

Works Approval

Works approval number	W6908/2024/1
Works approval holder ACN Registered business address DWER file number	Roo Brew Pty Ltd 654 500 017 57 The Esplanade ESPERANCE WA 6450 DER2024/000055
Duration	13/06/2024 to 12/06/2029
Date of amendment	11/02/2025
Premises details	Lucky Bay Brewing 63 Bandy Creek Road BANDY CREEK, WA 6450 Legal description - Lot 64 on Diagram 80539 As defined by the premises maps in Schedule 2

Prescribed premises category description	Assessed production
(Schedule 1, <i>Environmental Protection Regulations 1987</i>)	capacity
Category 18 Food processing: Premises (other than premises within category 24) (a) on which vegetables are, or fruit or meat is preserved, cooked, dried, canned, bottled or processed and (b) from which liquid waste is or is to be discharged onto land or into waters.	Not more than 370 tonnes of cereal grain processed per year

This works approval is granted to the works approval holder, subject to the attached conditions, on 11 February 2025, by:

Manager, Process Industries

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

Works approval history

Date	Reference number	Summary of changes
13/06/2024	W6908/2024/1	Works approval granted.
11/02/2025	W6908/2024/1	Amendment to give effect to the Minister's appeal determination (Appeal 036 of 2024)

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 and/or install the infrastructure and/or equipment;
 - (b) in accordance with the corresponding design and construction / installation requirements; and
 - (c) at the corresponding infrastructure location; as set out in Table 1.

Table 1: Design and construction / installation requirements

	Infrastructure	Des	sign and construction / installation requirements	Infrastructure location
Ma	alt processing			
1.	Malt processing facility consisting of: - an outdoor hardstand on which is placed : -4x grain silos -1x solid waste silo -5x malt storage vessels -grain cleaning vessel -steep vessel -germination vessel -kiln vessel -enclosed conveyors with drag chains Enclosed packaging shed with bagging equipment	(b) (c)	kiln vessels. Ducting must be installed capable of reducing fan noise in the kiln vessel. All silos, vessels and the package shed must be connected by enclosed conveyors. Steep, germination and kiln vessels must be installed within a concrete bunded hardstand fitted with a concrete sump to capture and contain wastewater or spils	As shown in Schedule 1 Figure 2 as Intake grain Grain cleaner Steep tank Growing vessel Kiln Packing shed
Ех	isting brewery			
2.	Existing brewhouse - (a maximum production capacity of	(a)	The brewery must be constructed so that all wastewater is capable of being discharged to the WWTP	N/A
	<200kL/year of beer	(b)	The 1.5 kL brewery pretreatment, 4.18 kL primary and 2.1 kL secondary tanks must be connected in sequence with the secondary tank connected via pipelines to the 50 kL raw water tank.	
		(c)	The existing leach drains receiving the brewery wastewater must be decommissioned and unable to receive brewery wastewater.	

