



Works approval number W6457/2020/1

Works approval holder Kingston Rest Pty Ltd

ACN 009 597 264

Registered business address 2/2 Fairbairn Road
BUSSELTON WA 6280

DWER file number DER2020/000526

Duration 03/01/2023 to 02/01/2026

Date of amendment 22/01/2024

Premises details 'Kingston Rest Farms'
210 Norman Road
THE PLAINS WA 6237

Legal description –
Lot 2 on Plan 66251, Lot 3 on Diagram 17495, Lot 150
on Plan 28074 and Lots 801, 802 & 803 on Plan 302320
As shown in the premises map in Schedule 1

Prescribed premises category description (Schedule 1, Environmental Protection Regulations 1987)	Assessed design capacity
Category 55: Livestock saleyard or holding pen: premises on which live animals are held, pending their sale, shipment or slaughter.	Not more than 249,750 animals (sheep) per annual period

This amendment is granted to the works approval holder, subject to the attached conditions, on 22 January 2024, by:

Caron Goodbourn
MANAGER, PROCESS INDUSTRIES
REGULATORY SERVICES

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

Works approval history

Date	Ref number	Summary of changes
03/01/2023	W6457/2020/1	Works approval granted
22/01/2024	W6457/2020/1	Amendment to give effect to the Minister's appeal determination (Appeal 002/23)

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.

NOTES:

1. 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.
2. This works approval includes conditions resulting from the Minister's decision on appeals lodged under section 102(3) of the EP Act. These conditions are shown as blue underlined text and cannot be further amended or deleted.

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 construct the infrastructure listed in Table 1:
 - (a) in accordance with the corresponding design and construction requirements; and
 - (b) at the corresponding infrastructure location;
 as set out in that table.

Table 1: Infrastructure design and construction requirements

	Infrastructure	Design and construction requirements	Infrastructure location
Key feedlot infrastructure			
1	Feed sheds	(a) Must only construct two (2) feed sheds; (b) Shed 1 must be constructed with maximum dimensions of 256 m x 56 m; (c) Shed 2 must be constructed with maximum	'Feedlot Shed 1' and 'Feedlot Shed 2' as shown in map in Schedule 1

	Infrastructure	Design and construction requirements	Infrastructure location
		<p>dimensions of 128 x 56 m;</p> <p>(d) Each shed must be constructed with an impermeable hardstand floor with a material that achieves a permeability coefficient of at least 1×10^{-9} m/s;</p> <p>(e) The sheds must comprise a controlled drainage area that is a self-contained catchment encompassing the areas beneath the roof of both sheds;</p> <p>(f) The controlled drainage area must comprise drainage infrastructure that:</p> <p>(i) prevents overland flow from the peak of a 20-year ARI rainfall event outside the area from entering the area; and</p> <p>(ii) ensures any free liquids and the peak flow from a 20-year ARI rainfall event are contained within the controlled drainage area (feed sheds);</p>	
2	Controlled drainage area (feed sheds)	<p>(a) Must comprise:</p> <p>(i) all areas of the feedlot outside of the feed sheds that will be used for stock handling including unloading, loading, moving, drafting, weighing, treating or otherwise attend to the needs of the animals;</p> <p>(ii) all areas of the feedlot outside of the feed sheds that will be used for loading of manure for on-site reuse or off-site disposal;</p> <p>(iii) drainage infrastructure used to convey water to the associated runoff pond;</p> <p>(b) Area must be constructed with an impermeable hardstand floor with a material that achieves a permeability coefficient of at least 1×10^{-9} m/s;</p> <p>(c) Area must comprise drainage infrastructure that:</p> <p>(i) prevents overland flow from the peak of a 20-year ARI rainfall event outside the area from entering the area; and</p> <p>(ii) ensures any free liquids and the peak flow from a 20-year ARI rainfall event are contained within the controlled drainage area (feed sheds);</p>	‘CDA1’ as shown in map in Schedule 1
3	Runoff dam (feed sheds)	<p>(a) Must construct a containment dam at the lowest point of the controlled drainage area for the feed sheds;</p> <p>(b) Dam must be constructed with:</p> <p>(i) a minimum holding capacity of 13,700 m³ (including freeboard of 0.5 m); and</p> <p>(ii) a lining system that complies with the requirements specified in condition 2;</p>	‘Runoff dam (feedlot)’ as shown in map in Schedule 1
4	Groundwater monitoring wells	(a) Must install a minimum of two groundwater monitoring wells, one up hydraulic gradient and one down hydraulic gradient, in the vicinity of the runoff dam (feed sheds);	As per description

