Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L9132/2018/1
Licence holder	The Beer Farm Pty Ltd
ACN (if applicable)	606 046 306
Registered business address	177 Gale Road METRICUP WA 6280
DWER file number	DER2018/000586-1
Duration	01/11/2018 to 31/10/2038
Date of amendment	08/12/2022
Premises details	The Beer Farm 133 Gale Road, METRICUP WA 6280 Legal description - Lot 131 on Deposited Plan 32067 Certificate of Title Volume 2223 Folio 345

Prescribed premises category description **(Schedule 1, *Environmental Protection Regulations 1987*)**	**Assessed production capacity**
Category 25: Alcoholic Beverage Manufacturing	Not more than 1,040 kL of alcoholic beverage (beer and cider) produced per annual period

This licence is granted to the licence holder, subject to the attached conditions, on 08 December 2022, by:

Caron Goodbourn

Digitally signed by Caron Goodbourn
Date: 2022.12.08 07:37:27 +08'00'

MANAGER, PROCESS INDUSTRIES

REGULATORY SERVICES

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

Licence history

Date	Reference number	Summary of changes
01/11/2018	L9132/2018/1	Licence granted for existing brewery not constructed through a works approval
13/05/2019	L9132/2018/1	Licence holder-initiated amendment to allow for the application of brewery treated wastewater to land and alterations to the existing wastewater treatment system.
04/07/2022	L9132/2018/1	Licence holder-initiated amendment to remove infrastructure not constructed and replace with an alternative wastewater treatment system, as well as changes to irrigation requirements, nutrient loading limits, monitoring and reporting.
08/12/2022	L9132/2018/1	Licence holder-initiated amendment to extend the completion date for proposed wastewater treatment works.

Interpretation

In this licence:

(a) the words ‘including’, ‘includes’ and ‘include’ in conditions mean “including but not limited to”, and similar, as appropriate;

(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;

(c) where tables are used in a condition, each row in a table constitutes a separate condition;

(d) any reference to an Australian or other standard, guideline, or code of practice in this licence:

  (i) if dated, refers to that particular version; and

  (ii) if not dated, refers to the latest version and therefore may be subject to change over time;

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

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

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

Licence conditions

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

Alcoholic Beverage Production Limit

1. The licence holder must not produce greater than 1,040 kilolitres of Beverage per annual period.

Works

Installation of equipment and infrastructure

2. The licence holder must ensure that the site infrastructure and equipment listed in Table 1 and located at the corresponding infrastructure location is constructed and/or installed in accordance with the corresponding design and construction requirement / installation requirement set out in Table 1.

Table 1: Construction and installation requirements

	Infrastructure and / or equipment	Design, construction and installation requirement	Infrastructure location	Timeframe
Proposed works – beer manufacture				
1.	Yeast Propagation Vessels - 2 x 500L	a) Infrastructure to be positioned within hardstand areas of the brewery. b) All plant and equipment used for the production and packaging of beer/cider (excluding water tanks) must be installed within purpose built enclosed structures.	Figure 2 and Figure 3 in Schedule 1	Within 30 days of the amendment date of this licence
	Fermentation Vessels - 2 x 10,000L (FV1 and FV2)			
	Clean In Place (CIP) Set - 2 x 250L tanks			
	Hot Liquor Tanks (HLT) (storing water only) – 1 x 9,000L and 1 x 2,400L			
	Cold Liquor Tank (CLT) (storing water only) – 1 x 6,000L			
	Water supply tank (14,000L)			
	Centrifuge			
	Bright Beer Tanks (BBT) – additional 1 x 10,000L, 1 x 12,000L (located in production shed)			
	Keg Washer & Filler (located in production shed)			
	Malt Handling System - 1 x 54 cubic metre silo, 1 x Malt Mill, 1 x 2,000L Grist Case & adjoining augers			

Proposed works – wastewater treatment				
2.	6 kL combined clarifier and lime/waste caustic dosing tank	c) Infrastructure to be positioned within the Wastewater Treatment and Storage Area d) All tanks designed and installed to contain liquids without failing, collapsing, or rupturing. e) Piping, pumps, and associated infrastructure capable of transferring wastewater must be structurally sound. f) Any tank or vessel that does not have a gravity over-flow to another storage vessel must be able to provide visual and audible indictors of fault conditions and/or high-water level alarms that are triggered. g) No flow balance inter-connections are permitted between the 50 kL wastewater storage tanks (i.e. at the base of the tanks). Over-flow between the tanks is permitted. h) pH controller is to be capable of controlling lime/waste caustic dosing pumps.	Figure 3 in Schedule 1	By 02 January 2023
3.	pH controller fitted to the combined clarifier and lime/waste caustic dosing tank			
4.	Wastewater storage: 4 x 50 kL wastewater storage tanks			
5.	Rain sensor/gauge			
6.	4,000 Litre septic tank and cam-lock fitting for sludge removal			
7.	Hardstand area, surface water intercept/diversion swales and related drainage system/s.	i) Must be constructed by a suitably experienced agricultural earthworks contractor. j) Secondary containment bunding designed to contain at least 110% of the capacity of the largest vessel to prevent loss of containment in the event of overtopping k) The earthworks and drainage works undertaken must achieve the following outcomes: • A hardstand surface that is made from gravel, crushed sandstone or similar material; • Diversion of stormwater away from the hardstand area. l) Intercept/diversion swale:	Figure 3 in Schedule 1	By 02 January 2023

		• Earth swale constructed downgradient and on the landscape contour; and • Capable of intercepting wastewater to prevent it entering surface water. m) Hardstand must be located at least 90 m from surface waters.		
8.	1 x 1000L lime storage tank 1 x 1000L waste caustic tank	n) Infrastructure to be positioned within the Wastewater Treatment and Storage Area 1 o) Located within a secondary containment vessel designed to contain at least 110% of the capacity of the largest vessel to prevent loss of containment in the event of overtopping	Not shown	
9.	Volumetric flow meter	p) Installed on the pipeline that transports wastewater from the irrigation pump to the LAAs. q) Capable of monitoring the volume of wastewater discharged from the irrigation pump to each individual LAA.	Figure 3 in Schedule 1	Must be installed prior to irrigation of wastewater commences
10.	Irrigation system and LAAs	r) Fixed sprinklers installed to uniformly irrigate the entire LAA evenly. s) Cut off drains around the boundaries of the LAAs to contain wastewater and contaminated stormwater flows from exiting the irrigation areas. t) Surface water diversion bund up-gradient to divert rainfall run-off water around the LAA, designed in accordance with Figure 7 in Schedule 1	Figure 4 and Figure 5 in Schedule 1	Must be installed prior to irrigation of wastewater commences
11.	Groundwater monitoring bores GW1, GW2, GW3 and GW4	Well design and construction: u) Designed and constructed in accordance with ASTM D5092/D5092M-16: Standard practice for design and installation of groundwater monitoring bores. v) Wells must be constructed with a screened interval from the water table to a depth of 2 m below the water table and 1 m above the water table.	Figure 4 in Schedule 1	Must not irrigate wastewater to land until works specified in rows 2 to 8 have been constructed and Environmental Compliance report has been submitted in

