Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W2908/2025/1
Works approval holder	Veolia Recycling & Recovery (Perth) Pty Ltd
ACN	118 828 872
Registered business address	Level 4, 65 Pirrama Road PYRMONT NSW 2009
DWER file number	INS-0002908
Duration	16/07/2025 to 15/07/2030
Date of issue	16/07/2025
Premises details	North Bannister Resource Recovery Park 6264 Albany Highway North Bannister WA 6390 Legal description - Lot 2 on Deposited Plan 2767

Prescribed premises category description **(Schedule 1, *Environmental Protection Regulations 1987*)**	**Assessed design capacity**
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.	400,000 tonnes per annual period

This works approval is granted to the works approval holder, subject to the attached conditions, on 16 July 2025, by:

Abbie Crawford

Digitally signed by Abbie Crawford
Date: 2025.07.16 10:42:42 +08'00'

Abbie Crawford
MANAGER, WASTE INDUSTRIES

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

Works approval history

Date	Reference number	Summary of changes
16/07/2025	W2908/2025/1	Works approval granted

Interpretation

In this works approval:

(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 works approval:

(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 works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

Works approval conditions

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

Construction phase

Infrastructure and equipment

1. The works approval holder must:

(a) construct the critical containment infrastructure;

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

(c) at the corresponding infrastructure location,

as set out in Table 1.

Table 1: Critical containment infrastructure design and construction requirements

	Infrastructure	Design and construction requirements	Infrastructure location
1.	Landfill Cell 7	Must be constructed according to the details in Schedule 1, Figure 3, Figure 4, Figure 5, Figure 6, Figure 7 and Figure 8	As shown in Schedule 1, Figure 2
Landfill Cell 7			
2.	Site preparation / sub-base	• Must be constructed according to the details in Schedule 1, Figure 3, Figure 5, Figure 6, Figure 7 and Figure 8 • Excavation to be undertaken to 250mm below finished subgrade levels. • Ripping, moisture conditioning and recompacting to be undertaken as necessary on the lower 250mm layer of in-situ soils on the base of the cell. • All general fill must meet the requirements for suitable material as per AS 3798. • All fill material to be compacted in accordance with AS 3798 to 95% of its MMDD in layers not exceeding 300 mm. • The sub-base must be smooth, free of debris, roots, sticks and sharp rocks.	As shown in Schedule 1, Figure 2
3.	Engineered Fill Layer	• Must be constructed according to the details in Schedule 1, Figure 8 Must meet the following specifications: • Must have a minimum thickness of 500 mm. • Comprise predominantly clay material free from organic matter, debris or waste, classified as either low, medium or high plasticity clay, clayey sand, clayey gravel or silty clay.	As shown in Schedule 1, Figure 2

	Infrastructure	Design and construction requirements	Infrastructure location
		• Maximum particle size ≤50mm. • Percentage passing a 19mm sieve ≥70%. • Percentage passing a 0.075mm sieve ≥20% (in accordance with AS 1289.3.6.3). • Liquid limit ≥25% (in accordance with AS 1289.3.1.1). • Plasticity index ≥10% (in accordance with AS 1289.3.3.1). • Not comprise unsuitable material. • Engineered Fill shall be compacted to >95% MMDD with a moisture content, during compaction, within the range of optimum moisture content (OMC) -3% to +3% as determined by the test methods of AS1289.	
4.	Layer 1 - Geosynthetic Clay Liner (GCL)	Must be constructed according to the details in Schedule 1, Figure 3, Figure 4, and Figure 8 GCL must be designed and constructed to the following specifications: • Must be a needle punched multi-layered system comprising two layers of geotextiles encapsulating a layer of dry bentonite. • Installed in direct contact with the engineered fill layer. • Must have a hydraulic conductivity of ≤ 3.0 x 10-11 m/s (MaxARV) or ≤ 2.4 x 10-11 (typical). • The GCL must be free of defects. • No transverse jointing/overlapping of geosynthetic panels on side slopes. • GCL installed on the landfill side slopes must be fixed in anchor trenches and must be deployed down the slope in a manner as to keep the GCL panel in tension. • The GCL must be installed in a manner that prevents the entrapment of any stones, excessive dust or moisture or any other material that could damage the GCL. • Seams must have a minimum overlap of 300 mm and must be joined by the addition of bentonite paste applied to a minimum width of 200 mm and a nominal thickness of 10 mm. • Must be installed in accordance with the manufacturers specifications. • Must not be installed in the presence of water. • Must be installed in a manner that prevents	As shown in Schedule 1, Figure 2

	Infrastructure	Design and construction requirements	Infrastructure location
		wrinkles or folds in the liner layer. • No vehicles to be driven over this layer.	
5.	Layer 2 – Geomembrane	• Must be constructed according to the details in Schedule 1, Figure 8 • Must consist of 2 mm thick textured High Density Polyethylene (HDPE); • The HDPE liner must be uniform and free of defects; • Must be installed in accordance with the manufacturers specifications; • Must not be installed in the presence of water; and • Must be installed in a manner that prevents wrinkles or folds in the liner layer.	As shown in Schedule 1, Figure 2
6.	Layer 3 - Cushion/protection geotextile	• Must be constructed according to the details in Schedule 1, Figure 8 • Must be woven or non-woven needle punched constructed from fibres of polypropylene or polyester, incorporating 1% by weight activated carbon or another UV stabilizer. • Geotextile to be certified needle free. • No transverse jointing/overlapping of geosynthetic panels on side slopes. • Must be installed in a manner that to prevent damage to the geotextile and prevent wrinkles in the liner layer. • Seams on side slopes must be oriented with the slope and must have a minimum overlap of 300 mm. • Must not be installed during heavy rain or winds. • Must be installed in accordance with the manufacturers specifications. • No vehicles to be driven over this layer.	As shown in Schedule 1, Figure 2
7.	Layer 4 – Leachate collection system	Must be constructed according to the details in Schedule 1, Figure 2, Figure 7, and Figure 8 Leachate collection pipework: • Must consist of perforated high density polyethylene (HDPE) pipes. • Must be installed across the basal area of the landfill cell to transmit leachate to the Cell 5 sump area. • Must consist of a 225 mm primary collection pipe	As shown in Schedule 1, Figure 2

	Infrastructure	Design and construction requirements	Infrastructure location
		and a series of 160 mm secondary pipes. • All pipes to be laid upon 100 mm of drainage layer aggregate. • All pipes to be laid in accordance with manufacturers specifications. • Pipes to be free of defects. • Must be installed in a manner that prevents damage to the geotextile liner.	
		Leachate drainage aggregate: • Must have a hydraulic conductivity of >$1x10^{-3}$ m/s. • Aggregate must consist of a low calcareous aggregate with <8.5% wt calcium carbonate content. • Fines (<0.075 mm) content must be less than 1%. • Must be a minimum of 300 mm thick.	
8.	Layer 5 – Separation geotextile	• Must be constructed according to the details in Schedule 1, Figure 8 • Must be woven or non-woven needle punched constructed from fibres of polypropylene or polyester, incorporating 1% by weight activated carbon or another UV stabiliser; • The separation geotextile must extend 1 m beyond the leachate collection layer; • Seams on side slopes must be oriented with the slope and must have a minimum overlap of 300 mm; • Installed bedding fabric shall be covered with the interfacing material as soon as practical, but in no case longer than 14 calendar days. • Permanent sandbags must be placed at a minimum of 5 m along the seams and either side of the primary and secondary leachate collection pipe aggregate mound, change of grade between basal and side slops and external perimeter of the separation geotextile to prevent uplift; • Must not be installed during heavy rain or winds; • Must be free of defects; • Must be installed in accordance with the manufacturers specifications; and • No vehicles to be driven over this layer.	As shown in Schedule 1, Figure 2

Construction quality assurance requirements

2. The works approval holder must undertake construction quality assurance (CQA) testing for the geosynthetic clay liner installed within cell 7 in accordance with the specifications outlined in Table 2.