	Infrastructure	Design and construction requirements	Infrastructure location
		<p>(b) <u>Well design, construction and installation must meet the requirements specified in condition 4;</u></p> <p>(c) <u>Wells must be constructed, developed (purged) and determined to be operational, prior to the commencement of time limited operations;</u></p>	
5	Induction shed	<p>(a) Must only construct one (1) induction shed;</p> <p>(b) Shed must be constructed with <u>maximum</u> dimensions of 128 m x 56 m;</p> <p>(c) <u>Shed must be constructed with an impermeable hardstand floor with a material that achieves a permeability coefficient of at least 1×10^{-9} m/s;</u></p> <p>(d) <u>Must comprise a controlled drainage area that is a self-contained catchment encompassing the area beneath the shed roof;</u></p> <p>(e) <u>The controlled drainage area must comprise drainage infrastructure that:</u></p> <p style="padding-left: 20px;">(i) <u>prevents overland flow from the peak of a 20-year ARI rainfall event outside the area from entering the area; and</u></p> <p style="padding-left: 20px;">(ii) <u>ensures any free liquids and the peak flow from a 20-year ARI rainfall event are contained within the controlled drainage area (induction shed);</u></p>	'Induction shed' as shown in map in Schedule 1
6	Controlled drainage area (induction shed)	<p>(a) <u>Must comprise:</u></p> <p style="padding-left: 20px;">(i) <u>all areas of the feedlot outside of the induction shed that will be used for stock handling including unloading, loading, moving, drafting, weighing, treating or otherwise attend to the needs of the animals;</u></p> <p style="padding-left: 20px;">(ii) <u>all areas of the feedlot outside of the induction shed that will be used for loading of manure for on-site reuse or off-site disposal;</u></p> <p style="padding-left: 20px;">(iii) <u>drainage infrastructure used to convey water to the associated runoff pond;</u></p> <p>(b) <u>Area must be constructed with an impermeable hardstand floor with a material that achieves a permeability coefficient of at least 1×10^{-9} m/s;</u></p> <p>(c) <u>Area must comprise drainage infrastructure that:</u></p> <p style="padding-left: 20px;">(i) <u>prevents overland flow from the peak of a 20-year ARI rainfall event outside the area from entering the area; and</u></p> <p style="padding-left: 20px;">(ii) <u>ensures any free liquids and the peak flow from a 20-year ARI rainfall event are contained within the controlled drainage area (induction shed);</u></p>	'CDA2' as shown in map in Schedule 1
7	Runoff dam (induction shed)	<p>(a) Must construct a containment dam at the lowest point of the controlled drainage area for the induction shed;</p> <p>(b) Dam must be constructed with:</p> <p style="padding-left: 20px;">(i) a minimum holding capacity of 4,800 m³</p>	'Runoff dam (induction shed)' as shown in map in Schedule 1