		Well construction log: w) Well construction details must be documented within a well construction log to demonstrate compliance with ASTM D5092/D5092M-16. The construction logs shall include elevations of the top of casing position to be used as the reference point for water-level measurements, and the elevations of the ground surface protective installations. Well development: x) All installed monitoring wells must be developed after drilling to remove fine sand, silt, clay and any drilling mud residues from around the well screen to ensure the hydraulic functioning of the well. A detailed record should be kept of well development activities and included in the well construction log. Installation survey: y) The vertical (top of casing) and horizontal position of each monitoring well must be surveyed and subsequently mapped by a suitably qualified surveyor. Well network map: A well location map (using aerial image overlay) must be prepared and include the location of all monitoring wells in the monitoring network and their respective identification numbers.		accordance with condition 3

3. The licence holder must within 30 days of the infrastructure required by condition 2 being constructed:

   (a) undertake an audit of their compliance with the requirements of condition 2; and

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

4. The Environmental Compliance Report required by condition 3, must include as a minimum the following:

   (a) Certification that the infrastructure or component(s) thereof specified in condition 2 Table 1, have been constructed or installed in accordance with the relevant requirements specified in condition 2;

   (b) as constructed plans and a detailed site plan for each item of infrastructure or

component of infrastructure specified in condition 2 Table 1; and

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

Infrastructure and equipment

5. The licence holder must ensure that the site infrastructure and equipment listed under proposed works in Table 2 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 2.

Table 2: Infrastructure and equipment controls

	Premises infrastructure and equipment	Operational requirements	Infrastructure location
Brewing and packaging of beer and cider			
1	Brewery building – 15m diameter enclosed cylindrical steel fabricated building with concrete floor and blockwork wall around the base (approximately 1m height).	All plant and equipment used for the production and packaging of beer/cider (excluding water tanks and malt silo and handling system) installed within purpose built enclosed structures. All liquid waste from the beer/cider manufacturing and production area collected by a grated drainage system and directed to a concrete collection sump.	Figure 1 and Figure 2 in Schedule 1
2	Beer/cider production equipment consisting of: • Steel Mash Tun – 2,000L • Steel Lauter Tun – 2,000L • Heat Exchanger • Fermentation Vessels – 3 x 10,000L (FV3, FV4, FV6), 2 x 6,000L (FV5 and FV7), 2 x 2,500L (FV8 and WP) • Grated wastewater collection drain • Bright Beer Tanks (BBT) – 1 x 10,000L (located in production shed) • Canning Line (located in production shed) • Water supply storage tanks (1 x 14,000L enclosed PVC tank) • Malt Mill Once constructed: • Yeast Propagation Vessels – 2 x 500L • Fermentation Vessels – 2 x 10,000L (FV1 and FV 2 – Figure 3), • 1 x 2,500L whirl pool (WP, re-purposed existing 2,500L		Figure 1 and Figure 2 in Schedule 1

	Premises infrastructure and equipment	Operational requirements	Infrastructure location
	fermentation vessel, as required) • Clean In Place (CIP) Set – 2 x 250L tanks • Centrifuge • Bright Beer Tanks (BBT) – additional 1 x 10,000L, 1 x 12,000L (located in production shed) • Keg Washer & Filler (located in production shed) • Water supply storage tanks (1 x 14,000L enclosed PVC tank) Malt Handling System – 1 x 54 cubic metre silo, 1 x Malt Mill, 1 x 2000L Grist Case & adjoining augers		
3	Production shed - 15m by 20m steel fabricated enclosed shed with concrete floor		
4	Concrete hardstand area between brewery and production shed with stormwater collection drain		
5	Hot Liquor Tank (HLT) - 1 x 9,000L, 1 x 2,500L (for the storage of water only)		
6	Cold Liquor Tank (CLT) - 1 x 6,000L (for the storage of water only)		
Existing wastewater infrastructure and equipment			
7	2 mm strainer for the brewery drain and 2 mm strainer for the packing shed drain	Regularly emptied.	Figure 2 in Schedule 1
8	Wastewater collection sump (cooling pit) connected via drainage to the brewery and packaging shed – 2,000L	Receive all wastewater from brewery operations. Kept free of sludges and solids	
9	Combined 7kL concrete tank and pump with connecting pipelines and/or fittings.	Tank inspected daily to check for rupture or leaks and if detected cease use and immediately repaired. Pump capable of pumping wastewater to the LAAs and maintained in good working condition and free of leaks. Maintained with a good working operational high-level alarm, that is set to trigger when at 95% of the	Figure 3 in Schedule 1

	Premises infrastructure and equipment	Operational requirements	Infrastructure location
		tank volume to avoid overtopping.	
Proposed Infrastructure and equipment			
10	Wastewater treatment system consisting of: • 6 kL combined clarifier and pH balancing lime and waste caustic dosing tank (once installed) • pH controller • 4 x 50 kL storage tanks (once installed) • Rain sensor/gauge • 1 x 4,000 L septic tank and camlock pump-out fitting • Wastewater piping, pumps, and associated conveyance infrastructure (once installed)	Tank inspected daily to check for rupture or leaks and if detected immediately repaired. Maintained with a working operation high level alarm, that is set to trigger when at 95% of the tank volume to avoid overtopping. Lime and waste caustic is to be stored either in the wastewater treatment and storage area or within the hardstand areas of the brewery. Septic tank be de-sludged at a frequency of at least twice per year.	Figure 3 in Schedule 1
11	Flow meter (once installed)	Capable of accurately monitoring the volume of all wastewater discharged to each LAA.	Figure 3 in Schedule 1
12	Groundwater monitoring bores GW1, GW2, GW3 and GW4.	Maintained to allow access to groundwater for measuring its level, physical and chemical properties; and allow groundwater samples to be withdrawn for laboratory analysis. Must be capable of intercepting surficial groundwater (if present).	Figure 4 in Schedule 1
13	Wastewater treatment and storage area (hardstand) and intercept/diversion swales	Maintained in good order and repair	Figure 3 in Schedule 1

Emissions and discharges

Operational Controls (Irrigation)

6. The licence holder must ensure that all emissions specified in Table 3, are discharged to land only from the corresponding discharge point and only at the corresponding discharge point location and in accordance with the corresponding requirements.

