Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6318/2019/1
Works approval holder	Fletcher International Exports Pty Ltd
ACN	003 213 652
Registered business address	Level 16, Tower 2 Darling Park 201 Sussex Street SYDNEY NSW 2000
DWER file number	DER2019/000598
Duration	13/11/2020 to 12/11/2023
Date of issue	13/11/2020
Premises details	Ronneby Park 670 Youngs Road BEAUFORT RIVER, WA 6394 Legal description - Part of Lot 1 on Deposited Plan 21594, Part of Lot 4 on Plan 21594 As defined by the coordinates in Schedule 1

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production capacity**
Category 55: Livestock saleyard or holding pen	240,000 animals per year
Category 70: Screening etc., of material	40,000 tonnes per annum

This works approval is granted to the works approval holder, subject to the attached conditions, on 13/11/2020, by:

Chris Malley
Digitally signed by Chris Malley
Date: 2020.11.13 16:42:21 +08'00'

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

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 means the version of the standard, guideline or code of practice in force at the time of granting of this works approval and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the works approval;

(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 construct the infrastructure

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

(b) at the corresponding infrastructure location

as set out in Table 1.

Table 1: Infrastructure design and construction requirements

	Infrastructure	Design and construction requirements	Infrastructure location
1.	Controlled drainage area	(a) An area that includes the operational area of the feedlot including pens, laneways, sedimentation pond and evaporation pond; (b) Bunded to restrict the flow of stormwater from outside of the controlled drainage area entering the wastewater treatment ponds and that drains wastewater or contaminated stormwater to the sedimentation pond	As shown in Schedule 1 Premises Layout
2.	Sheep pens including laneways and effluent drainage system	(a) All pens are to have clay or gravely clay floor to a compacted depth of 200 mm (b) Pens must be constructed across the slope and aligned with the natural contour of the land with a slope of between 2.5% and 4% to avoid pen to pen drainage. (c) Pens must be designed to direct water to the sedimentation pond via a system of catch drains and main drains (d) Pens are bunded to prevent the ingress of stormwater into the pens. (e) All catch drains and main drains are to be constructed to a gradient of between 1% and 2% and be compacted to a depth of 300 mm of low permeability sandy gravel to achieve a permeability of less than or equal to 1 x 10^{-8} m/s. (f) Catch drains and main drains are designed to convey peak flow rates from a 20 year ARI storm event	As shown in Schedule 1 Premises Layout
3.	Manure stockpile area	(a) Manure stockpile pad and carcass composting pad with a combined surface area of 8,000m^2 (b) A minimum 150 mm thickness compacted subgrade that is smooth and free of stones and proof-rolled to identify and troubleshoot zones that require subgrade improvement.	
4.	Carcass composting area	(a) A compacted clay liner with a minimum thickness of 300 mm constructed in two layers of 150 mm following compaction with an in-situ coefficient of permeability of less than 1 x 10^{-9} m/s. (b) Raised and bunded to prevent any stormwater ingress and runoff exiting the area and sloped to direct any runoff to the sedimentation pond.	
5.	Sedimentation pond	(a) The sedimentation pond will be designed with an operational capacity to capture and hold the peak flow from a 20 year ARI storm event. (b) A minimum 150 mm thickness compacted subgrade that is smooth and free of stones and proof-rolled to identify and troubleshoot zones that require subgrade improvement (c) A compacted clay liner with a minimum thickness of 450 mm	

	Infrastructure	Design and construction requirements	Infrastructure location
		constructed in layers of 150 mm following compaction with an in-situ coefficient of permeability of less than 1.5 x 10^{-9} m/s. (d) Clay material that is well graded, of low permeability and tested for its conformance against the particle size distribution, plasticity index and other characteristics listed in Schedule 3 (e) Controlled overflows are directed to the evaporation pond. (f) Designed to hold at least 6,500m^3, (g) With a freeboard of at least 900mm between the weir crest and the top of embankment	
6.	Evaporation pond	(a) The evaporation pond will be capable capturing and holding the peak flow from a 20 year ARI storm event without overtopping. (b) A minimum 150 mm thickness compacted subgrade that is smooth and free of stones and proof-rolled to identify and troubleshoot zones that require subgrade improvement (c) A compacted clay liner with a minimum thickness of 450 mm constructed in layers of 150 mm following compaction with an in-situ coefficient of permeability of less than 1.5 x 10^{-9} m/s. (d) Clay material that is well graded, of low permeability and tested for its conformance against the particle size distribution, plasticity index and other characteristics listed in Schedule 3 (e) Designed to hold at least 42,548m^3 (f) with a free board of 900 mm between the weir crest and the top of embankment	
7.	Crushing screening plant	(a) In good working order and able to be operated as per the manufactures specifications: and (b) Material to be watered prior to crushing and screening as required to minimise dust emissions.	Within the boundary of the premises as shown in Schedule 1: Premises map

2. The works approval holder must ensure the finished liner thickness for the sedimentation pond and evaporation pond is surveyed to confirm it meets the design specifications and be tested in-situ to ensure it meets the specifications in Schedule 3.