	Infrastructure	Design and construction requirements	Infrastructure location
		(including freeboard of 0.5 m); and (ii) a lining system that complies with the requirements specified in condition 2;	
8	Groundwater monitoring wells	(d) Must install a minimum of two groundwater monitoring wells, one up hydraulic gradient and one down hydraulic gradient, in the vicinity of the runoff dam (induction shed); (e) Well design, construction and installation must meet the requirements specified in condition 4; (f) Wells must be constructed, developed (purged) and determined to be operational, prior to the commencement of time limited operations.	As per description
Composting infrastructure			
9	Compost pad	(a) Must construct a compost pad with minimum dimensions 60 m x 30 m; (b) Pad must be constructed as an impermeable hardstand with a material that achieves a permeability coefficient of at least 1×10^{-9} m/s; (c) Pad must be fully bunded to ensure compost leachates and contaminated surface water is contained within the controlled drainage area (compost pad);	'Compost pad' as shown in map in Schedule 1
10	Controlled drainage area (compost pad)	(a) Compost pad must be sloped to facilitate drainage of surface water runoff to a catchment dam; (b) Pad must comprise drainage infrastructure that: (i) prevents overland flow from the peak of a 20-year ARI rainfall event outside the area from entering the area; and (ii) ensures any free liquids and the peak flow from a 20-year ARI rainfall event are contained within the controlled drainage area (compost pad);	'Compost pad' as shown in map in Schedule 1
11	Composting containment dam	(a) Must construct a containment dam at the lowest point of the controlled drainage area for the compost pad; (b) Dam must be constructed with: (i) a minimum holding capacity of 4,800 m ³ (including freeboard of 0.5 m); and (ii) a lining system that complies with the requirements specified in condition 2.	'Evaporation pond' as shown in map in Schedule 1
12	Groundwater monitoring wells	(a) Must install a minimum of two groundwater monitoring wells, one up hydraulic gradient and one down hydraulic gradient, in the vicinity of the composting containment dam; (b) Well design, construction and installation must meet the requirements specified in condition 4; (c) Wells must be constructed, developed (purged) and determined to be operational, prior to the commencement of time limited operations.	As per description

2. The works approval holder must ensure that all runoff containment dams are constructed with a lining system that comprises at least 300 mm of clay or other suitable compactable soil constructed in two 150 mm layers following compaction with an in-situ coefficient of permeability of 1×10^{-9} m/s or less.
3. The works approval holder must ensure that:
 - (a) clay materials used to comply with the requirements of condition 2 are well graded and tested for conformance against the particle size distribution, plasticity index and other characteristics listed in Schedule 2; and
 - (b) permeability and compaction requirements for clay and gravel materials used to comply with condition 2 are demonstrated by geotechnical testing conducted by a qualified professional engineer and in accordance with AS 1289.

Groundwater monitoring wells

4. [The works approval holder must design, construct and install groundwater monitoring wells in accordance with the requirements in Table 2.](#)

Table 2: Infrastructure requirements – groundwater monitoring wells

	Item	Design, construction and installation requirements
1	Well design and construction	(a) Each well must be designed and constructed in accordance with ASTM D5092; (b) Each well must be constructed with a screened interval from the water table to a depth of 2 m below and 1 m above the water table and positioned to be capable of detecting groundwater flow and potential leaching from each runoff containment dam; (c) Each well must be installed in accordance with the generic installation requirements illustrated in Schedule 3;
2	Logging of boreholes	(a) Soil samples must be collected and logged during installation of each well; (b) A record of the geology encountered during drilling must be kept and classified in accordance with AS 1726; (c) Any observations of staining, odours or other indications of contamination must be included in the bore log;
3	Well construction log	(a) Well construction details must be documented within a well construction log to demonstrate compliance with ASTM D5092; (b) The construction logs must include elevations of the top of casing position to be used as the reference point for water level measurements, screen positions and the elevation of the ground surface protective installations;
4	Well development	(a) Installed 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; (b) A detailed record must be kept of well development activities and included in the well construction log.

Compliance reporting

5. The works approval holder must, within 30 calendar days of the infrastructure being constructed for the induction shed and the feedlot sheds specified in condition 1:
 - (a) undertake an audit of their compliance with the requirements of condition 1 for those items of infrastructure; and
 - (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.