	Infrastructure	Design and construction / installation requirements	Infrastructure location					
Wa	Nastewater treatment plant							
3.	Wastewater treatment plant (WWTP) consisting of: -5 kL solids interceptor/screen and clarifier poly tank -50 kL raw wastewater poly tank with blower -3x 5 kL moving bed biofilm reactor (MBBR) poly tanks -3 kL phosphate tie up with biochar poly tank A micro processor with sensors of pH, dissolved oxygen, temperature, water level and flow from MBBR tanks. Sump with high level alarm	 (a) The three 5 kL MBBR tanks must be placed within the concrete bunded hardstand that drains to a sump. (b) The microprocessor must be maintained in working condition. (c) Sump must be connected to the 50 kL raw wastewater tank. (d) 50 kL raw wastewater tank must have a blower capable of aerating wastewater. (e) 5 kL clarifier tank must have a solids off take outlet that is capable of removing solids. (f) The 50 kL raw wastewater tank must be placed on a gravel hardstand. (g) The 50 kL raw wastewater tank, 5 kL clarifier tank, 5 kL MBBR and 3 kL biochar tanks must be enclosed and have visible level sensors installed capable of showing tank levels. 	As shown in Schedule 1 Figure 2 as Clarifier Raw water tank Reactor 1 Reactor 2 Reactor 3 Biochar tank					
Wa	astewater disposal (irrig	ation)						
4.	0.57 ha treated wastewater land application area (LAA) L1 (zones L1a, L1b, L1c, L1d, L1e) consisting of: -0.57 ha lawn planted with kikuyu -2x 50 kL irrigation holding poly tanks -flow metre (M2) -sample tap (M1) -sprinklers and polypipe connecting irrigation tank to LAA's -seven zone control irrigation station with rain sensor	 (a) A flow meter (M2) capable of recording cumulative flows of all wastewater discharged to the land application areas (L1 zones a, b, c, d, e) must be installed on the outlet from the 50 kL irrigation holding tank. (b) A sample tap (M1) must be fitted on the outlet from the 50 kL irrigation holding tank capable of taking representative wastewater samples of irrigation wastewater. (c) LAA's L1 (zones 1, 2, 3,4 and 5) must be fitted with sprinklers capable of even coverage over the land application area. (d) An irrigation controller with a rain sensor must be fitted capable of rotating irrigation of wastewater through each of the 5 land application zones and switching off when rain is detected. 	As shown in Schedule 1 Figure 1 as L1a, L1b, L1c, L1d, L1e As shown in Schedule 1 Figure 2 as Irrigation tank 1 Irrigation tank 2 M2 M1					

Compliance reporting

2. The works approval holder must within 30 calendar days of all infrastructure and equipment required by condition 1 being constructed, installed or operated:

- (a) undertake an audit of their compliance with the requirements of condition 1; and
- (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.
- **3.** The Environmental Compliance Report required by condition 2 must include as a minimum the following:
 - (a) certification by a suitably qualified technician that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;
 - (b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and
 - (c) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.
- **4.** Subject to condition 3(a), where the infrastructure or component of infrastructure has been certified as not being constructed, or does not comply with the corresponding requirements, or contains material defects, the works approval holder must:
 - (a) correct the non-compliant or defective works, prior to re-certifying in accordance with condition 3(a); or
 - (b) provide to the CEO a description of, and explanation for, any departures from the requirements specified in Table 1 that do not require rectification and do not constitute a material defect along with the Environmental Compliance Report required by condition 2.

Installation of monitoring wells

5. The works approval holder must design, construct, and install groundwater monitoring wells in accordance with the requirements specified in Table 2.

Infrastructure	Design, construction, and installation requirements	Monitoring well location (s)	Timeframe
Groundwater monitoring well(s) Once installed, MW1, and MW2	Well design and construction:Designed and constructed in accordance with ASTM D5092/D5092M-16: Standard practice for design and installation of groundwater monitoring bores.The well must be constructed with a screened interval from 1500 mm above and 2000 mm below the groundwater, not breach any aquitard and positioned to be capable of detecting seasonal perched groundwater flow and leaching from the premises.See Appendix 1 Figure 3 for generic installation requirements.Logging of borehole: 	As depicted in Schedule 1, Figure 1: Map of groundwater monitoring well locations labelled as MW1, MW2	Must be constructed, developed (purged), and determined to be operational with details outlining compliance to conditions 6 and 7 to be submitted with the Environmental Compliance Report.

Infrastructure	Design, construction, and installation requirements	Monitoring well location (s)	Timeframe
	Any observations of staining / odours or other indications of contamination must be included in the bore log.		
	Well construction log:Well construction details must be documentedwithin a well construction log to demonstratecompliance with ASTM D5092/D5092M-16. Theconstruction logs shall include elevations of the topof casing position to be used as the referencepoint for water-level measurements, screenpositions and the elevations of the ground surfaceprotective installations.		
	Well development: 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: 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.		

