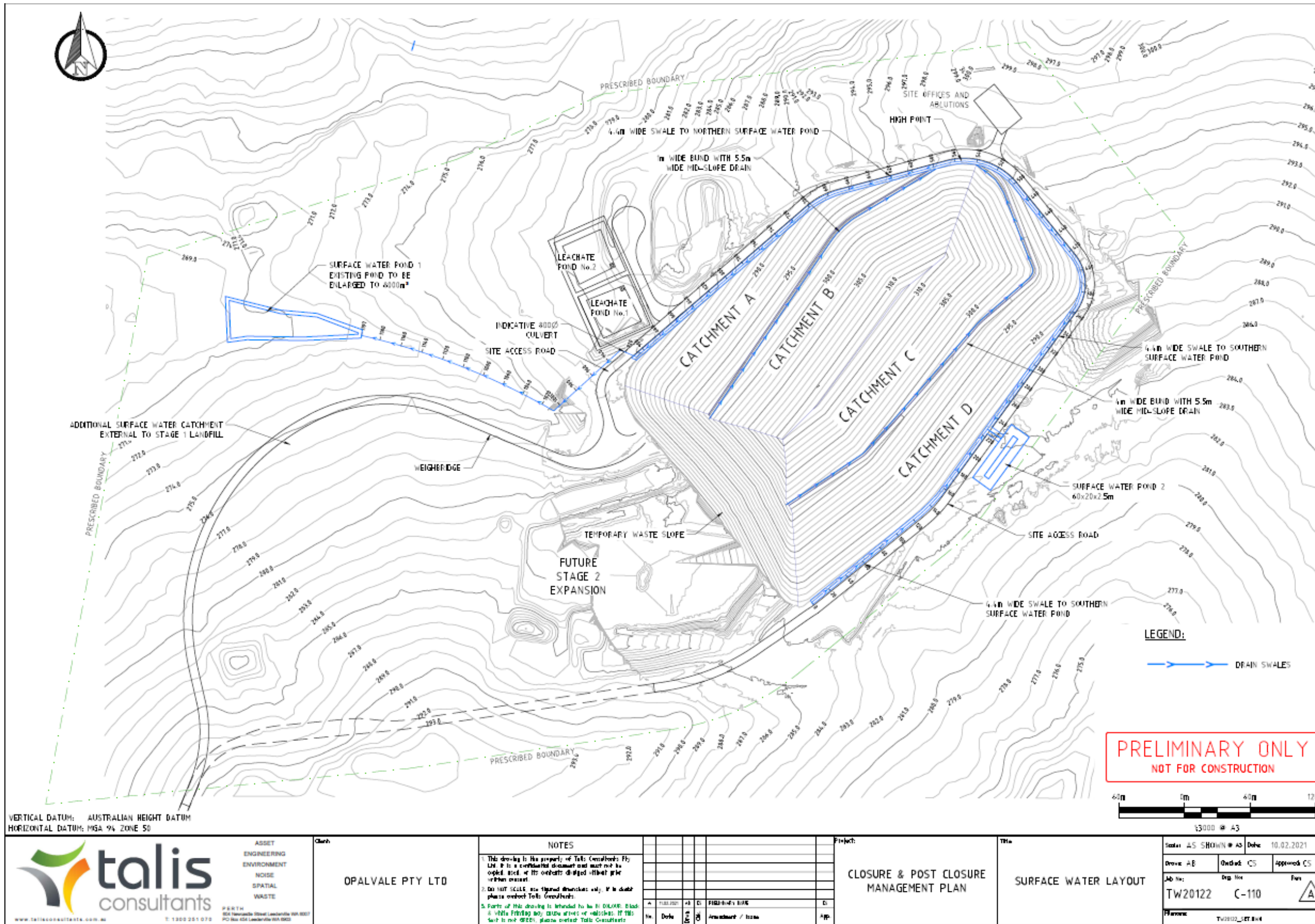


Figure S1-4: Surface water layout

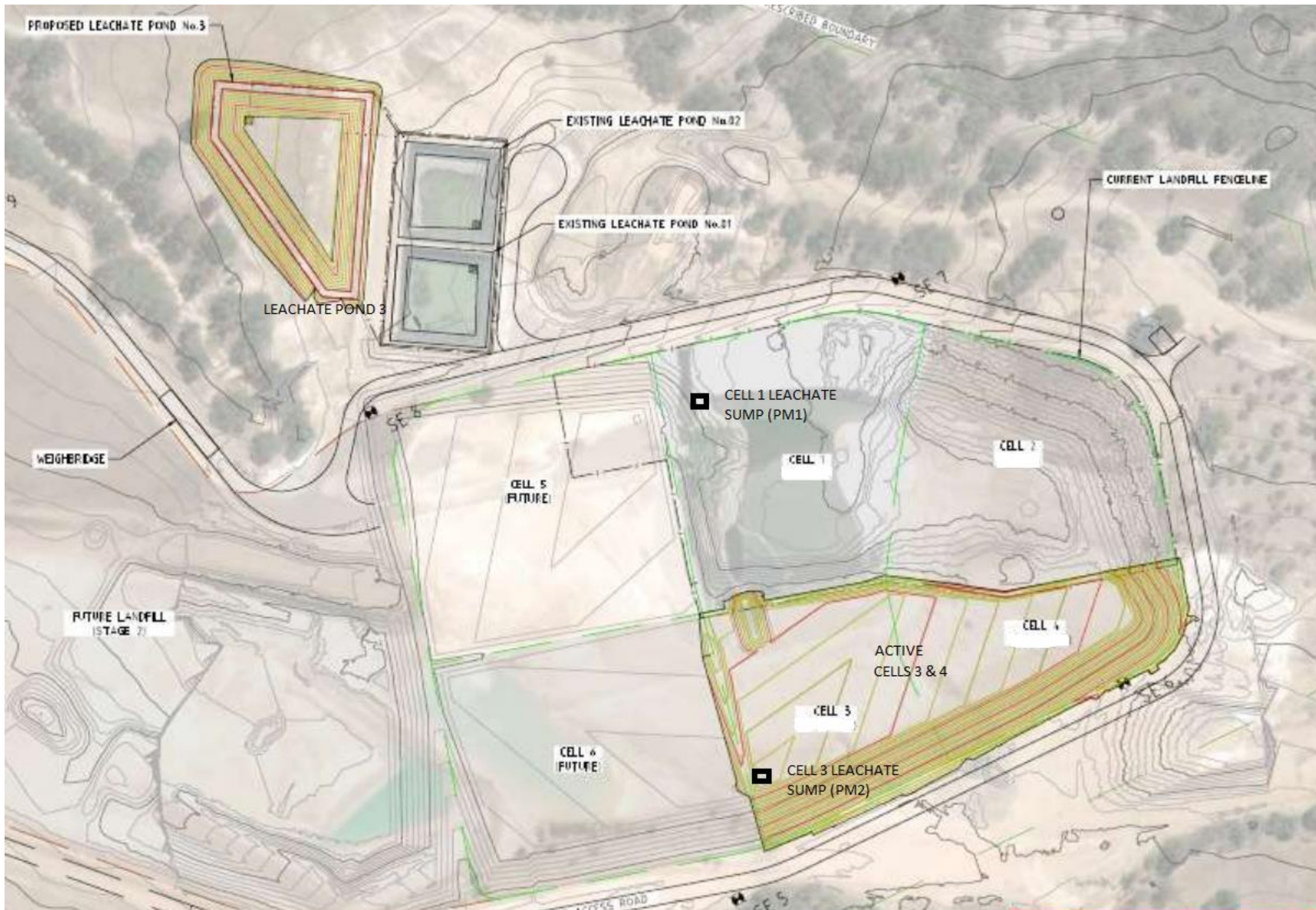


Figure S1-5: Process management locations

Premises boundary

The Premises boundary is defined by the coordinates in Table 17 and depicted on Figure S1-5.

Table 17: Premises boundary coordinates

Point	Easting	Northing
1	449175.810	6496412.485
2	449650.350	6496595.722
3	449875.060	6496402.043
4	449996.452	6496319.074
5	450239.200	6496015.367
6	450163.157	6495798.196
7	449827.189	6495823.471
8	449576.119	6495911.384



Figure S1-5: Premises boundary

Schedule 2: Primary Activities

At the time of assessment, Emissions and Discharges from the following Primary Activities were considered in the determination of the risk and related Conditions for the Premises.