6. The Environmental Compliance Report required by condition 5, must include as a minimum the following:
 - (a) certification by a qualified professional engineer, whether the items of infrastructure or components thereof, as specified in condition 1, have been constructed in accordance with the corresponding requirements specified in condition 1;
 - (b) as constructed plans for each item of infrastructure or component of infrastructure as specified in condition 1;
 - (c) results of clay materials and geotechnical testing required by conditions 2 & 3;
 - (d) [a well construction report, including certification by the driller, whether the groundwater monitoring wells specified in condition 1 have been designed, constructed and installed in accordance with the relevant requirements specified in condition 4; and](#)
 - (e) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.
7. Subject to condition 6(a), where an item of 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 6(a); or
 - (b) provide to the CEO a description of, and explanation for, any departures from the requirements specified in condition 6(a) that do not require rectification and do not constitute a material defect along with the Environmental Compliance Report required by condition 5.

Time limited operations phase

Commencement and duration

8. The works approval holder may only commence time limited operations for the induction shed and/or a feed shed identified in condition 10 where:
 - (a) all controlled drainage infrastructure for that shed complex has been constructed;
 - (b) [the compost pad and all controlled drainage infrastructure for the compost pad has been constructed;](#) and
 - (c) the Environmental Compliance Report as required by condition 5 has been submitted by the works approval holder for all controlled drainage infrastructure relating to that shed complex and the compost pad.
9. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 10 (as applicable):
 - (a) for a period not exceeding 180 calendar days from the date the works approval holder meets the requirements of condition 8 for that item of infrastructure; or
 - (b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the *Environmental Protection Act 1986*,whichever is sooner.

Infrastructure and equipment

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

Table 3: Infrastructure requirements during time limited operations

	Infrastructure	Operational requirement
1	Feed sheds	(a) Stocking density must not exceed, at any one time:
2	Induction shed	(i) 9,600 animals within the Induction Shed; (ii) 12,100 animals within Feedlot Shed 1; (iii) 6,050 animals with Feedlot Shed 2; (b) All manure must be left to accumulate on the hardstand floor beneath the sheds; (c) Manure accumulated beneath the sheds must not be disturbed, unless it is being: (i) harvested for spreading; and/or (ii) taken directly off-site for further processing or disposal; (d) All deceased animals must be: (i) composted on the designated compost pad; and/or (ii) taken directly off-site for further processing or disposal, to a premises that is lawfully able to accept that kind of waste;
3	Controlled drainage areas	All controlled drainage areas must be maintained to ensure surface water runoff is diverted to the relevant containment dam;
4	Runoff dams	An operational freeboard of at least 0.5 m must be maintained at all times;
5	Compost pad	(a) Only low risk feedstocks may be brought onto the premises as supplementary organic material for use in the composting process; (b) Windrows must not be disturbed or turned until the full decomposition process has been completed;
6	Composting containment dam	An operational freeboard of at least 0.5 m must be maintained at all times.

Grazing outside of feedlot sheds

11. Following the commencement of time limited operations, the works approval holder must not graze or hold sheep outside of the feedlot sheds, or other livestock, within the manure utilisation area on the premises.

Land application of manure and composted material

12. The works approval holder must ensure manure and composted material is:
- (a) directly applied to land in accordance with the requirements specified in Table 4; and/or
 - (b) taken off-site for further processing or disposal.

Table 4: Authorised disposal of composted material to land

Land application reference	Application requirements
"Manure utilisation area", as shown in Schedule 1: Premises map	Spreading of dried manure and mature carcass compost at a rate of not more than 13.36 t/ha, and in accordance with conditions 13 and 21

13. The works approval holder must ensure that when applying manure and composted material in accordance with condition 12(a):

- (a) only dried manure and mature compost is spread over the manure utilisation area;
 - (b) it is evenly distributed over the manure utilisation area;
 - (c) it is only spread onto areas growing crops or pasture within the manure utilisation area;
 - (d) it is not spread within 50 m of any defined watercourse, within 25 m of the premises boundary, or within 300 m of any dwelling that is not on the premises;
 - (e) it is only spread under the following conditions:
 - (i) during the months of March and May;
 - (ii) when the wind direction is not towards dwellings within 1,000 m of the premises boundary;
 - (iii) in the morning when the air is warming rather than late in the afternoon when the air is cooling;
 - (iv) not when rain or heavy cloud is expected within the following 24 hours;
 - (v) not within 24 hours of a weekend or public holiday; and
 - (vi) not when an inversion layer is present;
 - (f) the manure utilisation area is harvested at least once every 12 months.
14. The works approval holder must keep records of the volume of each load of manure and composted material taken off-site in accordance with condition 12(b).