3. 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

Infrastructure	Design and construction / installation requirements	Monitoring well location(s)	Timeframe
At least three groundwater monitoring wells One bore located up hydraulic gradient from the feedlot operational area, One down hydraulic gradient from the evaporation pond and One down hydraulic gradient from the feedlot pens.	(a) Designed and constructed in accordance with ASTM D5092/DM5092M016: Standard practice for design and installation of groundwater monitoring bores. (b) Wells must be constructed with a screened interval within the shallow water table. (c) Soil samples must be collected and logged during the installation of the monitoring wells. (d) A record of the geology encountered during drilling must be described and classified in accordance with the Australian Standard Geotechnical Site Investigations AS 1726. (e) 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. (f) 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. (g) The vertical (top of casing) and horizontal position of each monitoring well must be surveyed and subsequently mapped by a suitably qualified surveyor. (h) 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.	Sited with regard to the Department's *Water Quality Protection Note 30 Groundwater Monitoring Bores* (DoW, 2006) – Recommendations – Siting of monitoring bores; and sited and spaced to enable detection of any potential seepage from specified infrastructure and waste disposal areas	Must be constructed, developed (purged), determined to be operational prior to the commencement of time limited operations

Compliance reporting

4. The works approval holder must within 30 calendar days of an item of infrastructure required by condition 1 being constructed:

(a) undertake an audit of their compliance with the requirements of condition 1 and condition 3; and

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

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

(a) certification by a Qualified Professional Engineer that all ponds 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) a groundwater monitoring well construction report evidencing compliance with the requirements of condition 3; and

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

Time limited operations phase

Commencement and duration

6. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1 where the Environmental Compliance Report as required by conditions 4 and 5 has been submitted by the works approval holder for that item of infrastructure.

7. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 1 (as applicable):

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 6 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

Time limited operations – infrastructure requirements

8. During time limited operations the works approval holder must ensure that the premises infrastructure listed in Table 3 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirements set out in Table 3.

Table 3: Infrastructure requirements during time limited operations

Infrastructure	Operational requirements	Infrastructure location
Feedlot pens and drains	(a) Spills and cleaning runoff from water troughs must be directed to the sedimentation basins. (b) Pens and drains must be cleaned and maintained at the following intervals: (i) Removal of spilt feed / feed residues every two days; (ii) Elimination of wet patches in pens weekly; (iii) Repairs to potholes in pens or drains weekly to ensure no pooling of water; (iv) Pen cleaning at intervals not exceeding 10 weeks; (v) Pen surface inspections after runoff events and repaired as required within 48 hours; and (vi) All drains inspections after runoff events and repaired or maintained as required within 48 hours.	Sheep pens, catch drains and main drains as shown in Schedule 1 Premises Layout
Sedimentation pond	(a) Sedimentation pond must be inspected after each runoff event. (b) Sludge/sediment must be removed from the sedimentation pond when the volume of sludge/sediment reaches 10% of the ponds volume to ensure the ongoing efficacy of the pond in reducing the carryover of sediments to the evaporation pond. (c) The weir must be routinely cleaned and otherwise blockages removed as required. (d) An embankment freeboard of 900mm above the top water level must be maintained. (e) The pond can cater for the peak flow rate from a design storm having an ARI of 1 in 20 years.	Sedimentation pond as shown in Schedule 1 Premises Layout
Evaporation pond	(a) Maintain a minimum freeboard of 900 mm between the crest of the discharge weir and the crest of the evaporation pond embankment. (b) Stormwater runoff from outside the controlled drainage area is prevented from entering the evaporation ponds. (c) Evaporation pond must be able to retain runoff from a 90th percentile wet year without discharging via the weir. (d) Vegetation and floating debris (emergent or otherwise) is prevented from encroaching onto pond surfaces or inner pond embankments	Evaporation pond as shown in Schedule 1 Premises Layout
Carcass and manure stockpile areas	(a) Unless otherwise removed from the premises, collected manures, spilt feed and pond or basin sludge / sediment must only be stored within the carcass and manure stockpile areas. (b) No more than 9,600 m^3 of manure is to be stored on the premises at any one time. (c) Unless otherwise removed from the premises, deceased animals must be composted within the carcass stockpile composting area. (d) Composting of deceased animals is to occur such that: (i) at least 300 mm of carbon source material such as sawdust or straw is placed at the base as a bedding; (ii) a carcass is placed on the bedding and covered with at least 500 mm of manure on all sides; (iii) composting occurs in windrows no more than two levels of deceased animal high (iv) windrows are shaped to an apex at the top to shed rainfall (v) windrows are initially turned after no longer than 4 weeks of carcass decomposition and thereafter no longer than every 3 months until the maturation phase; and (vi) windrows are no greater than 2 m high, 3 m wide and are angled to promote drainage towards the sedimentation basins.	Carcass and Manure Stockpile areas as shown in Schedule 1 Premises Layout