- **6.** The works approval holder must within 30 days of all groundwater monitoring wells, required by condition 5, being constructed, submit to the CEO a well construction report evidencing compliance with the requirements of condition 5.
- 7. The report required by condition 6 must:
 - (a) be certified by the driller that each item of infrastructure or equipment specified in Column 1 of Table 2 meets the corresponding specifications and at the locations set out in Table 2 and Figure 3 and has been constructed with no material defects; and
 - (b) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person within the company.

Time limited operational phase

Commencement and duration

- 8. The works approval holder must only commence time limited operations of the infrastructure identified in condition 1 where the Environmental Compliance Report as required by condition 2 has been submitted to the CEO by the works approval holder.
- **9.** The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 1 for a period not exceeding 300 calendar days from the day the works approval holder meets the requirements for conditions 1 and 6.

10. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 3 are maintained and operated in accordance with the corresponding operational requirements set out in Table 3.

Table 3 Infrastructure and	d equipment	requirements	durina	time limited operations

	Site infrastructure and equipment	Operational requirement	Infrastructure location-
1	Malt processing facility consisting of: - an outdoor hardstand on which is placed : -4x grain silos -1x solid waste silo -5x malt storage vessels -grain cleaning vessel -steep vessel -steep vessel -germination vessel -kiln vessel -enclosed conveyors with drag chains Enclosed packaging shed with bagging equipment	 (a) All wastewater and liquid spills from the steep and germination vessels within the concrete hardstand must be directed to the WWTP via the inground sump. (b) All grain and malt must be transferred between grain silos, vessels and packing shed via enclosed conveyors. (c) All solid waste from the grain cleaning, steep and kiln vessels must be transferred via enclosed conveyor to the solid waste silo before removed from the premises. (d) Any solid spills on the gravel, concrete hardstand or in the packing shed must be swept up immediately and disposed offsite. 	As shown in Schedule 1 Figure 2 as Intake grain Grain cleaner Steep tank Growing vessel Kiln Packing shed
2	Brewery processing building	(a) All beer must be manufactured inside an enclosed building.(b) All wastewater produced within the brewery building must be directed to the wastewater treatment plant.	N/A
3	Wastewater treatment plant (WWTP) consisting of: -1.5 kL brewery pretreatment tank -5 kL solids interceptor/screen and clarifier poly tank -50 kL raw	 (a) Not more than 30,000 litres of wastewater in any 24 hours may be directed to the WWTP. (b) All visible level sensors on tanks must be maintained in working order. (c) Wastewater must undergo pH, settling, aeration and phosphorus treatment before discharged to the two 50 kL irrigation tanks. (d) The screen in the clarifier tank must be maintained free of solid blockages. (e) All solids and sludge from the clarifier must be 	As shown in Schedule 1 Figure 2 as Clarifier Raw water tank Reactor 1 Reactor 2 Reactor 3 Biochar tank