Monitoring

General monitoring

15. The works approval holder must ensure that:
- (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
 - (b) all surface water sampling is conducted in accordance with AS/NZS 5667.6;
 - (c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11;
 - (d) all soil samples are collected in accordance with DPIRD guidelines for soil sampling;
 - (e) all soil samples are submitted to and tested by a laboratory with current ASPAC certification (or equivalent); and
 - (f) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured.
16. The works approval holder must ensure that biannual monitoring is undertaken at least 4 months apart.
17. The works approval holder must ensure all monitoring equipment used on the premises to comply with conditions of this works approval is calibrated in accordance with the manufacturer's specifications.
18. The works approval holder must, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

Groundwater monitoring

19. [Following installation of groundwater monitoring wells and throughout the duration of this works approval, the works approval holder must monitor and record the results of ambient groundwater in accordance with the requirements of Table 5.](#)

Table 5: Monitoring of groundwater requirements

Monitoring point and reference	Parameter	Unit	Averaging period	Monitoring frequency
MW01, MW02, MW03, MW04, MW05, MW06	Standing water level¹	m (AHD) m (BGL)	Spot sample (in-field)	Biannual²
	pH¹	-		
	Electrical conductivity @ 25°C¹	µS/cm	Spot sample (laboratory determined)	
	Total nitrogen, Ammonia nitrogen	mg/L		
	Total phosphorus			
	Total dissolved solids			
	Biological oxygen demand			
	Na, K, Ca, Mg, Cl, SO₄, HCO₃			

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

Note 2: The first monitoring event to occur within 30 days of the wells required by condition 1 being installed and becoming operational, and biannual thereafter.

Surface water monitoring

20. The works approval holder must monitor and record the results of ambient surface water in accordance with the requirements of Table 6.

Table 6: Monitoring of surface water requirements

Monitoring location	Parameter	Units	Averaging period	Frequency
Gynudup Brook ² : • SW1 (upstream of feedlot) • SW2 (immediately downstream of feedlot) • SW3 (exiting the premises)	pH ¹	No unit	Spot sample	At least once following the break of the season, but within 1 week of stream flow commencing
	Electrical conductivity @ 25°C ¹	µS/cm		
	Total nitrogen	mg/L		
	Total phosphorus			
	Total dissolved solids			
	Total suspended solids			
	Biological oxygen demand			
	<i>E. coli</i>	CFU/100mL		

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

Note 2: GPS coordinates must be recorded for each sampling location, to ensure subsequent sampling events are in the same location.

Soil monitoring

21. The works approval holder must conduct soil testing in accordance with the requirements of Table 7.

Table 7: Soil testing requirements

Soil sampling locations	Soil profile	Parameter	Units	Frequency
At least one sample made up of at least 5 individual cores for each farm paddock across the waste utilisation area ^{1,2}	0 – 10 cm; 10 – 20 cm; 20 – 30 cm;	pH	CaCl ₂	Prior to the first manure spreading event to establish baseline, and annual thereafter for each paddock receiving manure in the previous 12 months period
		Electrical conductivity	mS/cm	
		Moisture content	%	
		Total nitrogen, ammonium-nitrogen, nitrate-nitrogen	mg/kg	
		Total phosphorus		
		Phosphorus retention index (PRI)	-	
		Phosphorus buffering index (PBI)	-	
		Aluminium	CaCl ₂ extract	

Note 1: For soil sampling purposes, each farm paddock must represent a maximum area of 50 ha.

Note 2: GPS coordinates must be recorded for each sampling location, to ensure subsequent sampling events are in the same location.