Table 2: Geocomposite clay liner (GCL) CQA requirements

Item	Property	Standards	Frequency
Conformance Quality Assurance testing (sampled at the point of manufacture or on site, as determined by the Superindendant / CQA consultant)	Thickness (dry)	ASTM D1777	1 sample per 2,500 m^2
	Mass per unit area of bentonite component	ASTM D5993	
	Mass per unit area of GCL	ASTM D5993	
	Montmorillonite content (X-ray diffraction method)	N/A	1 sample per 10,000 m^2
	Cation exchange capacity of bentonite (methylene blue method)	N/A	1 sample per 20,000 m^2
	Mass/unit length of bentonite in overlaps (visual inspection and weighing)	ASTM D5993	1 sample per 2,500 m^2
	Moisture content of bentonite	AS 1289.2.1.1	Daily visual inspections
	Swell index/free swell of clay	ASTM D5890	1 sample per 2,500 m^2
	Fluid loss	ASTM D5891	1 sample per 5,000 m^2
	Peel strength (for needle-punched products only)	ASTM D6496	1 sample per 2,500 m^2
	Permeability	ASTM D5887	1 sample per 25,000 m^2
	Tensile strength	ASTM D4595	1 sample per 25,000 m^2
	CBR of geotextile	AS 3706.4	1 sample per 10,000 m^2
	Puncture resistance of geotextile	AS 3706.5	1 sample per 25,000 m^2
	Index flux	ASTM D5887	1 sample per 25,000 m^2

Item	Property	Standards	Frequency
Visual inspection of GCL (i.e., uniformity of bentonite distribution) and apparent variations in the as placed moisture distribution	Colour, thickness, needle punching, presence of needles or broken needles, and sewing density or other faults in the material	N/A	Every roll
	Thickness of GCL (i.e. uniformity of bentonite distribution) and apparent variations in the as placed moisture distribution	N/A	Each roll during placement. If thickness appears to be variable a check of the variability of the mass per unit area should be conducted

3. The works approval holder must undertake construction quality assurance (CQA) testing for the geomembrane (HDPE) installed within cell 7 in accordance with the specifications outlined in Table 3.

Table 3: Geomembrane (HDPE) CQA requirements

Item	Property	Standards	Frequency	Minimum Value
Conformance Quality Assurance testing (sampled at the point of manufacture or on site, as determined by the Superindendant / CQA consultant)	Thickness	ASTM D5994	One sample every 5,000 m^2 or every five rolls delivered to site – whichever is the greatest number of tests	Nom. (-5%) -10% (lowest individual for 8 out of 10 values) -15% (lowest individual for any of the 10 values)
	Asperity height	ASTM D7466		0.40 mm
	Density	ASTM D1505 / ASTM D792		0.940 g/cc
	Tensile properties (a) Yield strength (b) Break strength (c) Yield elongation (d) Break elongation	ASTM D6693 Type IV		(a) 29 kN/m (b) 21 kN/m (c) 12% (d) 100%
	Tear resistance	ASTM D1004		249 N
	Puncture resistance	ASTM D4833		534 N

Item	Property	Standards	Frequency	Minimum Value
	Carbon Black Content	ASTM D1603		2.0 – 3.0 %
	Carbon Black Dispersion	ASTM D5596		Carbon black dispersion (only near spherical agglomerates) for 10 different views: 9 in categories 1 or 2 and 1 in category 3
	Stress crack resistance	ASTM D5397	One sample every 10,000 m^2, or resin type or manufacturing run	500 hr.
	Oxidation Induction Time (OIT)	ASTM D8117 / ASTM D5885		100 min
	Oven ageing and oxidative induction Time	ASTM D5721 / ASTM D8117 / ASTM D5885		Standard OIT (min. ave.) - 55% retained after 90 days, or High Pressure OIT (min. ave.) - 80% retained after 90 days
Start-up test weld	Welding equipment	N/A	Checked 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	N/A
	Weld conditions	N/A	Test weld strips required whenever personnel or equipment are changed and/or wide temperature fluctuations are experienced. Minimum 1.5m continuous seam	N/A

Item	Property	Standards	Frequency	Minimum Value
Destructive weld testing	Onsite, hand tensiometer in peel mode	N/A	1 tab from start and finish of each weld for fusion welds	N/A
	Offsite - weld seam strength in peel and shear.	ASTM D6392	Every 300m (if fusion weld) Every 150m (if extrusion weld)	N/A
Non-destructive weld testing	N/A	Air pressure test, ASTM D5820 Vacuum box test, ASTM D5641	All seams over full length	N/A
Visual inspection of geomembrane	Tears, punctures, abrasions, cracks, indentations, thin spots, or other faults in the material	N/A	Every roll	Free of faults or defects
Leak detection survey	Leak detection survey across all geomembrane lined areas that have had leachate aggregate installed	ASTM D7007	Once the geomembrane has been installed and the drainage aggregate has been placed on top of the geomembrane, but before the separation layer has been installed	Identify and repair and test/resurvey all identified leaks in the lining system

4. The works approval holder must undertake construction quality assurance (CQA) testing for the cushion/protection and separation geotextiles installed within cell 7 in accordance with the specifications outlined in Table 4.

Table 4: Cushion/protection and separation geotextile CQA requirements

Item	Property	Standards	Frequency
Conformance Quality Assurance testing (sampled at the point of manufacture or on site, as determined by the Superindendant / CQA consultant)	Thickness	AS 3706.1	One sample per 2,500 m^2
	Mass per unit area	AS 3706.1	
	Tensile strength	AS 3706.2	One sample per 5,000 m^2
	Tear strength	ASTM D4833 AS 3706.3	
	Burst strength	ASTM D6241 AS 3706.4	
Visual inspection of geotextile	Color, thickness, tears, holes, punctures, needle - punching, presence of needles or broken needles, and other faults in the material	Visual only	Each roll during placement

Compliance reporting

5. The works approval holder must within 60 calendar days of the Critical Containment Infrastructure identified by condition 1 being constructed:

(a) undertake an audit of their compliance with the requirements of condition 1; and

(b) prepare and submit to the CEO a Critical Containment Infrastructure Report on that compliance.