	Site infrastructure and equipment	Operational requirement	Infrastructure location-
	wastewater poly tank with blower -3x 5 kL moving bed biofilm reactor (MBBR) poly tanks -3 kL phosphate tie up with biochar poly tank A micro processor with sensors of pH, dissolved oxygen, temperature, water level and flow.	removed from the site. (f) Microprocessor sensors must be maintained in operational condition.	
4	0.57 ha treated wastewater land application area (LAA) L1 (zones L1a, L1b, L1c, L1d, L1e) consisting of: -0.57 ha lawn planted with kikuyu	 (a) Monitoring bores must be maintained and capable of taking water level readings and water samples. (b) All treated wastewater must be directed through the flow meter (M2) before discharging to the land application area L1 (zones a, b, c, d and e). (c) Flow meter (M2) must be maintained to enable the cumulative volume of wastewater discharged from the storage tanks to the land application area to be measured. (d) Sampling tap (M1) must be maintained and 	As shown in Schedule 1 Figure 1 as MW1 and MW2 L1a, L1b, L1c, L1d, L1e As shown in Schedule 1 Figure 2 as
	-2x 50 kL irrigation holding poly tanks -flow metre (M2) -sample tap (M1) -sprinklers and polypipe connecting irrigation tank to LAA's -seven zone control irrigation station with rain sensor	 (d) Sampling tap (WT) must be maintained and capable of taking representative irrigated wastewater. (e) No irrigation from 1 June to 31 July each year. (f) No more than 55 kL of wastewater to be irrigated from the 1 August to the 31 August inclusive with no irrigation to occur during or 24 hours after a rainfall event greater than 3mm. (g) Irrigation of wastewater between 1 September to 31 May is not permitted during a rainfall event or within 24 hours after a rainfall event greater than 10 mm. (h) Wastewater must only be discharged onto actively growing kikuyu grass. (i) All wastewater irrigated grass must be mowed, and the kilograms of biomass harvested recorded. (j) Weekly visual inspections to be undertaken to ensure the irrigation system is working effectively with no leaks, blockages, and irrigating wastewater evenly over the irrigation areas. Inspections must be recorded in a logbook, with the date of inspection, name and signature of the inspector 	Irrigation tank 1 Irrigation tank 2 M2 M1

Site infrastructure and equipment	Operational requirement	Infrastructure location-
	recorded.	

11. Where treated wastewater cannot be irrigated or stored on-site, it must be removed from the premises by a licensed controlled waste carrier to a licensed liquid waste facility.

Time limited operations emissions and discharges

12. The works approval holder during time limited operations, must ensure that the emissions from the discharge point in Table 4 do not exceed the corresponding limit(s) when monitored in accordance with condition 14.

Table 4: Emission and discharge limits during time limited operations

Discharge point	Parameter	Limit
L1 (zones L1a, L1b,	Total nitrogen	≤ 284 kg/ha/annual period
L1c, L1d, L1c, L1d, L1e) as	Total phosphorus	≤ 24 kg/ha/annual period
shown in Figure 1	Biological oxygen demand	≤ 1,500 kg/ha/month
Schedule 1	рН	Between 5.5 – 9.0
	Electrical conductivity	Wastewater concentration ≤ 290 mS/m
	Sodium adsorption ratio (SAR)	Wastewater concentration ≤ 6

Monitoring during time limited operations

- **13.** The works approval 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.
- **14.** The works approval holder must monitor emissions during time limited operations accordance with Table 5**Error! Reference source not found.**.

Discharge point	Monitoring location	Parameter	Frequency	Averaging Period	Unit
L1 (zones L1a, L1b,	WWTP outflow	Volumetric flow	Continuous	Daily	kL
L1c, L1d, L1c, L1d, L1e)	M1 and M2	1 and M2 pH ¹ monthly s outlined Schedule Electrical conductivity ¹		spot sample	-
As outlined	in Schedule				mS/m
in Schedule 1 Figure 1	1 Figure 2	Total nitrogen			mg/L
		Nitrate/Nitrite			
		Total phosphorus			
		Phosphate			
		Total dissolved solids			
		Total suspended solids			
		Biological oxygen demand			
		Total organics			
		Sodium adsorption ratio (SAR)			-
	Calcium			mg/L	
	Magnesium				
		Potassium			
		Sodium			

Table 5: Emissions and discharge monitoring during time limited operations

1 In field non-NATA accredited analysis permitted for pH and electrical conductivity.

15. The works approval holder must monitor soil during environmental time limited operations for concentrations of the identified parameters in accordance with Table 6.