Time limited operations - monitoring

9. The works approval holder must monitor and record the results of ambient groundwater during the construction phase and time limited operations phase for concentrations of the identified parameters in accordance with Table 4.

Table 4: Monitoring of groundwater requirements

Parameter	Monitoring location	Unit	Frequency	Averaging period	Sample method	Analysis method
Standing water level	In accordance with condition 3	m(AHD) m(BGL)	six-monthly commencing within 30 days of groundwater well installation	Spot, in-field measurement	-	-
pH		-				
Electrical conductivity		µS/cm				
Total nitrogen, Ammonia nitrogen		mg/L		Spot sample	AS 6557.1 AS 5667.11	Submitted to and tested by a laboratory with current NATA accreditation for the specified method and parameter being measured
Total phosphorus						
Total dissolved solids						
Biological oxygen demand						
Na, K, Ca, Mg, Cl, SO_4, HCO_3 and As						

10. The works approval holder must monitor and record animal numbers in accordance with the requirements of Table 5.

Table 5: Monitoring and recording of inputs and outputs

Input / output	Parameter	Unit	Frequency
Sheep	(a) Sheep entering the feedlot (b) Sheep exiting the feedlot (c) Sheep in pens (d) Deceased sheep	Individual animal count	Daily total

Time limited operations – reporting

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

12. The works approval holder must ensure the report required by condition 11 includes the following:

(a) A summary of ambient groundwater results obtained during time limited operations under condition 9; and

(b) A summary of monthly maximum sheep numbers obtained during time limited operations under condition 10.

Records and reporting (general)

13. 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 of this works approval; and

(b) complaints received under condition 15 of this works approval.

14. The books specified under condition 13 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.

15. 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.

Definitions

In this works approval, the terms in Table 6 have the meanings defined.

Table 6: Definitions

Term	Definition
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
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V Division 3 of the EP Act.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and/or equipment has been constructed and/or installed in accordance with the works approval.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
premises	the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
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.
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.
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