Table 3: Authorised discharge areas

Emission	Discharge areas	Discharge via irrigation requirements
Treated Brewery Wastewater	As defined by the coordinates in Schedule 1 and depicted in Figure 4 of Schedule 1.	Irrigation via a fixed sprinkler irrigation system in accordance with condition 7.

7. The licence holder must ensure that when irrigating treated wastewater in accordance with condition 6 that:

   (a) no irrigation generated runoff, spray drift or discharge occurs beyond the boundary of the LAAs;

   (b) irrigation does not occur on land that is visibly waterlogged;

   (c) irrigation is not undertaken during a rainfall event or within 24 hours after a rainfall event of greater than 6 mm;

   (d) irrigation is not undertaken in LAA 3 during the months of May to September (inclusive);

   (e) all wastewaters directed to the LAA's must flow through the flow meter; and

   (f) no soil erosion occurs.

Operational Controls (Pasture Management)

8. The licence holder must ensure that:

   (a) a pasture consisting of perennial ryegrass and kikuyu must be maintained over the LAA 1A and LAA 2A;

   (b) a pasture consisting of kikuyu must be maintained over the LAA 3;

   (c) vegetation in LAA 1A and LAA 2A must be mechanically harvested at least once every month during January to April (inclusive) and July to December (inclusive);

   (d) vegetation in LAA 3 must be mechanically harvested at least once every month during January to April (inclusive) and October to December (inclusive);

   (e) grazing may only occur within the LAAs for one week in the annual period; and

   (f) harvested pasture must be removed from LAA's on the same day it was harvested.

Waste Containment and Disposal

9. The licence holder must ensure that wastes produced on the premises, specified in Table 4, are contained only in the corresponding containment infrastructure and only disposed of with the corresponding disposal strategy and in accordance with the corresponding requirements.

Table 4: Waste containment and disposal specifications

Waste type	Containment	Disposal strategy	Specified requirements
Brewery wastewater not irrigated to land in accordance with condition 6	WWS	Disposal offsite the Premises	Where liquid waste cannot be irrigated or stored onsite, must be removed from tanks by a licensed controlled waste carrier and transported off-site. The licence holder must record on a daily basis, the volume (in kilolitres) of brewery wastewater removed from the Premises via a licensed controlled waste contractor.
		Stored onsite	Stored in the tank/s as authorised with Table 1. Stored in a tank/s designed and installed to contain the wastes stored or treated therein without failing, collapsing, or rupturing. Installed with an operational high-level alarm, that is set to trigger when at 95% of the tank volume. Capable of providing visual and audible indictors and mobile alerts of fault conditions.
Spent grain and sediment from brewing activities	Temporary storage in plastic drums and/or intermediate bulk container/s	Disposal as cattle feed on the Premises	Must be stored in contained vessels within the brewery hardstand area for no more than 24 hours.
Wastewater treatment sludge's	WWS	Disposal offsite the Premises	Must be removed from tanks and pits by a licensed controlled waste carrier and transported off-site to a licensed waste facility.

Monitoring

General monitoring

10. The licence holder must ensure that:

    (a) all water 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 groundwater sampling is conducted in accordance with AS/NZS 5667.11;

    (d) all soil sampling is conducted in accordance with AS/NZS 4482.1; and

    (e) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured.

11. The licence holder must ensure that all sampling in Table 5, 6, 7 and 8 is undertaken using the services of a certified environmental scientist and record all the results of such sampling specified in that table.

Monitoring – Wastewater Emissions to Land

12. The licence holder must monitor emissions in accordance with the requirements specified in Table 5 and record the results of all such monitoring.

Table 5: Brewery treated wastewater discharge monitoring

Discharge point	Parameter	Frequency	Averaging period	Unit	Monitoring location
M1 – flow meter on outgoing irrigation pipe	Volumetric flow rate (wastewater)	Continuous when discharging	Daily	m^3/day	Volumetric flow meter
LAAs via fixed sprinklers as shown in Figure 4 and Figure 5 Schedule 1	pH[1]	Within 30 days of commissioning and thereafter each monthly period	Composite sample as detailed in AS/NZS 5667.10	-	Sampling port on irrigation supply line
	Total nitrogen			mg/L	
	Total phosphorus				
	TDS				
	TSS				
	BOD_5				
	Electrical conductivity[1]			dS/m	

Note: 1. Condition 17 does not apply to pH or electrical conductivity

Soil Monitoring

13. The licence holder must monitor the soil for concentrations of the parameters listed in Table 6:

(a) at the corresponding monitoring location;

(b) in the corresponding unit;

(c) at no less that the corresponding frequency;

(d) at the corresponding soil profile and for the corresponding number of core samples; and

(e) using the corresponding method,

as set out in Table 6.

Table 6: Monitoring of ambient soil concentrations

<table>
<tr><th rowspan="2">Parameter</th><th rowspan="2">Monitoring location</th><th rowspan="2">Unit</th><th rowspan="2">Frequency</th><th>Number of core samples</th><th>Soil Profile</th><th>Number of core samples</th><th>Soil Profile</th></tr>
<tr><th colspan="2">Composite Surface Soil Sample</th><th colspan="2">Composite Deep Soil Sample</th></tr>
<tr><td>pH ($CaCl_2$)</td><td rowspan="10">Within each irrigation area as shown in Figure 4 in Schedule 1</td><td>-</td><td rowspan="7">Annually</td><td rowspan="9">40</td><td rowspan="9">0-10cm</td><td rowspan="9">5</td><td rowspan="9">Composite sample of each major soil horizon to 1 metre depth increments[1],[2]</td></tr>
<tr><td>Electrical conductivity (1:5)[3]</td><td>dS/m</td></tr>
<tr><td>Exchangeable sodium percentage</td><td>%</td></tr>
<tr><td>Available N[4]</td><td rowspan="6">mg/kg</td></tr>
<tr><td>Total N</td></tr>
<tr><td>Available P</td></tr>
<tr><td>Total P</td></tr>
<tr><td>Heavy metals and pesticides</td><td rowspan="2">Once every three years</td></tr>
<tr><td>PRI</td></tr>
<tr><td>EMI survey[5]</td><td>EMI survey area as shown in Figure 4 in Schedule 1</td><td>mS/m

Soil EC_e in dS/m</td><td>Baseline survey in year 1 then one survey every 3 years</td><td colspan="4"></td></tr>
</table>

Notes: 1. Positioned within major soil horizons or layers

2. Within a 5m diameter plot

3. Converted to saturated extract (EC_e) based on field texture

4. Nitrate-N and ammonium-N

5. with EM 38 + soil sampling in the highest conductivity area (EC:1:5) converted to EC_e using field texture

Groundwater Bore Monitoring

14. The licence holder must monitor the groundwater for concentrations of the parameter listed in Table 7:

(a) at the corresponding monitoring location;

(b) in the corresponding unit;

(c) at no less that the corresponding frequency;

(d) for the corresponding averaging period; and

(e) using the corresponding method,

as set out in Table 7.