Table 6: Monitoring of ambient soil concentrations during time limited operations

Monitoring location as outlined in Schedule 1 Figure 1	Parameter	Unit	Frequency
Zones L1a, L1b, L1c, L1d, L1e:	рН	-	Once within the time limited operations period and there after every five
Surface composite sample, comprising 2 samples collected	Electrical conductivity	dS/cm	
from 0-10 cm across each irrigation zone	Total nitrogen	mg/kg	
	Nitrate/nitrites	mg/kg	

Monitoring location as outlined in Schedule 1 Figure 1	Parameter	Unit	Frequency
Soil profile composite sample, comprising of 1 sample collected from 50 - 60 cm across each irrigation zone.	Total kjeldahl nitrogen		years in November.
	Total phosphorus		
	Phosphate		
	Sodium absorption ratio (SAR)	-	
	Cation exchange capacity (CEC)	-	
	Exchangeable cations for potassium, sodium, calcium, magnesium, and aluminum	meg/100g	
	Phosphorus buffering index (PBI)	-	

16. The works approval holder must monitor groundwater during time limited operations for concentrations of the identified parameters in accordance with Table 7.

Table 7: Monitoring of ambient groundwater concentrations during time limited operations

Monitoring location	Parameter	Unit	Frequency	Averaging period	
MW1	Standing water level	m(AHD) and mBGL			
MW2 as outlined	рН	-		In-field measurement	
in Schedule 1 Figure 1	Electrical conductivity	mS/m	Quarterly in March,		
	Total nitrogen		June, September and December		
	Total phosphorus			Spot sample	
	Biological oxygen demand	mg/L			
	Total dissolved solids				

- **17.** The works approval holder must ensure that:
 - (a) the results of all monitoring activity required by conditions 14, 15 and 16 are recorded;
 - (b) monitoring is undertaken in each daily period such that there are at least 12 hours in between the time on which samples are taken in successive days; and
 - (c) 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.

Compliance reporting

- **18.** The works approval holder must submit to the CEO a report on the time limited operations within 30 calendar days following the completion date of time limited operations.
- **19.** The works approval holder must ensure the report required by condition 18 includes the following:
 - (a) a summary of the time limited operations, including timeframes and amount of malt and alcoholic beverage produced;
 - (b) a summary of wastewater, soil and groundwater quality results obtained during time limited operations under conditions 14, 15 and 16;
 - (c) a summary of wastewater irrigation loading levels
 - (d) a review of operational performance and compliance against the conditions of the works approval;
 - (e) a summary of the biomass including estimated tonnages removed from the irrigation area; and
 - (f) 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)

- **20.** 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.
- **21.** 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 while complying with condition 10;
 - (c) monitoring programmes undertaken in accordance with conditions 14, 15 and 16; and
 - (d) complaints received under condition 20
- **22.** The books specified under condition 21: 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 8 have the meanings defined.

Table 8: Definitions

Term	Definition
AHD	Australian Height Datum
Annual period	12 month period priod from 1 June to 31 May each year
AS 4482.1	means the current version of Australian Standard AS 4482.1 -2005 Guide to the investigation and sampling of sites with potentially contaminated soils – non volatile and semi volatile compounds.
AS/NZS 5667.1	means the current version of Australian / New Zealand Standard AS/NZS 5667.1 Water Quality – Sampling, Part 1: Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples
AS/NZS 5667.10	means the current version of Australian / New Zealand Standard AS/NZS 5667.10 Water Quality – Sampling, Part 10: Guidance on sampling of waste waters
AS/NZS 5667.11	means the current version of Australian / New Zealand Standards AS/NZS 5667.11 Water Quality – Sampling, Part 11: Guidance on sampling of groundwaters
ASTM D5092/D5092M-16	means the ASTM international standard for Standard practice for design and installation of groundwater monitoring bores (Designation ASTM D5092/D5092M16)
averaging period	means the time over which a limit is measured or a monitoring result is obtained
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
	info@dwer.wa.gov.au
certified technician	means a person who:
	 (a) holds a certificate 3 or higher qualification in horticulture and / or wastewater management; and
	has a minimum of at least three years of experience working in horticulture, irrigation and/or wastewater management.
Department	means the department established under section 35 of the <i>Public Sector</i> <i>Management Act 1994</i> and designated as responsible for the administration of Part V Division 3 of the EP Act.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and/or equipment has been constructed and/or installed in accordance with the works approval.
EP Act	Environmental Protection Act 1986 (WA).