6. The Critical Containment Infrastructure Report required by condition 5 must include as a minimum the following:

(a) certification by a suitably qualified civil or geotechnical engineer that each item of critical containment infrastructure or component thereof, as specified in condition 1, has been built and installed in accordance with the requirements specified in condition 1;

(b) as constructed plans and a detailed site plan showing the location and dimensions for each item of critical containment infrastructure or component thereof, as specified in condition 1;

(c) photographic evidence of the installation of the infrastructure;

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

(e) a CQA Validation Report certified and written by the independent third party civil or structural engineer that completed the CQA that includes, but is not limited to;

(i) documentation of the quality of the completed works;

(ii) certification that each item of critical containment infrastructure or component thereof, has complied with the relevant construction quality assurance requirements detailed in conditions 2, 3 and 4;

(iii) an assessment of test results against minimum values in condition 3 as relevant; and

(iv) documentation of all repairs conducted during the installation and testing of each item of infrastructure.

Time limited operations phase

Commencement and duration

7. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 8 where the CEO has notified the works approval holder that the Critical Containment Infrastructure Report for that item of infrastructure as required by condition 6 meets the requirements of that condition.

Time limited operations requirements

Infrastructure

8. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 5 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 5.

Table 5: Infrastructure and equipment requirements during time limited operations

Site infrastructure and equipment	Operational requirement	Infrastructure location
Cell 7	• Composite lining system to achieve a permeability of less than $1x10^{-9}$ metres per second or equivalent. • Leachate collection system that extends across the base and side of Cell 7 to intercept all vertical and lateral seepage occurring through the waste. • All leachate must be transferred to the Cell 5 leachate sump. • 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 (top of constructed subgrade).	As shown in Schedule 1, Figure 2

Waste acceptance

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

9. The licence holder shall only accept waste at the premises if:

(a) it is of a type listed in Table 6;

(b) the quantity accepted is below any quantity limit listed in Table 6 for that activity (category);

(c) it meets the acceptance specification listed in Table 6; and

Table 6: Solid Waste Acceptance

Waste type	Quantity limit per annual period	Acceptance specification [1]
Clean fill	Combined total of 400,000 tonnes per annual period	None specified
Inert Waste Type 1		
Inert Waste Type 2		Plastic only
Special Waste Type 1		Cement bonded asbestos only. No fibrous asbestos shall be accepted
Special Waste Type 2		Biomedical/clinical waste which is radioactive must not be accepted [2]
Putrescible Waste		Must meet the acceptance criteria for Class III landfills
Contaminated solid waste		
Biosecurity waste		Must be accepted in accordance with the DAFF Approved Arrangement 8.2 for the burial of Biosecurity 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 classification of radioactive waste can be found in the Western Australian *Radiation Safety Act 1975*.

Note 3: Information relating to the storage of tyres can be found in the Western Australian Environmental Protection Regulations 1987.

10. The licence holder shall ensure that where waste does not meet the waste acceptance criteria set out in condition 9, 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 as soon as practicable.

Waste processing

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

Table 7: Solid waste processing

Waste type	Processes	Process limits or specifications [1,2]
All solid waste	Disposal of waste by landfilling	• Shall only take place within Cell 7 as shown in in Schedule 1, Figure 2. • No waste shall be temporarily stored or landfilled within 35 m from the boundary of the premises. • The separation distance between the base of the landfill and the highest groundwater level shall not be less than 2 m.
Contaminated solid waste	Receipt, handling and disposal by landfilling	None specified
Clean 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. • To be temporarily stored within 500 m of the current active landfill cell, as shown in Schedule 1, Figure 2 prior to disposal other than by landfilling.
Inert Waste Type 2 (excluding tyres)		None specified
Special Waste Type 1	Receipt, handling and disposal by landfilling	• To be disposed of into the current active landfill cell, as shown in Schedule 1, Figure 2. • GPS co-ordinates are to be recorded for each load disposed of. • 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	• To be disposed of into the current active landfill cell, as shown in Schedule 1, Figure 2. • GPS co-ordinates are to be recorded for each load disposed of. • 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 biomedical wastes being excavated or uncovered.
Biosecurity waste	Receipt and handling prior to disposal by landfilling	• Must be disposed of in accordance with the DAFF Approved Arrangement 8.2 for the burial of Biosecurity Waste.

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*.

12. The licence holder shall manage the landfilling activities to ensure:

(a) the size of the tipping face is kept to a minimum and not larger than 50 m in diameter and 6 m high;

(b) waste is levelled and compacted as soon as practicable after it is discharges; and

(c) waste is placed and compacted to ensure all faces are stable and capable of retaining rehabilitation material.

Waste cover requirement during time limited operations

13. The licence holder shall ensure that daily and interim cover is applied and maintained on landfilled waste types in accordance with the corresponding cover requirements in Table 8 and that sufficient stockpiles or cover are maintained on site at all times.

Table 8: Cover requirements

Waste type	Cover requirements [1]
Inert Waste Type 1	No cover required.
Inert Waste Type 2	• To be covered by the end of the working day in which the waste was disposed with 100 mm of Inert Waste Type 1 or Clean Fill
Special Waste Type 1	• To be covered with 300 mm of soil as soon as practicable and not later than the end of the working day after disposed and before being compacted to prevent the release of asbestos fibres as a result of compaction and other landfilling activities. • 1,000 mm of soil within 3 months of achieving final waste contours.
Special Waste Type 2	• To be covered with 300 mm of soil as soon as practicable, and not later than the end of the working day after disposal. • 1,000 mm of Inert Waste Type 1 or Clean Fill within 3 months of achieving final waste contours.
Putrescible waste; and Contaminated solid waste	• To be covered with either: ○ 150 mm of Inert Waste Type 1 or Clean Fill; or ○ A Tarpaulin Cover System incorporating impermeable, Ultra Violet light-resistant, fire retardant tarpaulins which overlap or otherwise completely cover waste. as soon as practicable and not later than the end of the working day.

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

Monitoring during time limited operations

14. The works approval holder must record the total amount of waste accepted onto and removed from the premises in accordance with the specifications listed in Table 9.

Table 9: Waste accepted and removed from the property

Inputs/Outputs	Waste type	Unit	Time period
Waste inputs	All wastes accepted as per condition 9	tonnes	Each load arriving at the premises
Waste outputs	Waste types as defined in the Landfill Definitions.	tonnes	Each load leaving or rejected from the premises

Compliance reporting

15. The works approval holder must submit to the CEO a report on the time limited operations within 30 calendar days of the completion date of time limited operations or 30 calendar days before the expiration date of the works approval, whichever is the sooner.

16. The works approval holder must ensure the report required by condition 15 includes the following:

(a) a summary of the time limited operations, including timeframes and amount of waste received and disposed to Cell 7 and the amount of waste leaving or rejected from the premises (refer to condition14);

(b) a summary of the environmental performance of the Cell 7 (refer to condition 8).