Table 7: Monitoring of ambient groundwater concentrations

Parameter	Monitoring location	Unit	Frequency	Sample	Method
Standing water level[1]	GW1, GW2, GW3 and GW4 as shown in Figure 4 in Schedule 1	m(AHD) mBGL	Annually in the month of October	In-field measurement	AS/NZS 5667.1-1998 AS/NZS 5667.11-1998
pH[1]	GW1, GW2 and GW3 as shown in Figure 4 in Schedule 1	-			
Electrical conductivity[1]		dS/m		Spot sample	
Total Dissolved Solids (TDS)		mg/L			
Na^+					
K^+					
Ca^{2+}					
Mg^{2+}					
Sodium Adsorption Ratio (SAR)					
Cl^-					
SO_4^{2-}					
HCO_3^-					
Total N					
Ammonium nitrogen					
Nitrate N					
Total P (filtered and unfiltered)					

Note: 1. Condition 17 does not apply to pH or electrical conductivity

Surface Water Monitoring

15. The licence holder must monitor the surface water for concentrations of the parameter listed in Table 8:

    (a) at the corresponding monitoring location;

    (b) in the corresponding unit;

    (c) at no less that the corresponding frequency;

    (d) for the corresponding averaging period; and

    (e) using the corresponding method,

    as set out in Table 8.

Table 8: Monitoring of ambient surface water concentrations

Parameter	Monitoring location	Unit	Frequency	Sample	Method
pH[1]	SW1 and SW2 and as shown in Figure 4 in Schedule 1	-	Annually in the month of October – on the same day as groundwater monitoring as per condition 14	In-field measurement	AS/NZS 5667.1-1998 AS/NZS 5667.4:1998
Electrical conductivity[1]		dS/m		Spot sample	
Total Dissolved Solids (TDS)		mg/L			
Na^+					
K^+					
Ca^{2+}					
Mg^{2+}					
Cl^-					
SO_4^{2-}					
HCO_3^-					
Total N					
Ammonium nitrogen					
Nitrate N					
Total P (filtered and unfiltered)					

Note: 1. Condition 17 does not apply to pH or electrical conductivity

Monitoring Requirements

16. The licence holder must ensure that:

    (a) monitoring is undertaken in each monthly period such that there are at least 15 days in between the days on which samples are taken in successive months; and

    (b) monitoring is undertaken in each annual period such that there are at least 9 months in between the days on which samples are taken in successive years.

17. The licence holder must ensure that all samples required for collection by conditions 12, 13, 14, and 15 are submitted to and tested by a laboratory with current NATA Accreditation for the parameters being measured unless indicated otherwise in the relevant table.

18. The licence holder must record the results of all monitoring activity required by conditions 12, 13, 14, and 15.

Wastewater Emissions to Land Loading Limits

19. The licence holder must ensure that emissions from the discharge point listed in Table 9 for the corresponding parameters do not exceed the corresponding limit when monitored in accordance with condition 12.

Table 9: Irrigation emission limits

Parameter	LAA 1A	LAA 2A	LAA 3
Total N	505 kg/ha/annual period	505 kg/ha/annual period	336 kg/ha/annual period
Total P	35 kg/ha/ annual period	35 kg/ha/ annual period	35 kg/ha/ annual period
Wastewater volume	Annual in accordance with Condition 7		
	June < 55.1kL	June < 46.8 kL	Not authorised
	July < 59.5 kL	July < 50.5 kL	
BOD_5	< 1500 kg/ha/month		
pH	Between 6 and 8.5		
Sodium Adsorption Ratio and electrical conductivity of wastewater	Less than the dotted line depicted in Figure 4 in Schedule 1		

Records and reporting

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

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

    (b) the time and date of the complaint;

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

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

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

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

    (b) the works conducted in accordance with condition 2 of this licence;

    (c) any maintenance of infrastructure that is performed in the course of complying with condition 5 of this licence;

    (d) monitoring programmes undertaken in accordance with conditions 12, 13, 14, and 15 of this licence; and

    (e) complaints received under condition 20 of this licence.

22. The books specified under condition 21 must:

    be legible;

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

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

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

23. The licence holder must:

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

(b) prepare and submit to the CEO by no later than 30 days after the end of that annual period an Annual Audit Compliance Report in the approved form.

24. The licence holder must submit to the CEO by no later than 30 days after the end of each annual period, an Annual Environmental Report for that annual period for the conditions listed in Table 11, and which provides information in accordance with the corresponding requirement set out in Table 11.

Table 11: Annual Environmental Report

Condition	Requirement
1	Tabulated monthly volumes in kL of brewery inputs (water, fruit juice etc) and the outputs (alcoholic beverage produced)
8	Tabulated monthly volumes in kg of harvested dry mass for each LAA.
9	(a) Tabulated treated wastewater monitoring data showing the volume of wastewater removed offsite in accordance with Table 4. (b) Copies of receipts from the controlled waste contractor for the removal and disposal of wastewater and sludges.
12	Tabulated treated wastewater monitoring data showing the monthly volume of wastewater irrigated to each LAA.
12	(a) Laboratory data sheets for monthly monitoring in accordance with Table 5 (b) A tabulated data summary of monitoring results. (c) An interpretation of monitoring data results including comparison to historical trends.
12,19, 20	(a) Summary of tabulated treated wastewater monitoring data showing the annual volume of wastewater and loads of Total N, Total P, BOD_5, pH, EC and SAR to each LAA. (b) Comparison of the annual loads to the limits specified in Table 9.
13	Tabulated soil monitoring data results and time series graphs for each irrigation area showing concentrations of all parameters.
14	Tabulated groundwater monitoring data results and time series graphs for each monitoring well showing concentrations of all parameters.
15	Tabulated surface water monitoring data results and time series graphs for each surface water sampling site showing concentrations of all parameters.
20	Summary of complaints

Definitions and interpretation

Definitions

In this Licence, the terms in Table 12 have the meanings defined.