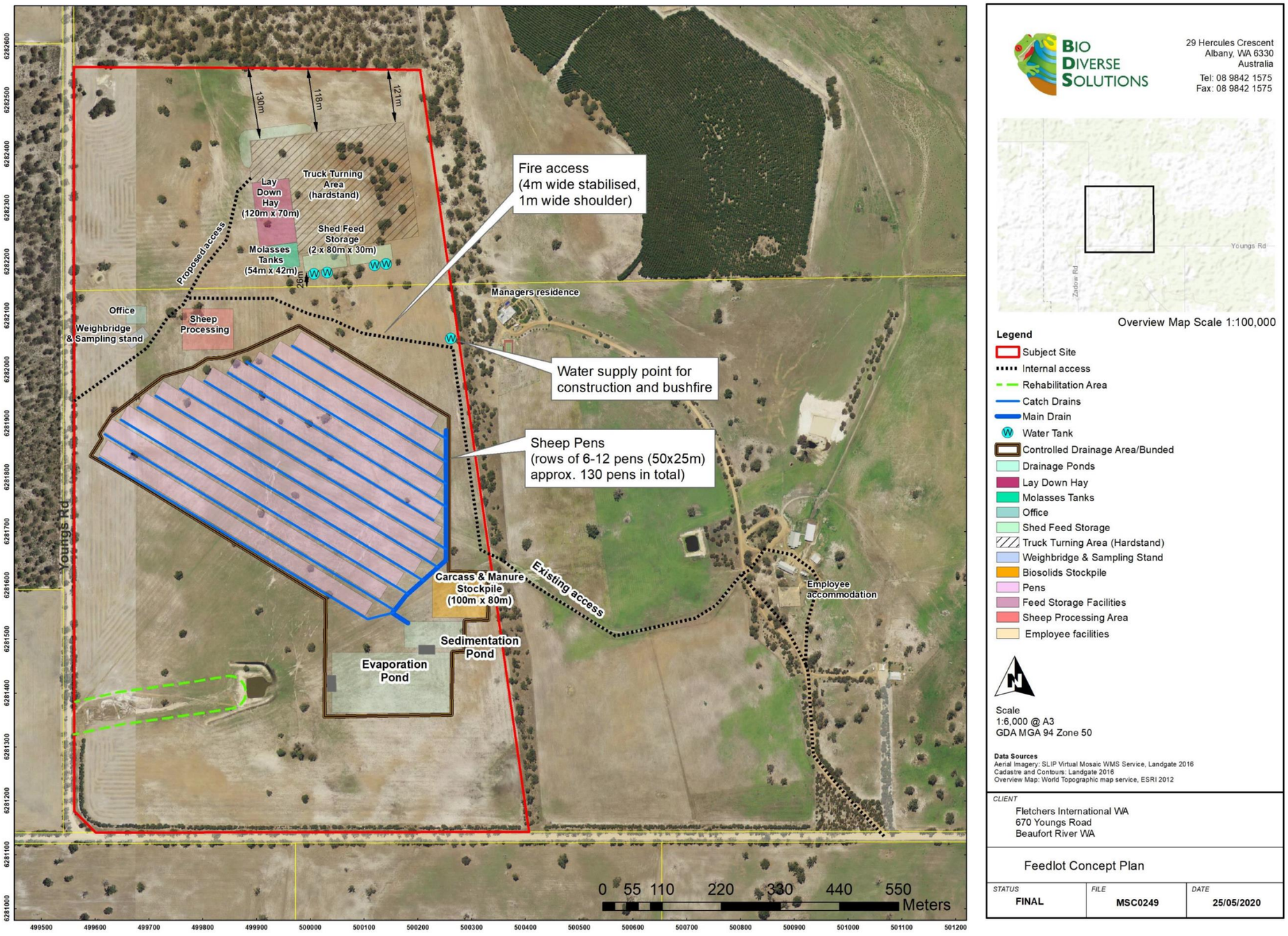
Premises map

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

Figure 1: Map of the boundary of the prescribed premises

Premises layout

The layout of the prescribed premises is shown in the map below



BIO DIVERSE SOLUTIONS

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Overview Map Scale 1:100,000

Legend

- Subject Site
- Internal access
- Rehabilitation Area
- Catch Drains
- Main Drain
- Water Tank
- Controlled Drainage Area/Bunded
- Drainage Ponds
- Lay Down Hay
- Molasses Tanks
- Office
- Shed Feed Storage
- Truck Turning Area (Hardstand)
- Weighbridge & Sampling Stand
- Biosolids Stockpile
- Pens
- Feed Storage Facilities
- Sheep Processing Area
- Employee facilities

Scale
1:6,000 @ A3
GDA MGA 94 Zone 50

Data Sources
Aerial Imagery: SLIP Virtual Mosaic WMS Service, Landgate 2016
Cadastre and Contours: Landgate 2016
Overview Map: World Topographic map service, ESRI 2012

CLIENT
Fletchers International WA
670 Youngs Road
Beaufort River WA

Feedlot Concept Plan

STATUS	FILE	DATE
FINAL	MSC0249	25/05/2020

Schedule 2: Premises boundary

The premises boundary is defined by the coordinates in Table 7.

Table 7: Premises boundary coordinates GDA 2020 Zone 50

Easting	Northing
499600.92583	6281140.79309
499560.89580	6281180.91334
499560.52129	6282568.32020
500215.04350	6282561.35915
500397.06413	6281142.61765

Schedule 3: Clay liner specifications

Infrastructure	Test method	Prequalification testing frequency	Frequency of field compliance testing	Acceptance criteria
Particle size distribution	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			40mm
Atterberg limits	AS 1289 3.1.2 AS 1289 3.2.1 AS 1289 3.3. AS 1289 3.4.1	3 percent material source	3 per pond liner	As provided above
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 AS 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		As provided in Table 8.1 of AS 3798-2007	0% tp +3% of the Standard Optimum Moisture Content (SOMC) or within a Hilf moisture variation of 0% to +3%

Taken from South Australian EPA Guideline: Wastewater lagoon construction Appendix 4A