22. The works approval holder must monitor and record inputs and outputs in accordance with the requirements of Table 8, where required.

Table 8: Monitoring and recording of inputs and outputs

Input / Output	Parameter	Units	Frequency
Animals received and dispatched at the premises	Animals	Number	Aggregated total monthly summary
Deceased animals			Monthly
Compost feedstock brought onto the premises	Feedstock type	Tonnes	Each load of low-risk feedstock brought onto the premises, by type
Manure and mature compost spread on the premises	Manure, mature compost		Each spreading event, including the location(s) in which the material was applied and the total application area

Complaints management

23. The works approval holder must investigate any 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.
24. Following receipt of a complaint directly from a complainant about any alleged emissions from the premises, the works approval holder must:
- respond to the complainant within 72 hours of receipt of the complaint; and
 - within 10 calendar days of receipt of the complaint, provide a summary of the outcomes of any investigation(s) conducted in response to the complaint, including any corrective and preventative action(s) taken in response to the complaint, unless such communication is not requested by the complainant.

Records and reporting

Record-keeping

- 25.** The works approval holder must record the following information in relation to complaints received by the works approval holder (whether directly from a complainant or forwarded to them by the department or another party) about any alleged emissions from the premises:
- (a) the name and contact details of the complainant (if provided);
 - (b) the time and date of the complaint;
 - (c) the complete details of the complaint and any other concerns or other issues raised;
 - (d) the complete details of any activities being undertaken, where, and the weather and wind conditions at the time of the complaint;
 - (e) the complete details and dates of any investigation(s) conducted in response to the complaint;
 - (f) a summary of the findings of any investigation(s) conducted in response to the complaint, including details of the person(s) responsible for the investigation(s);
 - (g) a summary of any corrective and preventative action(s) taken in response to the complaint;
 - (h) a summary of the time taken to respond to the complaint; and
 - (i) a summary of all communications with the complainant.
- 26.** 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 10;
 - (c) records of manure and compost taken off site in accordance with condition 14;
 - (d) results of groundwater monitoring required by condition 19;
 - (e) results of surface water monitoring required by condition 20;
 - (f) results of soil monitoring required by condition 21;
 - (g) records of inputs and outputs in accordance with condition 22; and
 - (h) records of complaints required by condition 25.
- 27.** The books specified under condition 26 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 9 have the meanings defined.

Table 9: Definitions

Term	Definition
AS 1289	means the Australian Standard AS 1289 Methods of testing soils for engineering purposes
AS 1726	means the most recent version and relevant parts of the Australian Standard AS 1726 <i>Geotechnical site investigations</i>
AS 4454	means the Australian Standard AS 4454 Composts, soil conditioners and mulches
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 Water quality – sampling – guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples
AS/NZS 5667.6	means the Australian Standard AS/NZS 5667.6 Water quality – sampling – guidance on sampling rivers and streams
ASPAC	Australian Soil and Plant Analysis Council
ASPAC certification	means in relation to the analysis of a sample that the laboratory is certified by ASPAC for the specified analysis at the time of the analysis
ASTM D5092	means the Active Standard ASTM D5092/D5092M-16 <i>Standard practice for design and installation of groundwater monitoring wells</i>
averaging period	means the time over which a limit or target is measured or a monitoring result is obtained
books	has the same meaning given to that term under the EP Act
carcass compost	means mature compost that has been generated from composting animal carcasses
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
CFU	Colony Forming Units
condition	means a condition to which this works approval is subject under s.62 of the EP Act
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act
DPIRD guidelines for soil sampling	means the document entitled “ <i>A guide for fit for purpose soil sampling</i> ” (Fertilizer Australia 2019), available at https://fertilizer.org.au
driller	means a person who has a minimum of 3 years of experience in drilling groundwater monitoring wells
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	means the <i>Environmental Protection Act 1986</i> (WA)
freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point