Table 12: Definitions

Term	Definition
ACN	Australian Company Number
Alcoholic Beverage	means the final fermented beverage ready for packaging.
Annual Period	means a 12-month period commencing from 1 January until 31 December.
AS/NZS 4482.1-2005	means Australian Standard AS4482.1-2005 Guide to the investigation and sampling of sites with potentially contaminated soil – Non-volatile and semi volatile compounds.
AS/NZS 5667.1-1998	means the Australian Standard AS/NZS 5667.1-1998 Water quality - Sampling – Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples.
AS/NZS 5667.4:1998	means AS/NZS 5667.4:1998. Water quality – Sampling. Part 4: Guidance on sampling from lakes, natural and man-made.
AS/NZS 5667.10-1998	means the Australian/New Zealand Standard AS/NZS 5667.10-1998 Water quality – Sampling – Guidance on sampling of waste waters.
AS/NZS 5667.11-1998	means the current version of Australian/New Zealand Standard AS/NZS 5667.11-1998 Water quality – Sampling – Guidance on sampling of groundwaters.
Beverage	means for the purpose of this licence, beer, and cider only.
BOD_5	means the amount of dissolved oxygen consumed in five days by biological processes breaking down organic matter.
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
Certified environmental scientist	means a qualified environmental scientist who: • holds a current science tertiary qualification; and • has demonstrated experience in water sampling in accordance with Australian Standard 5667

Term	Definition
Collection Sump	A hollow or a depression on the floor into which liquids can drain off to and get collected. The sump provides a collection point from which to recover liquid, using a pump or other means.
Commissioning	Certification that newly constructed infrastructure has been installed, inspected, tested, and is operating as designed.
Compliance Report	means a report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO (guidelines and templates may be available on the Department's website).
Condition	means a condition to which this Licence is subject under s.62 of the EP Act.
Continuous	means a data recovery rate of at least 90%
Department	means the department established under s.35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
Department Request	means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Licence Holder in writing and sent to the Licence Holder's address for notifications, as described at the front of this Licence, in relation to: (a) compliance with the EP Act or this Licence; (b) the Books or other sources of information maintained in accordance with this Licence; or (c) the Books or other sources of information relating to Emissions from the Premises.
Discharge	has the same meaning given to that term under the EP Act.
dS/m	means deciSiemens per metre
DWER	Department of Water and Environmental Regulation.
EC	means Electrical Conductivity
EMI	means Electromagnetic Induction
Emission	has the same meaning given to that term under the EP Act.
Environmental Harm	has the same meaning given to that term under the EP Act.
EP Act	means the *Environmental Protection Act 1986* (WA).
EP Regulations	means the *Environmental Protection Regulations 1987* (WA).
Harvested	means the cutting and removal off site of paddock grasses in the form of hay or silage.
Implementation Agreement or Decision	has the same meaning given to that term under the EP Act.

Term	Definition
Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.
Irrigation area	LAAs as defined in Schedule 1
kL	means kilolitre
LAA	Land Application Area as defined by the coordinates in Table 13 in Schedule 1
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.
mg/L	means milligrams per litre
Monthly Period	A one-month period commencing from the first day of a month until first day of the immediately following month.
Na+	means sodium ion
Nitrate N	means Nitrate nitrogen
K+	means potassium ion
Ca2+	means calcium ion
Mg2+	means magnesium ion
Cl-	means chloride ion
SO42-	means sulfate ion
HCO3-	means bicarbonate ion
Premises	refers to the premises to which this Licence applies, as specified at the front of this Licence and as shown on Figure 1 in Schedule 1 to this Licence.
Prescribed Premises	has the same meaning given to that term under the EP Act.
PRI	means Phosphorus Retention Index
PVC	Polyvinyl chloride
SAR	means Sodium Adsorption Ratio

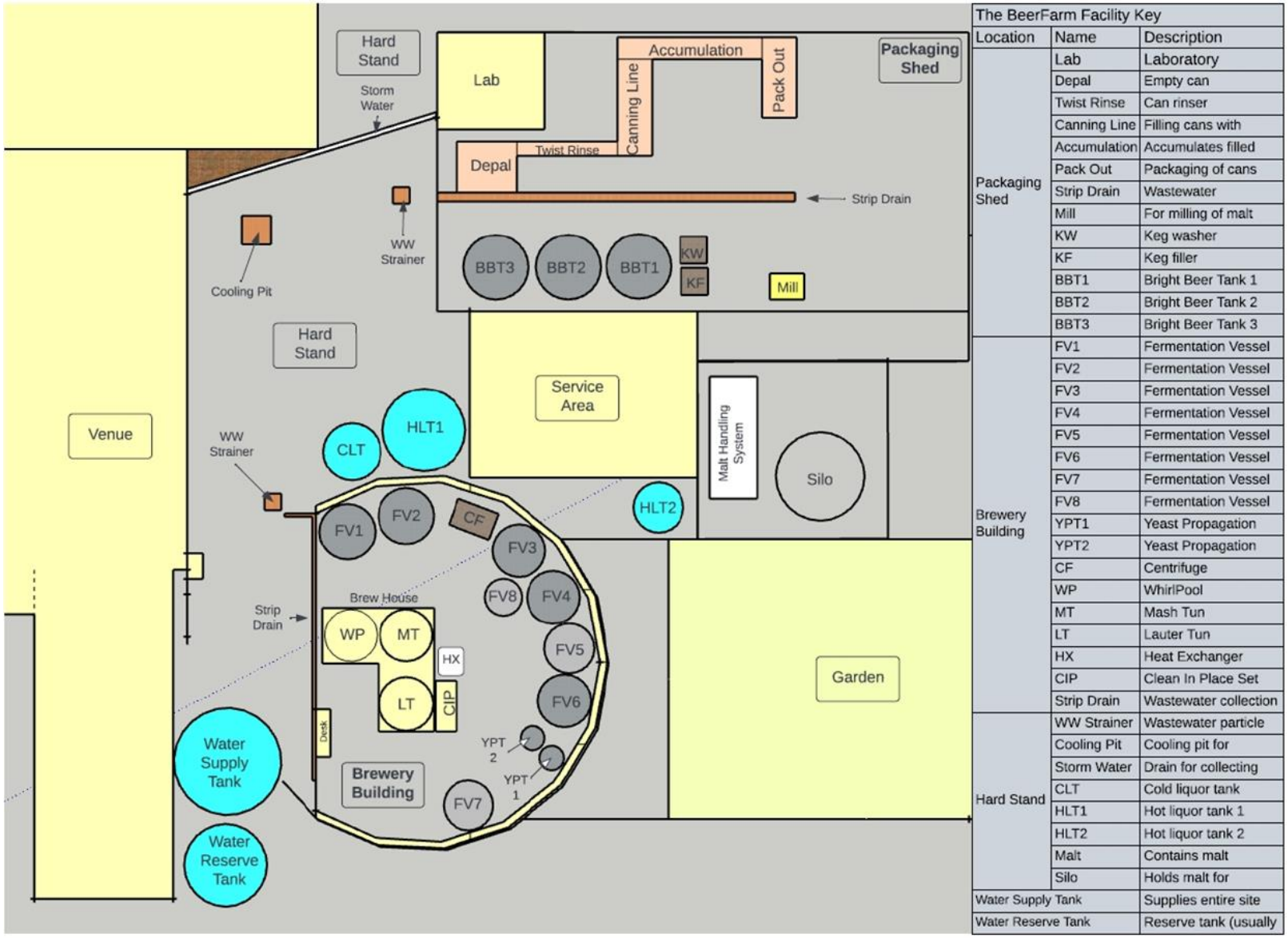
Term	Definition
TDS	means total dissolved solids
TSS	means total suspended solids
Total N	means Total nitrogen
Total P	means Total phosphorus
Waste	has the same meaning given to that term under the EP Act.
WWS	means the brewery wastewater system consisting of a wastewater collection sump (cooling pit), combined 7kL concrete tank, 2 x 50 kL winter storage tanks, 6 kL combined clarifier and pH balancing lime and waste caustic dosing tank, pH controller, 2 x 50 kL storage tanks, flow meter, wastewater piping, pumps, and associated conveyance infrastructure.