(c) a review of performance and compliance against the conditions of the works approval; and

(d) where the manufacturer's design specifications and the conditions of this works approval have not been met, what measures will the works approval holder take to meet them, and what timeframes will be required to implement those measures.

Records and reporting (general)

17. The works approval holder must record the following information in relation to complaints received by the works approval holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:

(a) the name and contact details of the complainant, (if provided);

(b) the time and date of the complaint;

(c) the complete details of the complaint and any other concerns or other issues raised; and

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

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

(a) the works conducted in accordance with condition 1;

(b) any maintenance of infrastructure that is performed in the course of complying with condition 8;

(c) monitoring programmes undertaken in accordance with condition 14; and

(d) complaints received under condition 17.

19. The books specified under condition 18 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 works approval holder for the duration of the works approval; and

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

Definitions

In this works approval, the terms in Table 10 have the meanings defined.

Table 10: Definitions

Term	Definition
AS 1289	means the Australian Standard AS1289 *Methods of testing soils for engineering purposes*
AS 1289.2.1.1	means the Australian Standard AS 1289.2.1.1 *Methods of testing soils for engineering purposes Soil moisture content tests*
AS 1726	means the Australian Standard AS 1726 *Geotechnical site investigations*
AS 3706.1	means the Australian Standard AS 3706.1 *Geotextiles – Methods of test General Requirements, sampling, conditioning, basic physical properties and statistical analysis*
AS 3706.2	means the Australian Standard AS 3706.2 *Geotextiles – Methods of test Determination of tensile properties – wide strip and grab method*
AS 3706.3	means the Australian Standard AS 3706.3 *Geotextiles – Methods of test Determination of tearing strength – Trapezoidal method*
AS 3706.4	means the Australian Standard AS 3706.4 *Geotextiles – Methods of test Determination of burst strength – California bearing ratio – Plunger method*
AS 3706.5	means the Australian Standard AS 3706.5 *Geotextiles – Methods of test Determination of puncture resistance – Drop cone method*
AS 3798	means the Australian Standard AS 3798 *Guidelines on earthworks for commercial and residential development*
ASTM D792	means the ASTM international *Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement*
ASTM D1004	means the ASTM international *Standard Test Methods for Tear Resistance (Grave Tear) for Plastic Film and Sheeting*
ASTM D1505	means the ASTM international *Standard Test Methods for Density of Plastics by the Density-Gradient Technique*
ASTM D1777	means the ASTM international *Standard Test Method for Textile Materials*

Term	Definition
ASTM D3895	means the ASTM international *Standard Test Method for Oxidative-Induction Time of Polyolefins by Differential Scanning Calorimetry*
ASTM D4218	means the ASTM international *Standard Test Method for Determination of Carbon Black Content in Polyethylene Compounds by the Muffle-Furnace Technique*
ASTM D4595	means the ASTM international *Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Method*
ASTM D4833	means the ASTM international *Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products*
ASTM D5596	means the ASTM international *Standard Test Method for Microscopic Evaluation of the Dispersion of Carbon Black in Polyolefin Geosynthetics*
ASTM D5641	means the ASTM international *Standard Test Method for Geomembrane Seam Evaluation by Vacuum Chamber*
ASTM D5820	means the ASTM international *Standard Test Method for Pressurized Air Channel Evaluation of Dual-Seamed Geomembranes*
ASTM D5885	means the ASTM international *Standard Test Method for Oxidative Induction Time of Polyolefin Geosynthetics be High-Pressure Differential Scanning Calorimetry*
ASTM D5887	means the ASTM international *Standard Test Method for Measurement of Index Flux Through Saturated Geosynthetic Clay Liner Specimens Using a Flexible Wall Permeameter*
ASTM D5890	means the ASTM international *Standard Test Method for Swell Index of Clay Mineral Component of Geosynthetic Clay Liners*
ASTM D5891	means the ASTM international *Standard Test Method for Fluid Loss of Clay Component of Geosynthetic Clay Liners*
ASTM D5993	means the ASTM international *Standard Test Method for Measuring Mass per Unit Area of Geosynthetic Clay Liners*
ASTM D5994	means the ASTM international *Standard Test Method for Measuring Core Thickness of Textured Geomembranes*
ASTM D6241	means the ASTM international *Standard Test Method for Measuring Static Puncture Strength of Geotextiles and Geosynthetic-Related Products Using a 50 mm Probe*
ASTM D6392	means the ASTM international *Standard Test Method for Determining the Integrity of Nonreinforced Geomembrane*

Term	Definition
	Seams Produced Using Thermo-Fusion Methods
ASTM D6496	means the ASTM international *Standard Test Method for Determining Average Bonding Peel Strength Between Top and Bottom Layers of Needle-Punched Geosynthetic Clay Liners*
ASTM D6693	means the ASTM international *Standard Test Method for Nonreinforced Polyethylene and Nonreinforced Flexible Polypropylene Geomembranes*
ASTM D7007	means the ASTM international *Standard Test Method for Locating Leaks in Geomembranes Covered with Water or Earthen Materials*
ASTM D7466	means the ASTM international *Standard Test Method for Measuring Asperity Height of Textured Geomembranes*
biosecurity waste	such waste as defined in the *Biosecurity Act 2015*
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 *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
contaminated solid waste	contaminated solid waste meeting the Acceptance Criteria for Class III landfills
controlled waste	has the meaning defined in *Environmental Protection (Controlled Waste) Regulations 2004*
critical containment infrastructure	means the items of infrastructure listed in condition 1.
Critical Containment Infrastructure Report	means a report to satisfy the CEO that works of critical containment infrastructure have been constructed in accordance with the works approval.
DAFF	Department of Agriculture, Fisheries and Forestry
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.

Term	Definition
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure has been constructed in accordance with the works approval.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
Landfill Definitions	means the *Landfill Waste Classification and Waste Definitions 1996* (as amended from time to time).
MMDD	means Modified Maximum Dry Density
premises	the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map Figure 1 in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
quarantined storage area or container	means a designated storage area or container that is: • clearly labelled; • separated and isolated from other waste storage and processing areas; and • designed to contain all non-conforming waste and prevent and mitigate the release to the environment of emissions that may arise from the waste.
Special Waste Type 1	as defined in the Landfill Definitions.
suitably qualified civil or geotechnical engineer	means a person who: (a) holds a Bachelor of Civil or Geotechnical Engineering recognised by the Institute of Engineers; and (b) has a minimum of five years of experience working in a supervisory area of geotechnical engineering; and is employed by an independent third party external to the works approval holder's business.
time limited operations	refers to the operation of the infrastructure and equipment identified under this works approval that is authorised for that purpose, subject to the relevant conditions.
unsuitable material	As defined in Australian Standard AS 3798 *Guidelines on earthworks for commercial and residential development*

Term	Definition
waste	has the same meaning given to that term under the EP Act.
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.