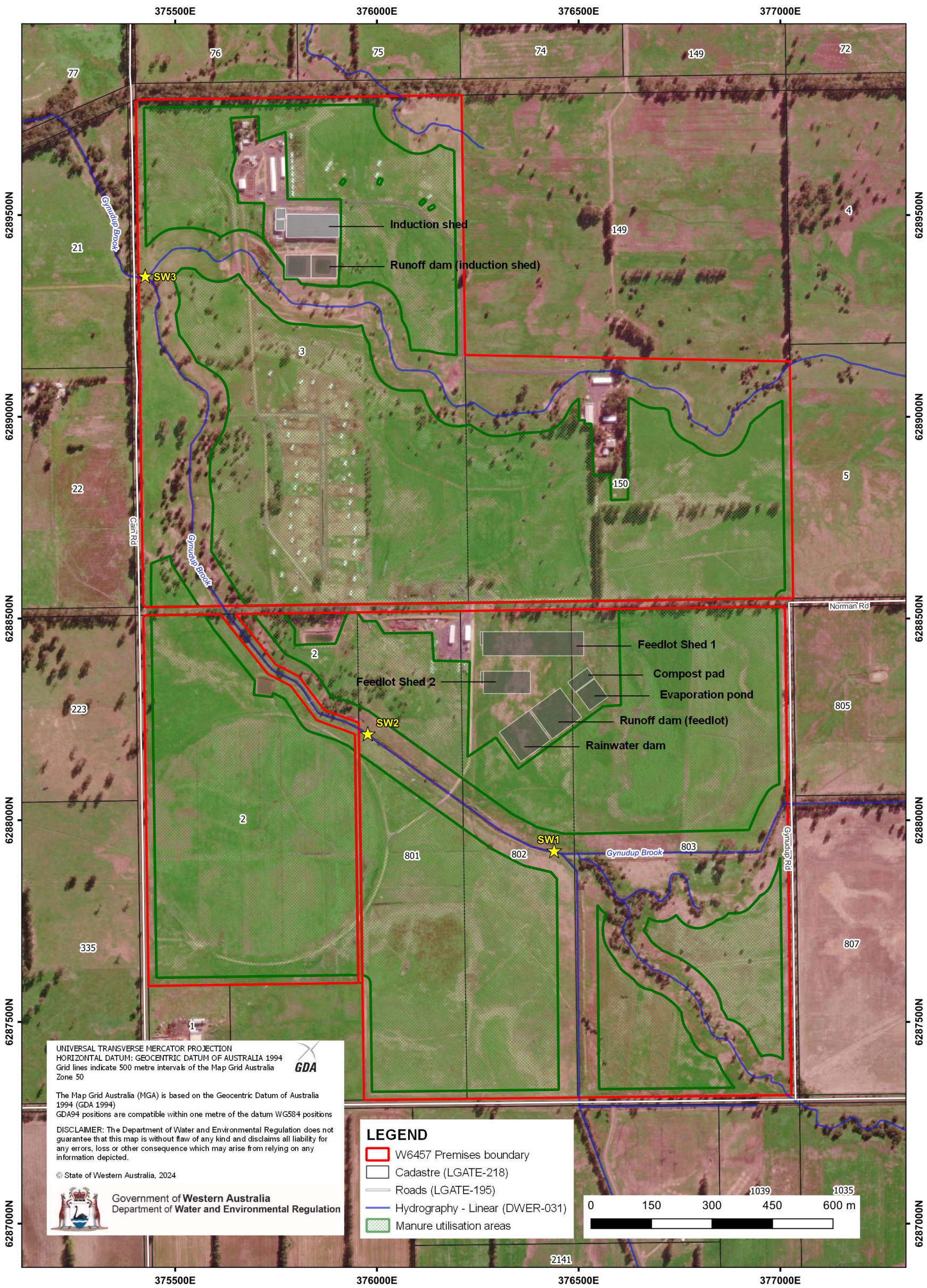
Term	Definition
low risk feedstock	means green waste derived from controlled collections and landscaping sources (e.g. grass, leaves, plants, branches, etc.), untreated timber (e.g. sawdust, wood shavings, timber off-cuts, etc.) and natural fibrous organics (e.g. peat, seed hulls/husks, straw, bagasse and other natural organic fibrous organics)
manure	means animal excrement (faeces and urine)
manure utilisation area	means the area of land over which manure and mature compost may be sustainably dispersed
mature compost	means organic material that has undergone controlled aerobic and thermophilic biological transformation through the composting process to achieve a suitable level of pasteurisation and stabilisation or maturity (as set out in AS 4454)
NATA	National Association of Testing Authorities, Australia
NATA accreditation	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
premises	refers to the premises to which this works approval applies, as specified at the front of this works approval and as shown on the map in Schedule 1 to this works approval
prescribed premises	has the same meaning given to that term under the EP Act
Phosphorus retention index (PRI)	means the ratio of phosphorus adsorbed by soil (micrograms per gram) compared to that remaining in a solution (of initial concentration of 10 mg phosphorus per litre) after 16 hours
qualified professional engineer	means a person who: (a) holds a tertiary academic qualification specialising in geotechnical or civil engineering; and (b) has a minimum of 3 years of experience working in the area of geotechnical or civil engineering; or is otherwise approved by the CEO to act in this capacity
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, including the initial stocking of sheds
works	refers to the works described in Schedule 2, at the locations shown in Schedule 1 of this works approval to be carried out at the premises, subject to the conditions
works approval	refers to this document, which evidences the grant of the works approval by the CEO under s.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 (red line), in addition to the location of the proposed feedlot infrastructure, waste utilisation areas and surface water monitoring points.