Schedule 1: Maps

Premises map

The Premises are shown in the map below. The yellow line depicts the premises boundary being Lot 131.

Figure 1: Map of the boundary of the prescribed premises



The BeerFarm Facility Key		
Location	Name	Description
Packaging Shed	Lab	Laboratory
	Depal	Empty can
	Twist Rinse	Can rinser
	Canning Line	Filling cans with
	Accumulation	Accumulates filled
	Pack Out	Packaging of cans
	Strip Drain	Wastewater
	Mill	For milling of malt
	KW	Keg washer
	KF	Keg filler
	BBT1	Bright Beer Tank 1
	BBT2	Bright Beer Tank 2
	BBT3	Bright Beer Tank 3
Brewery Building	FV1	Fermentation Vessel
	FV2	Fermentation Vessel
	FV3	Fermentation Vessel
	FV4	Fermentation Vessel
	FV5	Fermentation Vessel
	FV6	Fermentation Vessel
	FV7	Fermentation Vessel
	FV8	Fermentation Vessel
	YPT1	Yeast Propagation
	YPT2	Yeast Propagation
	CF	Centrifuge
	WP	WhirlPool
	MT	Mash Tun
	LT	Lauter Tun
	HX	Heat Exchanger
	CIP	Clean In Place Set
	Strip Drain	Wastewater collection
Hard Stand	WW Strainer	Wastewater particle
	Cooling Pit	Cooling pit for
	Storm Water	Drain for collecting
	CLT	Cold liquor tank
	HLT1	Hot liquor tank 1
	HLT2	Hot liquor tank 2
	Malt	Contains malt
	Silo	Holds malt for
Water Supply Tank		Supplies entire site
Water Reserve Tank		Reserve tank (usually