END OF CONDITIONS

Schedule 1: Maps

Premises map

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

Figure 1: Map of the boundary of the prescribed premises

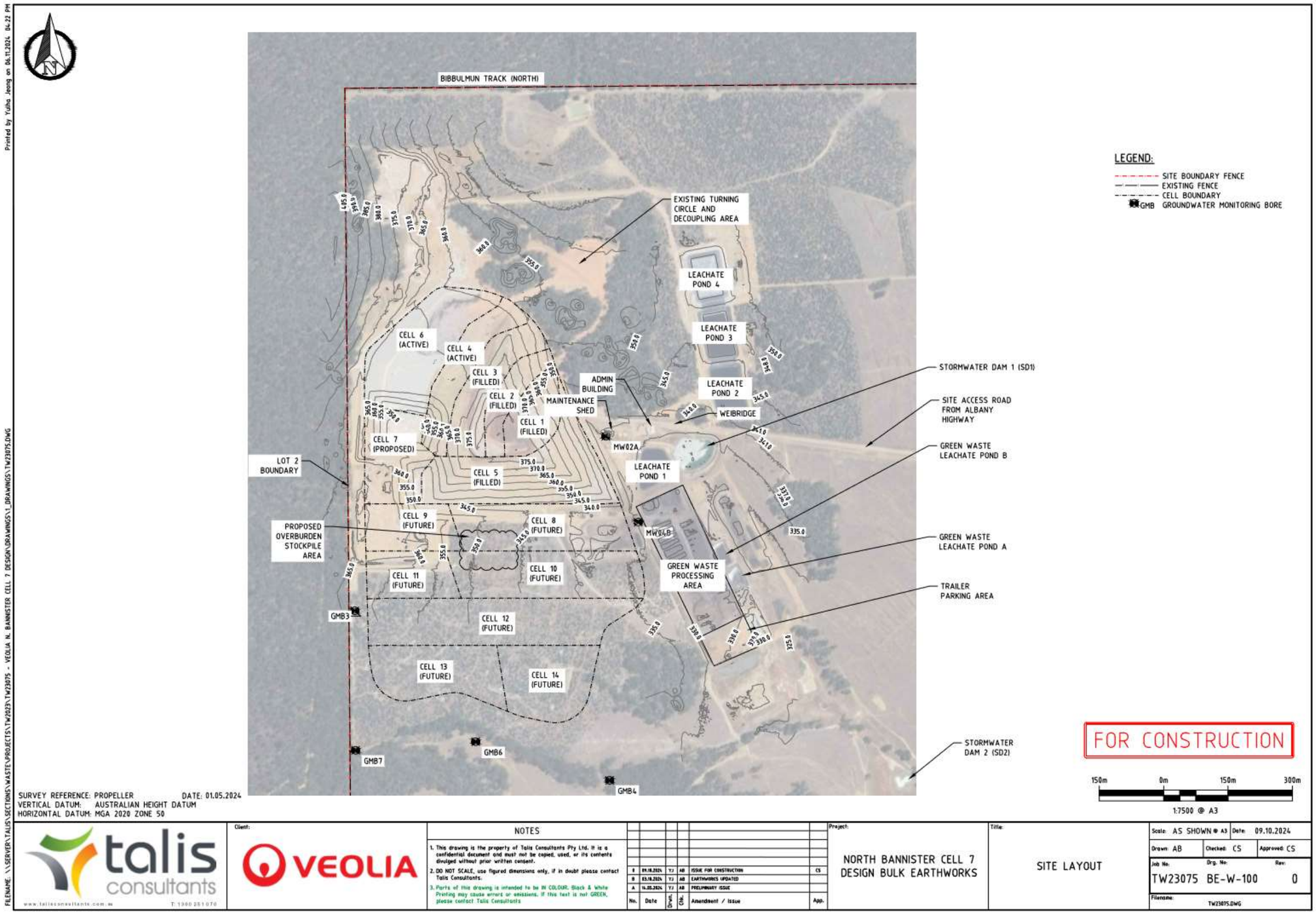

Figure 2: Site layout

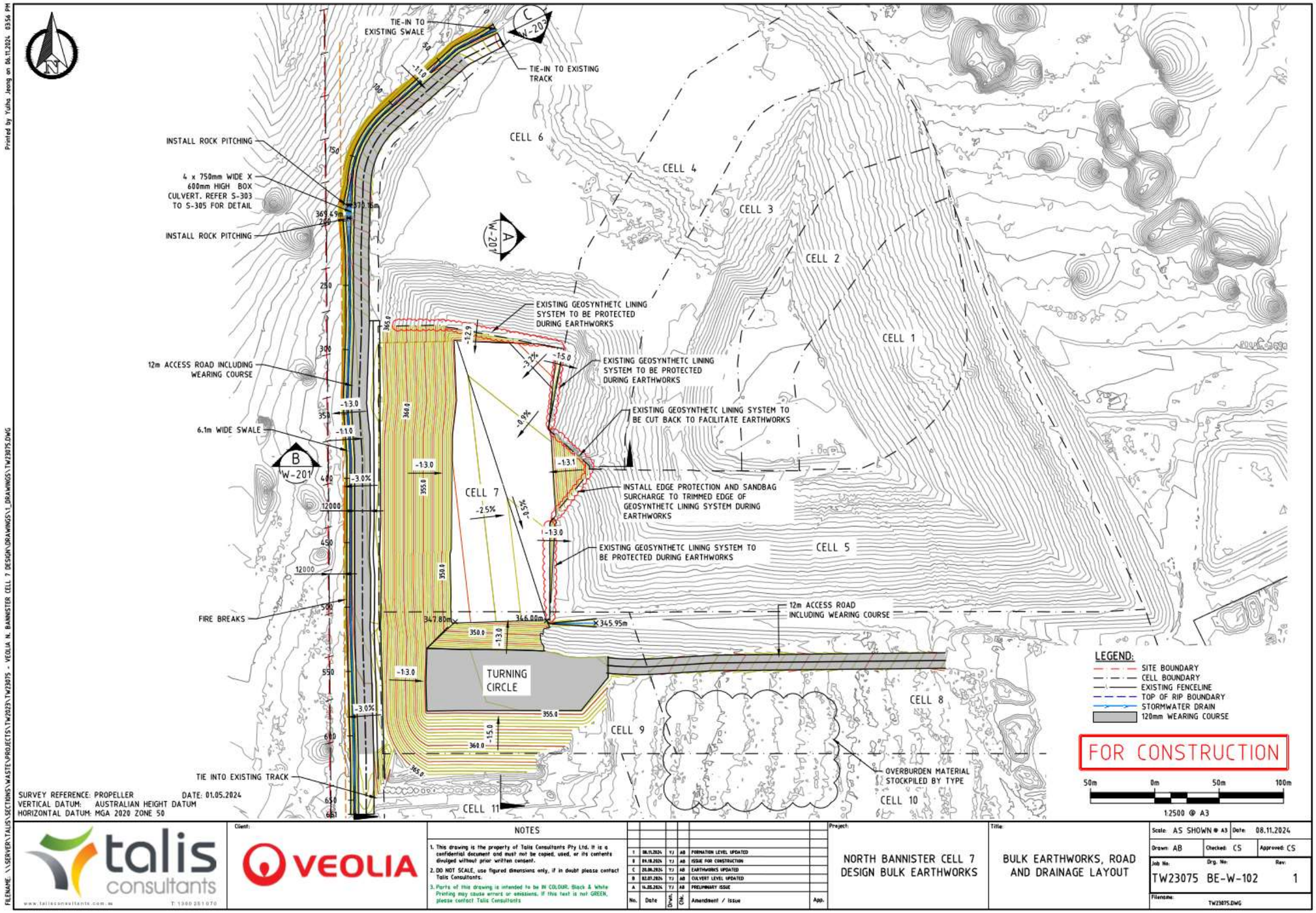

Figure 3: Bulk earthworks, road and drainage layout

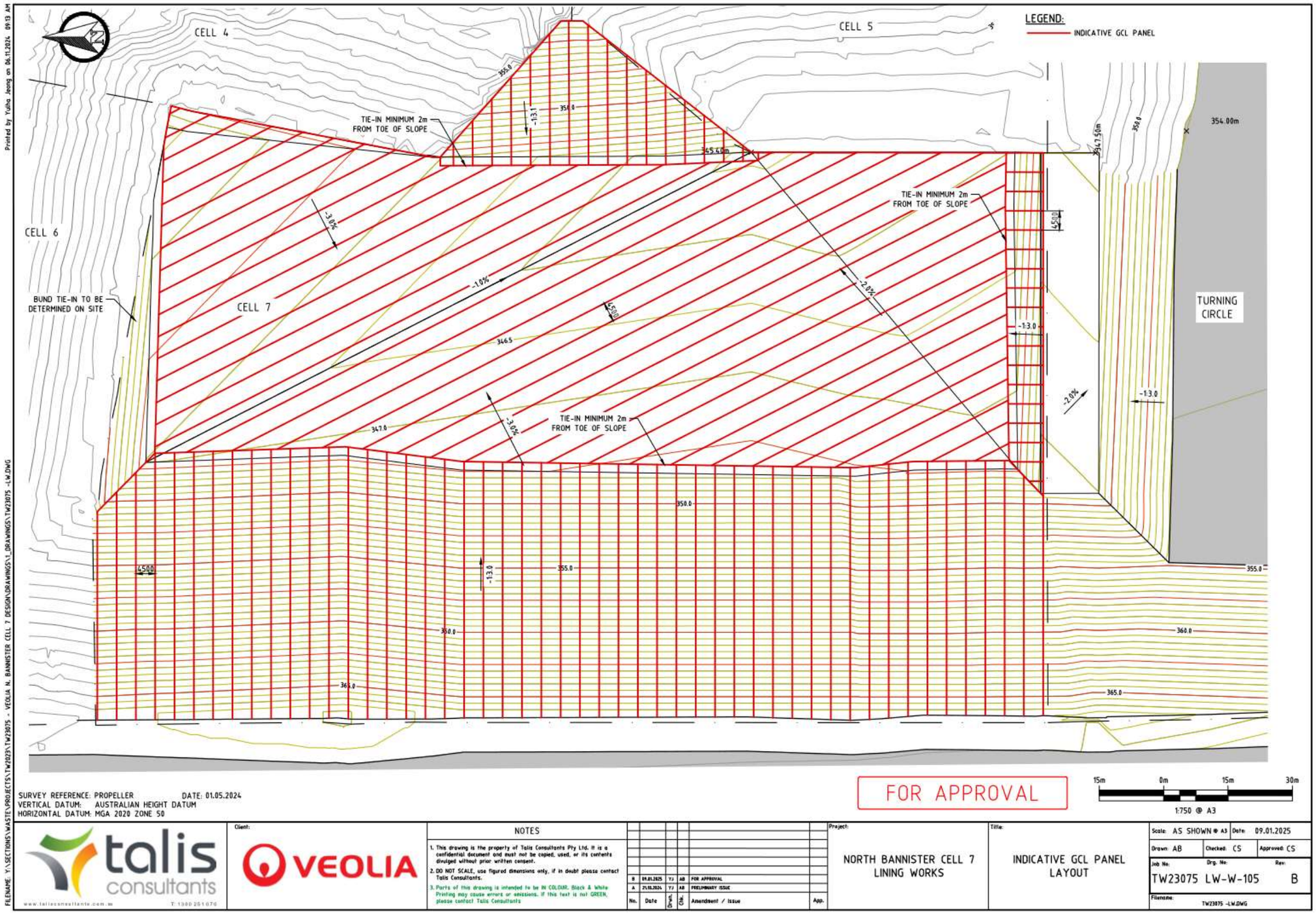

Figure 4: Indicative GCL panel layout

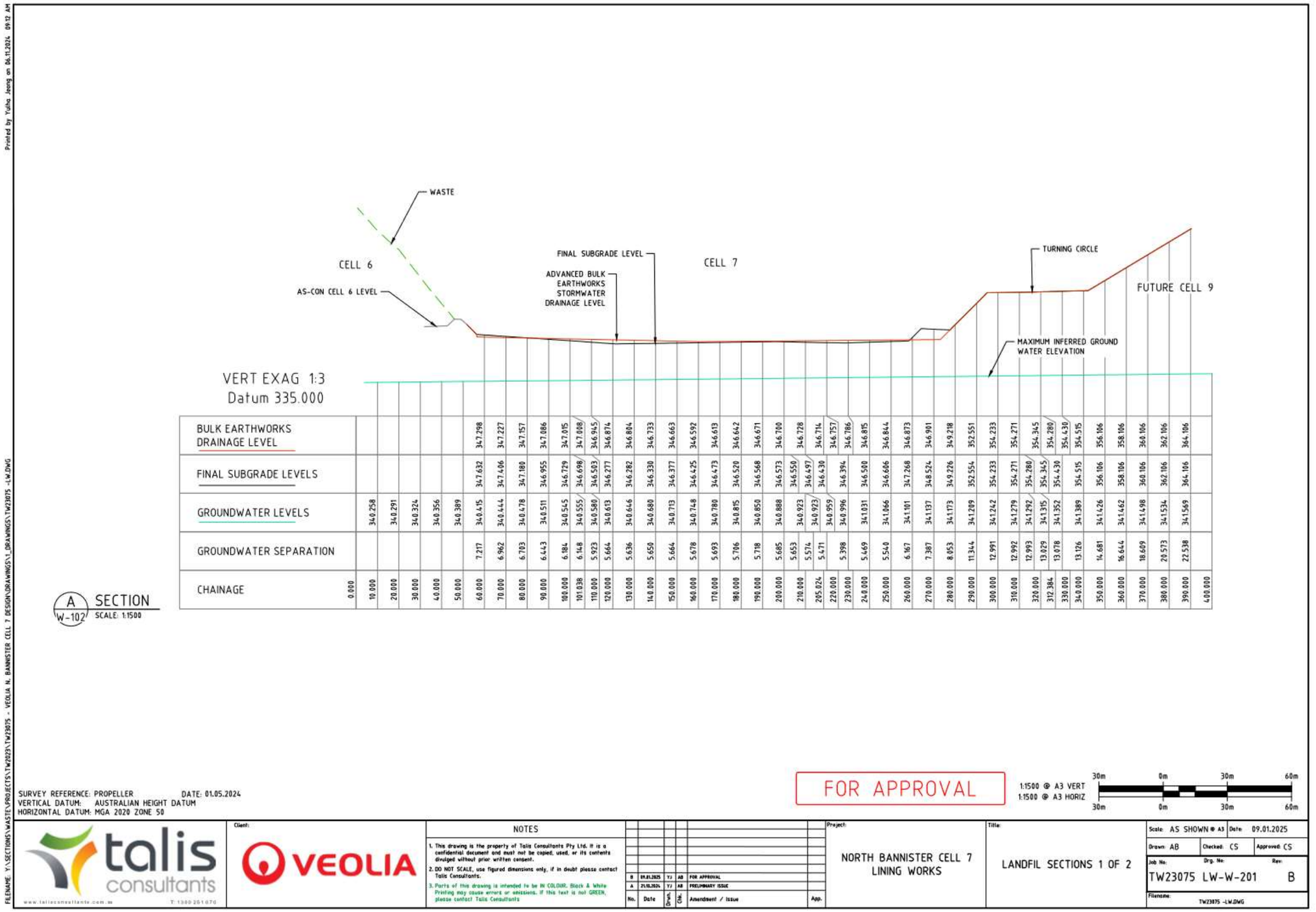

Figure 5: Cell 7 cross section (1 of 2)

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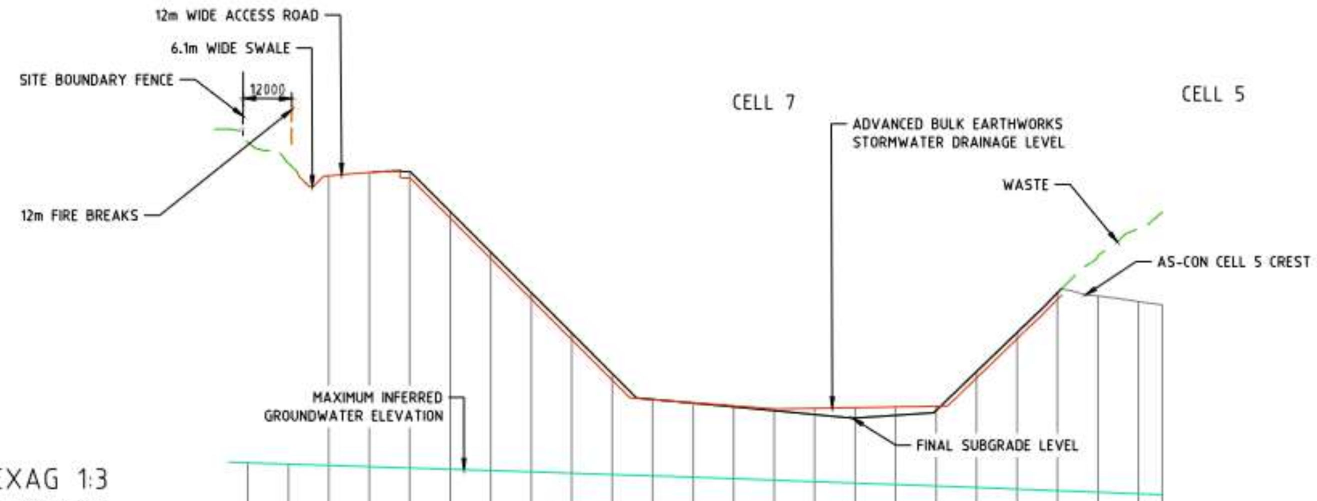

VERT EXAG 1:3
Datum 335.000

CHAINAGE	BULK EARTHWORKS DRAINAGE LEVEL	FINAL SUBGRADE LEVELS	GROUNDWATER LEVELS	GROUNDWATER SEPARATION
0.000				
10.000				
20.000			342.193	
30.000			342.079	
40.000	365.808		341.970	
50.000	366.091		341.865	