Schedule 1: Maps

Controlled drainage areas

The extent of controlled drainage areas on the premises is shown in the maps below.



CDA1

Green – CDA (manure)

Blue – CDA (operational feedlots)

Purple – CDA (compost)



CDA2

Green – CDA (manure storage)

Blue – CDA (operational – induction)

Schedule 2: Clay liner characteristics

Item	Test method	Pre-qualification testing frequency	Frequency of field compliance testing	Acceptance criteria
Particle size distribution (PSD)	AS 1289 3.6.1	3 per material source	3 per pond liner	As provided below
Particles passing 53-mm sieve	AS 1289 3.6.1			100%
Particles passing 19-mm sieve	AS 1289 3.6.1			>90%
Particles passing 2.36-mm sieve	AS 1289 3.6.1			>70%
Particles passing 0.075-mm sieve	AS 1289 3.6.1			>30%
Maximum particle size	AS 1289 3.6.1			40 mm
Atterberg Limits	AS 1289 3.1.2, 3.2.1, 3.3.1, 3.4.1	3 per material source	3 per pond liner	As provided below
Plasticity Index	AS 1289 3.3.1			≥10% and above Casagrande A line
Liquid Limit	AS 1289 3.1.2			30–60%
Permeability (remoulded)	AS 1289 6.7.3	2 tests per material source		≤1 x 10 ⁻⁹ m/sec (300-mm thick clay pad liner)
Permeability on undisturbed tube samples collected from the completed pad liner	AS 1289 6.7.3		2 tests per constructed pad liner	≤1 x 10 ⁻⁹ m/sec (300-mm thick clay pad liner)
Emerson Class Number	AS 1289 3.8.1	3 per pad liner	3 per pad liner	>4
Calcium Carbonate content	USEPA	3 per pad liner	3 per pad liner	<15%
Dry Density	AS 1289 5.1.1 or 1289 5.7.1		As provided in Table 8.1 of AS 3798–2007	Minimum dry density ratio of 95% relative to standard or a minimum Hilf density ratio of 95% standard
Moisture Content	AS 1289 5.1.1 or AS 1289 5.7.1		Same as for Dry Density testing	0% to +3% of the Standard Optimum Moisture Content (SOMC) or within a Hilf moisture variation of 0% to +3%

Schedule 3: Monitoring well installation requirements

The following diagram illustrates generic monitoring well installation requirements.