Figure 2: Brewery facility plan

Figure 3: Wastewater infrastructure location plan

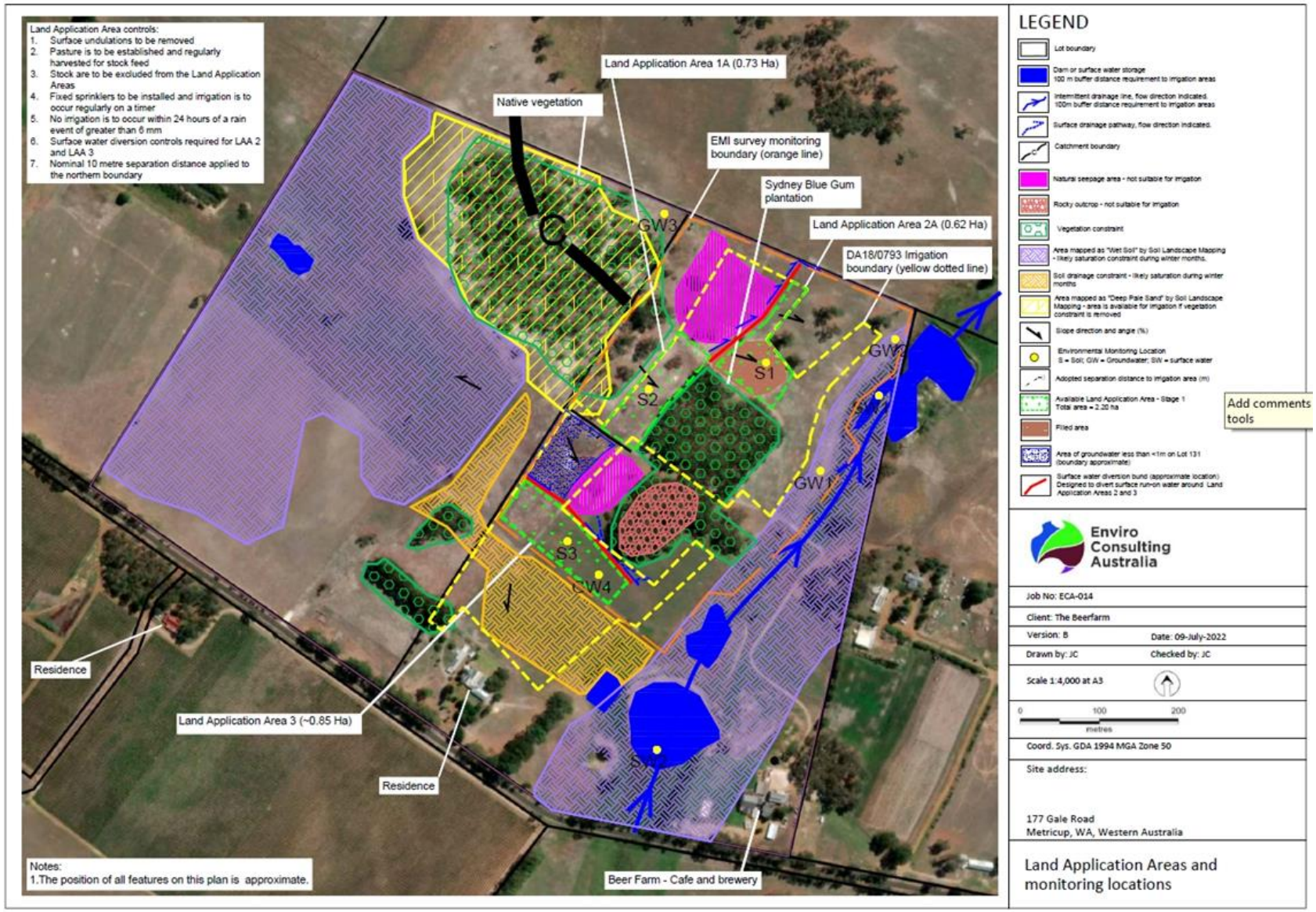


Figure 4: Land application areas and monitoring locations

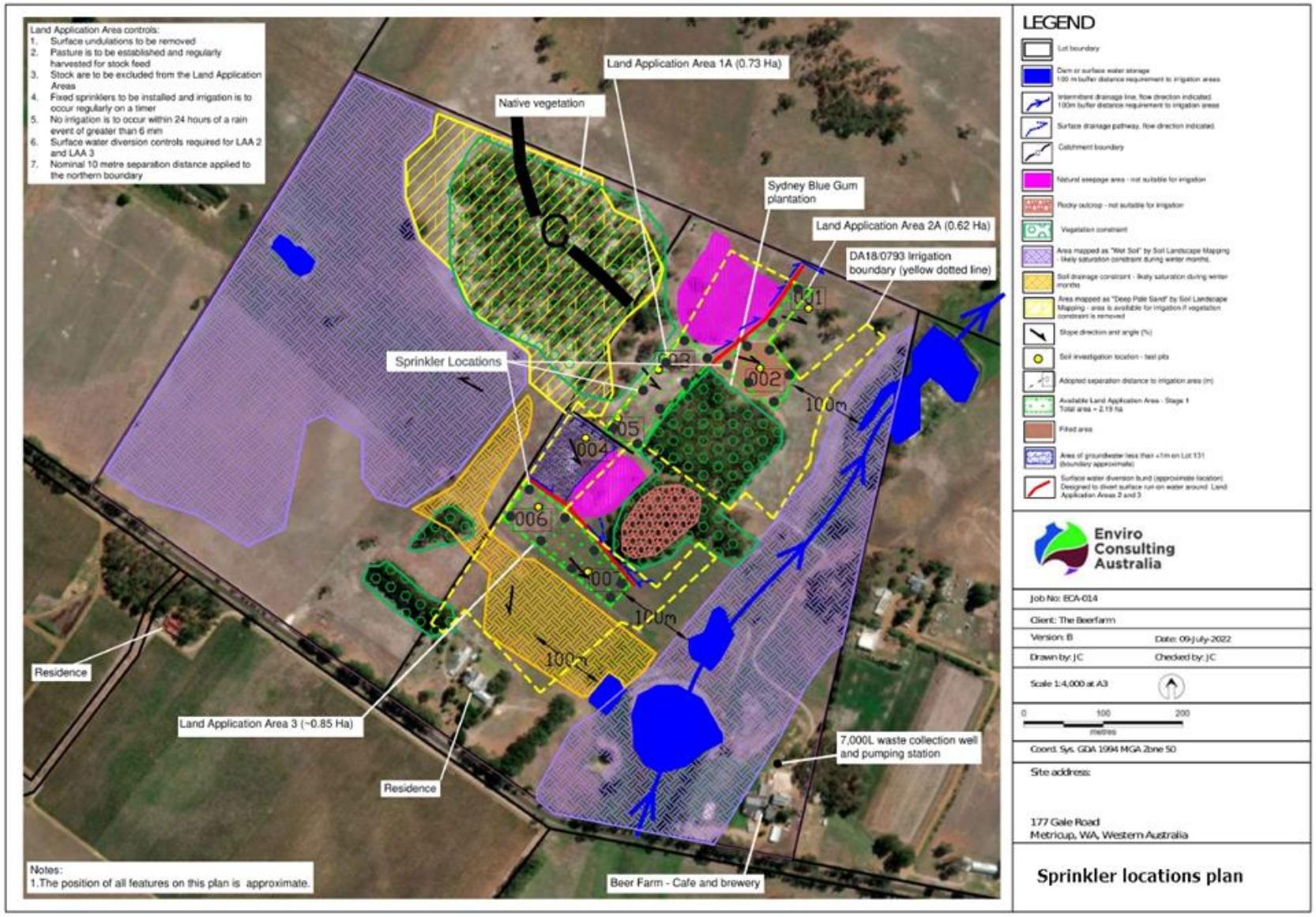
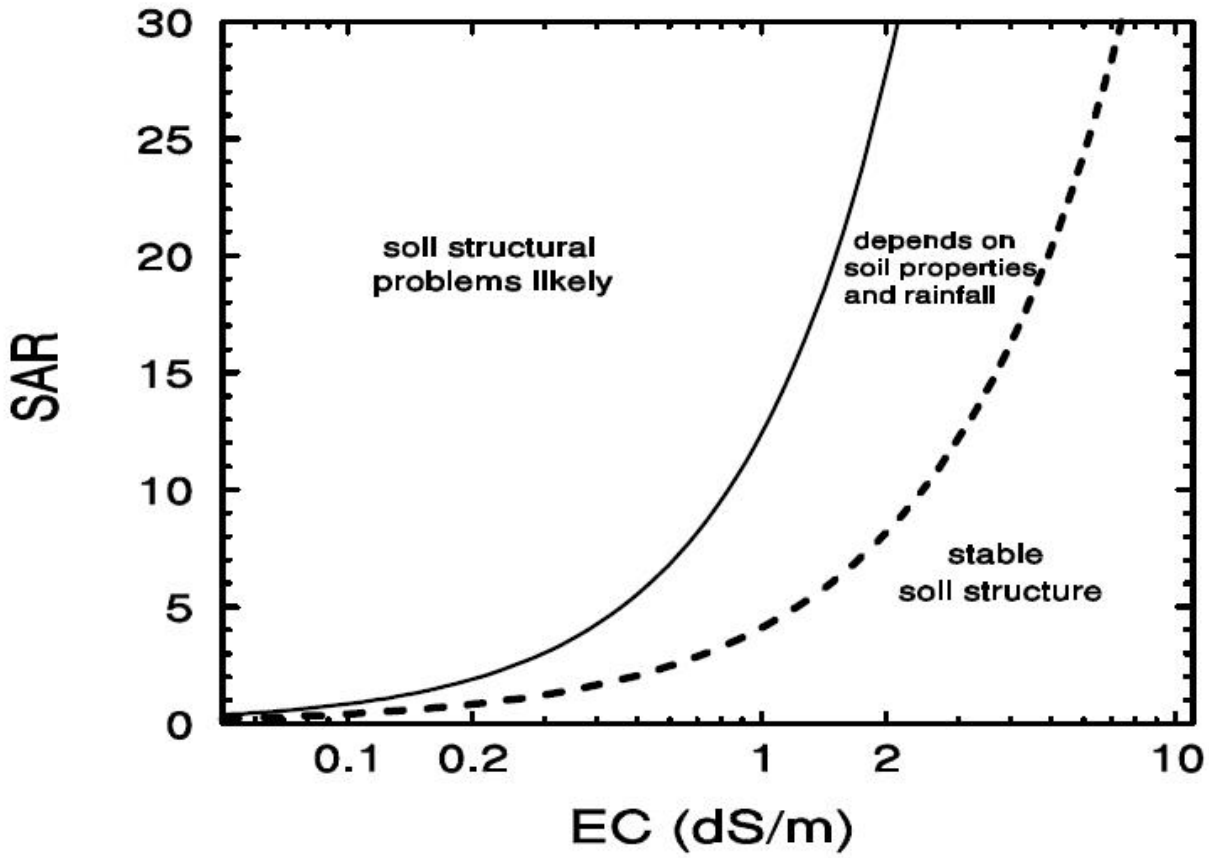