60.000	365.616	366.143	341.758	24.385
70.000	362.327	362.854	341.654	21.201
80.000	358.994	359.521	341.547	17.974
90.000	355.661	356.188	341.437	14.751
100.000	352.327	352.854	341.327	11.528
109.821	349.054	349.581	341.216	8.362
110.000	348.994	349.521	341.185	8.305
120.000	347.384	347.406	341.107	6.299
130.000	347.130	347.094	340.995	6.098
140.000	346.877	346.781	340.877	5.904
150.000	346.624	346.469	340.757	5.711
160.000	346.668	346.156	340.636	5.520
170.000	346.724	345.872	340.516	5.356
180.000	346.780	346.093	340.394	5.700
190.000	346.836	346.487	340.270	6.217
200.000	349.169	349.696	340.146	9.550
210.000	352.378	352.905	340.022	12.884
210.700	352.603	355.028		15.091
220.000	355.650	356.177	339.893	16.284
230.000			339.764	
240.000			339.698	
245.896			339.633	

B SECTION W-102 SCALE: 1:1500

SURVEY REFERENCE: PROPELLER DATE: 01.05.2024
VERTICAL DATUM: AUSTRALIAN HEIGHT DATUM
HORIZONTAL DATUM: MGA 2020 ZONE 50

FOR APPROVAL

1:1500 @ A3 VERT
1:1500 @ A3 HORIZ
30m 0m 30m 60m

FILENAME: Y:\SECTIONS\WASTE\PROJECTS\TW2023\TW23075 - VEOLIA N. BANNISTER CELL 7 DESIGN\DRAWINGS\1_DRAWINGS\TW23075 -LW.DWG

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Client: VEOLIA

NOTES

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No.	Date	Drwn.	Chk.	Amendment / Issue	App.
B	09.01.2025	YJ	AB	FOR APPROVAL	
A	21.10.2024	YJ	AB	PRELIMINARY ISSUE	

Project: NORTH BANNISTER CELL 7 LINING WORKS

Title: LANDFILL SECTIONS 2 OF 2

Scale: AS SHOWN @ A3 Date: 09.01.2025
Drawn: AB Checked: CS Approved: CS
Job No: TW23075 Drg. No: LW-W-202 Rev: B
Filename: TW23075 -LW.DWG

Figure 6: Cell 7 cross section (2 of 2)