Term	Definition
EP Regulations	Environmental Protection Regulations 1987 (WA).
harvest	means mowing / cutting and removing from the site such as lawn clippings.
mBGL	means metres below ground level
mg/L	milligrams per litre
ΝΑΤΑ	means the (Australian) National Association of Testing Authorities
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis
mg/L	milligrams per litre
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.
rainfall event	means greater than or equal to 2 mm of precipitation within a 24-hour period
spot sample	means a discrete sample representative at the time and place at which the sample is taken
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.
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 in pink, yellow outline is malt and WWTP facility, green are the irrigation areas, and red dots monitoring well locations.

Site layout

The site layout of the malting and WWTP facility is shown in the map below (Figure 2).

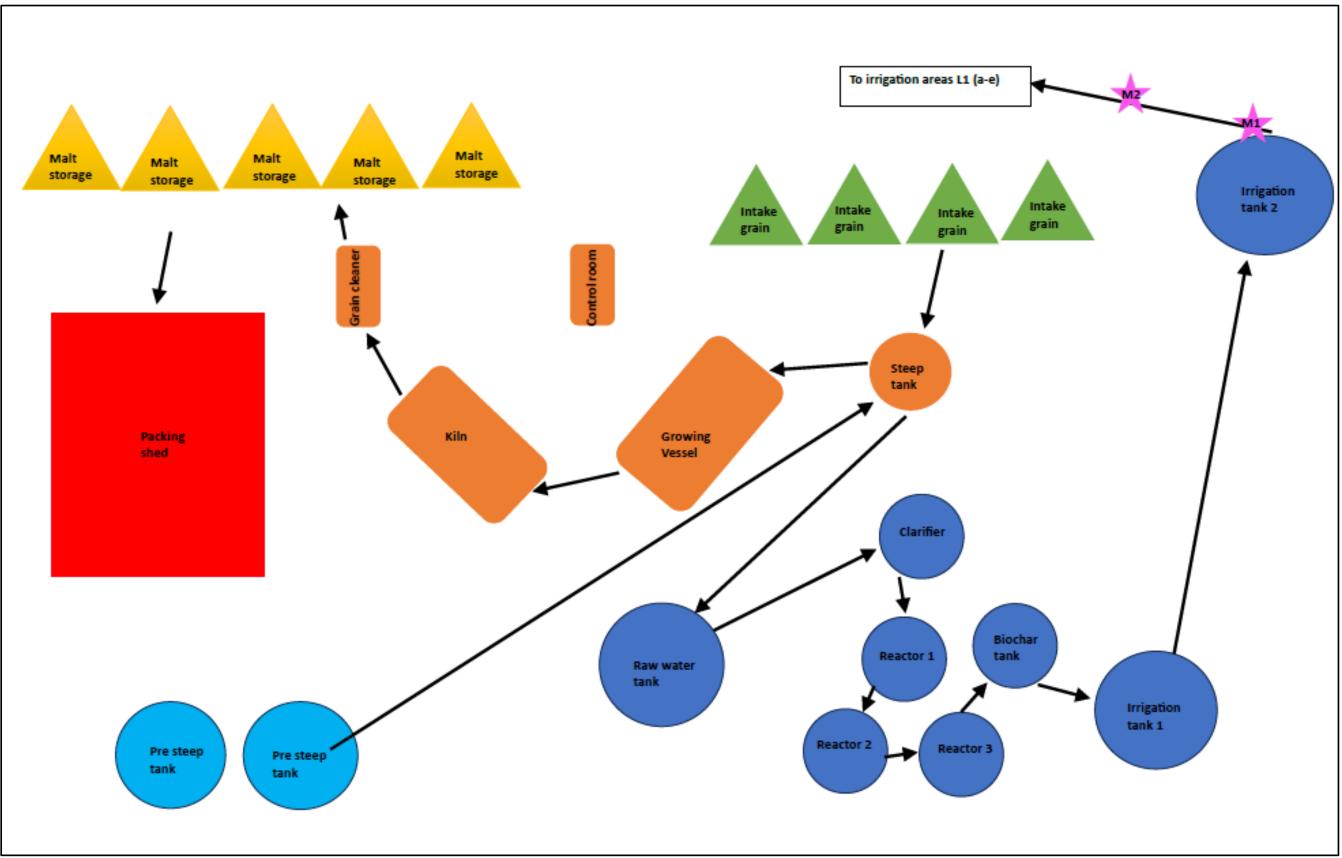
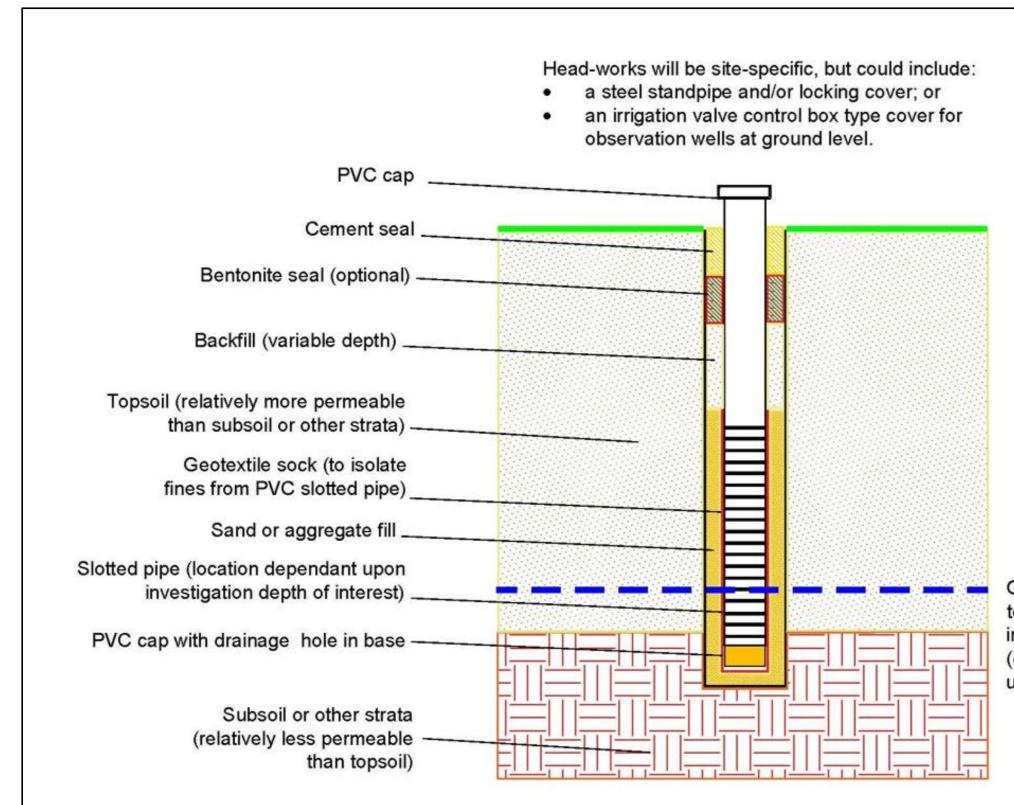


Figure 2: Malt and WWTP facilities site layout within the prescribed premises

Monitoring well installation



The following diagram illustrates generic monitoring bore installation requirements (Figure 3).

Figure 3: Monitoring well installation requirements

Groundwater perching on top of relatively less impermeable sub-soil/strata (depth varying depending upon the time of year)