Figure 5: Sprinkler layout plan



Source: Adapted from DNR (1997), cited in ANZECC and ARMCANZ (2000).

Figure 6: Relationship between Sodium Adsorption Ratio and Electrical conductivity of irrigation water for prediction of soil structural stability

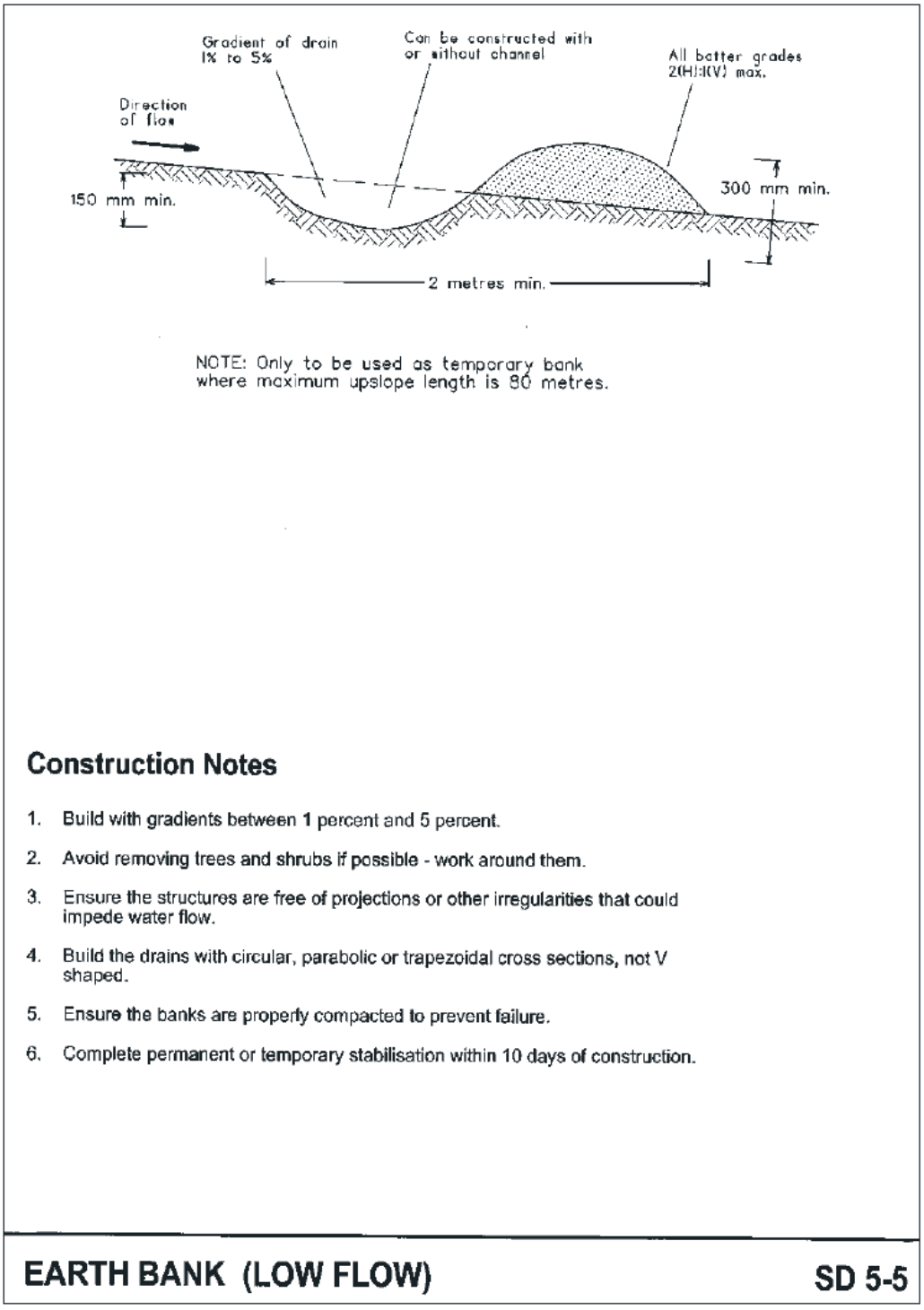


Figure 7: SD 5-5 Landcom, 2004 Managing Urban Stormwater: Soils and Construction

Land application area boundary

The LAA boundary is defined by the coordinates (WGS 84, Zone 50) in Table 13.

Table 13: LAA boundary coordinates

	Easting (m)	Northing (m)
	LAA 1A - 0.73 ha	
1	328415	6260451
2	328458	6260425
3	328497	6260482
4	328552	6260541
5	328514	6260573
	LAA 2A - 0.62 ha	
1	328561	6260532
2	328623	6260585
3	328658	6260637
4	328676	6260627
5	328624	6260562
6	328657	6260521
7	328631	6260476
	LAA 3 - 0.85 ha	
1	328288	6260340
2	328319	6260386
3	328381	6260336
4	328448	6260256
5	328424	6260230