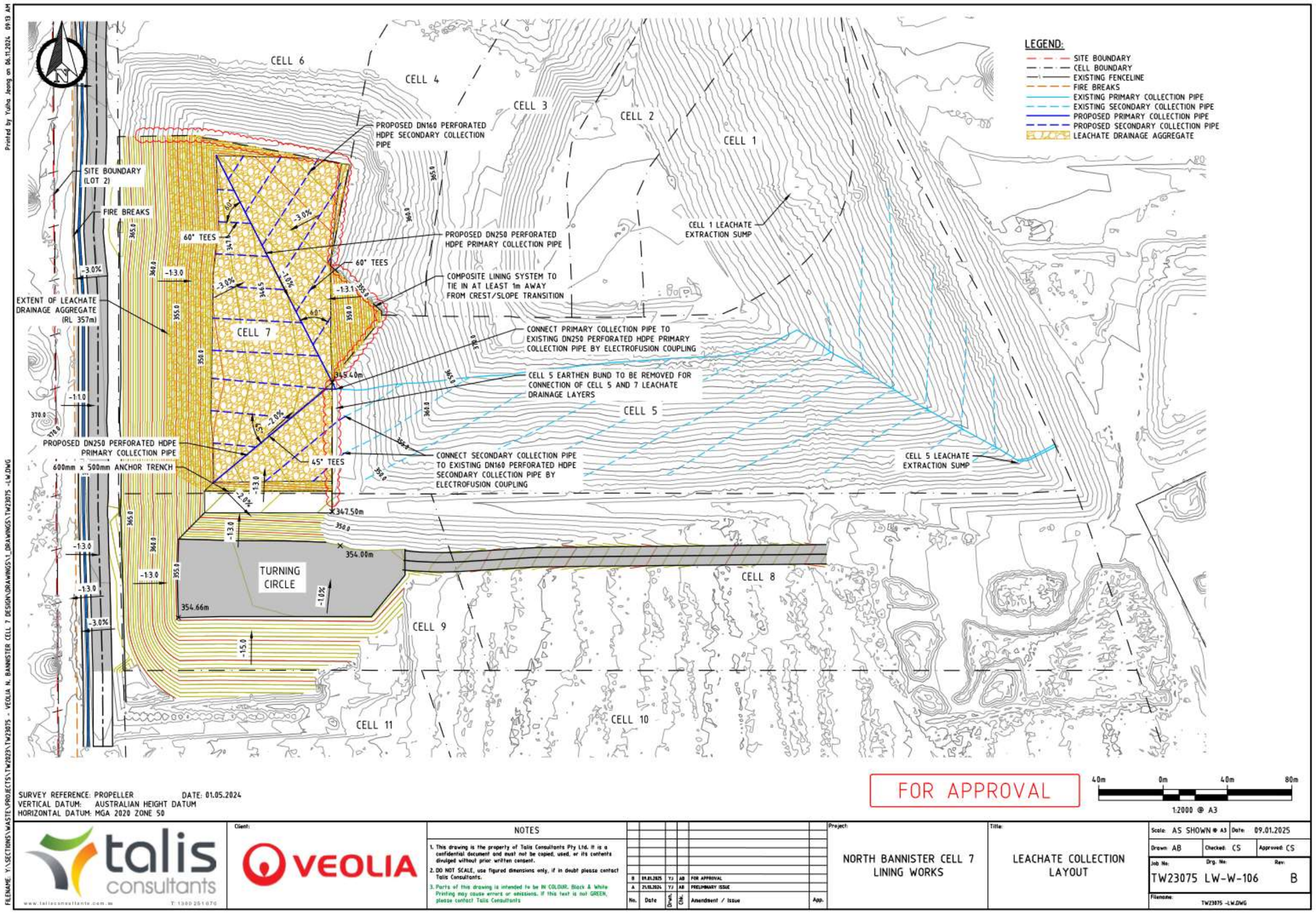

Figure 7: Leachate collection layout

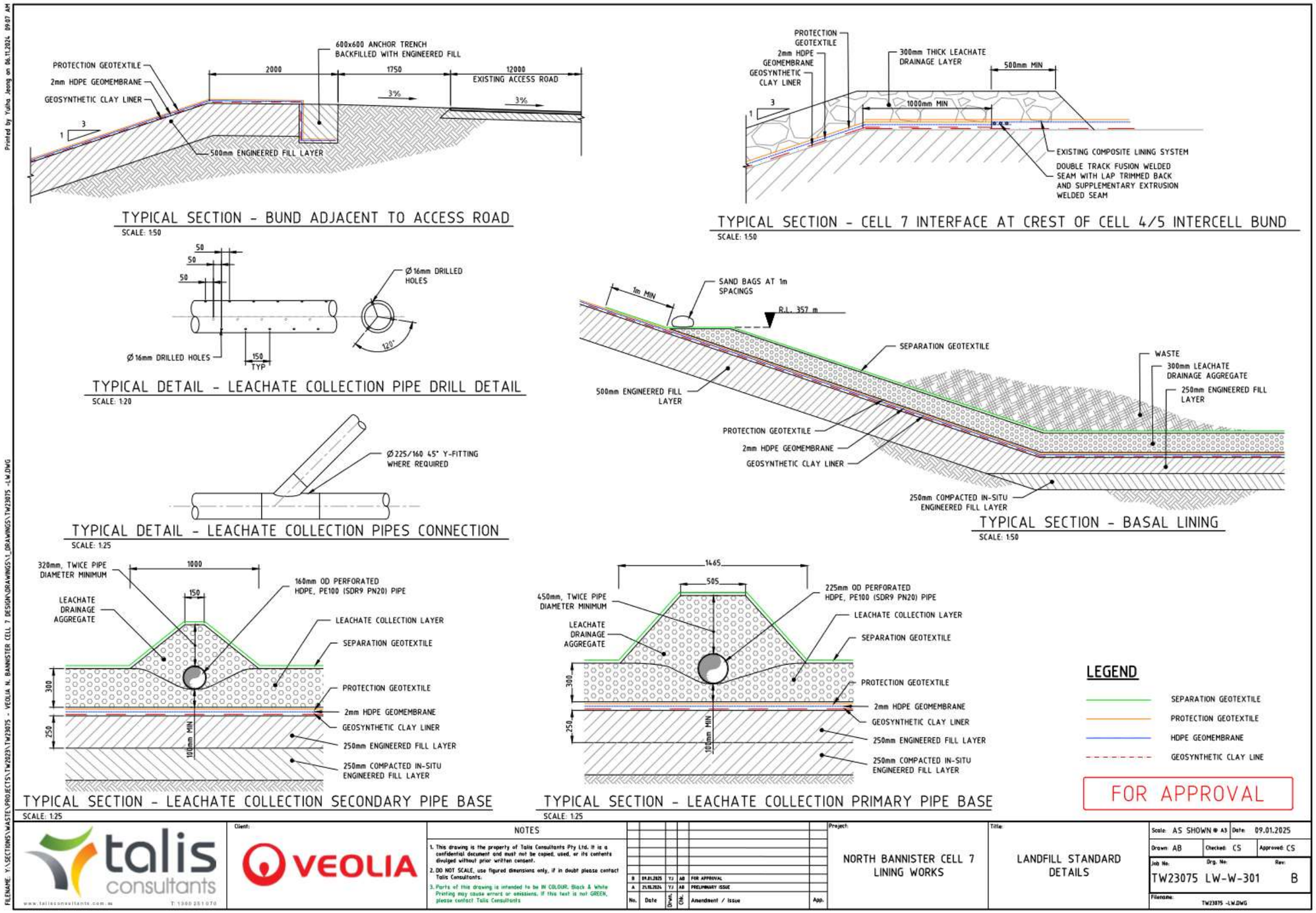

Figure 8: Landfill cell construction details