The Primary Activities are listed in Table 18:

Table 18: Primary Activities

Primary Activity	Premises production or design capacity
Category 64 – Class II or III putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled “Landfill Waste Classification and Waste Definitions 1996” published by the Chief Executive Officer and as amended from time to time) is accepted for burial	150,000 tonnes per annual period

Infrastructure and equipment

The Primary Activity infrastructure and equipment situated on the Premises is listed in Table 19.

Table 19: Infrastructure and equipment

Infrastructure and equipment	Plan reference
Four (4) lined landfill cells including leachate collection pipes and sumps (Cells 1, 2, 3 and 4)	Premises Map in Schedule 1 (Figure S1-1)
Three (3) lined leachate storage ponds	
Stormwater diversion bunds and trenches	
Weighbridge	
Entrance gate, site fencing and access roads	
Site office and staff amenities	
Unlined Surface water storage pond	
Groundwater Monitoring network including: Nine (9) deep groundwater monitoring wells; and Two (2) in-pit monitoring wells (C1 and C4)	Groundwater Monitoring Network Map in Schedule 3 (Figure S3-1)

Site layout

The Primary Activity infrastructure and equipment is set out on the Premises in accordance with the site layout specified on the Premises map in Schedule 1.

Schedule 3: Monitoring Monitoring locations

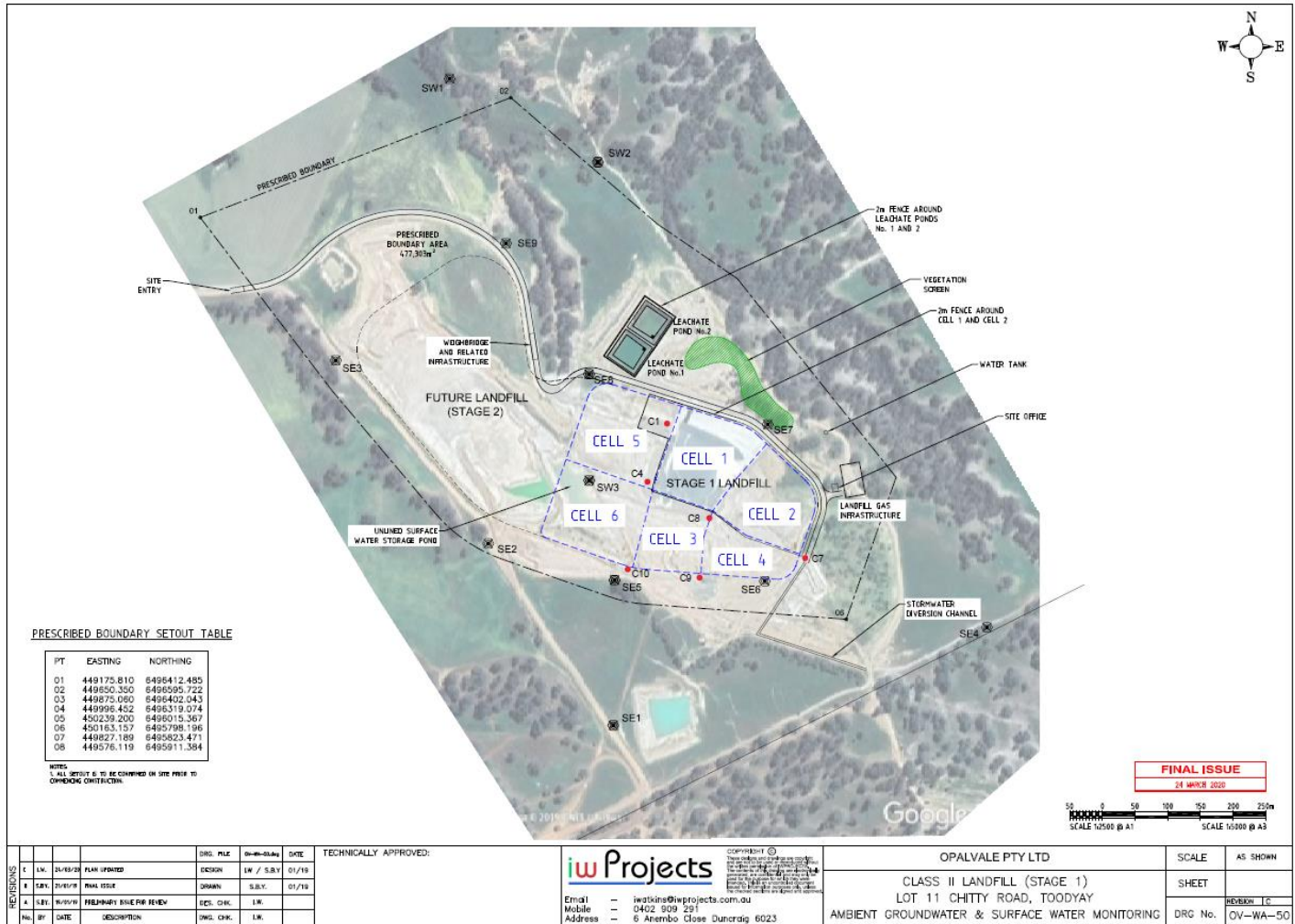


Figure S3-1: Groundwater monitoring well and Surface Water monitoring network

Schedule 4: Works specifications

Landfill gas extraction infrastructure

	Infrastructure /Equipment	Requirements (design and construction)	Site plan reference
1	Landfill gas extraction wells	<ul style="list-style-type: none"> • 21 vertical wells • Spaced at 50 m • Not to be installed within 5 m of the edge of the landfill • Drilled to 75% of the waste depth • Area around wells to be backfilled with aggregate • Not to be installed in areas where ACM has been buried 	Schedule 1: Maps Figure S1-3: Landfill gas management system layout
2	Landfill gas extraction pipeworks	<ul style="list-style-type: none"> • Each landfill gas well is to be connected to a 250 mm diameter HDPE main header • Individual wells are to be connected in parallel to the main header via a series of 110 mm and 160 mm diameter HDPE header pipes. 	
3	Landfill gas destruction infrastructure	An enclosed high temperature flare, designed to: <ul style="list-style-type: none"> • Be capable of managing a landfill gas production rate of up to 890 m³/hr • Be operable for 40 years • Continuously monitor temperature, flow and methane levels • Include a knockout pot for condensate • Have a destruction efficiency of >98% 	

Schedule 5: Works specifications

Landfill closure and capping works

	Infrastructure /Equipment	Requirements (design and construction)	Site plan reference
1	Final profile	Final fill profile and slopes are to be between 5% and 20%	n/a
2	Capping system	<p>Capping system to comprise of:</p> <ul style="list-style-type: none"> • 300 mm sand gas collection layer/regulating layer • 1.5 mm thick double textured linear low density polyethylene (LLDPE) geomembrane layer • Geocomposite (Geonet) drainage layer • 1000 mm of restoration layer, comprising: <ul style="list-style-type: none"> ○ 800 mm thick layer of site won subsoil; and ○ 200 mm thick layer of growing medium/mulch • Vegetation layer incorporating hydromulch/seeding to reduce erosion and advance revegetation 	n/a
3	Temporary capping system	<ul style="list-style-type: none"> • Temporary capping is to be placed on portions of each completed cell until landfilling is complete in the corresponding Phase • Temporary capping is occur within 6 months of landfilling being completed in each cell • To consist of a minimum of 300 mm low permeability compacted site-won cohesive soils 	n/a
4	Surface water management	<ul style="list-style-type: none"> • Mid-slope drainage swales on northern and southern side slopes • Southern drain to be constructed at a gradient of 1V:50H • Northern drain to be constructed at a gradient of 1V:100H <p>Two surface water ponds with the capacity to retain runoff generated during a 1-in-20 year, 24 hour storm event:</p>	Schedule 1: Maps Figures S1-2 and S1-4

		<ul style="list-style-type: none"> • Pond 1 to be constructed as an earthen dam with a capacity of 7,771 m³ • Pond 2 to be HDPE lined with a capacity of 1,688 m³ 	
5	Leachate management	Seepage through landfill cap is to be no more than 75% of the anticipated seepage rate through the basal liner.	n/a

END OF CONDITIONS

Schedule 6: Forms and Notifications

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	