

PLANNING PERMIT APPLICATION

FOR

ESTABLISHMENT OF A PIG FARM WITH A CAPACITY OF 11,054 Standard Pig Units (SPU) AS 5116 WEANER AND GROWER PIGS IN A FREE-RANGE SYSTEM AND 4064 GROWER PIGS IN SHELTERS, AND AN ASSOCIATED FEEDMILL

OR

A NOMINAL 1000 SOW FREE-RANGE BREEDER FARM GROWING OUT 400 PIGS PER WEEK IN STRAW LINED SHELTERS WITH A CAPACITY OF UP TO 11,054 SPU, AND AN ASSOCIATED FEEDMILL

AT

LAND: CA 79, 80A, Parish of Charam

CHARAM—WOMBELANO ROAD

EDENHOPE 3318

APPLICANT:

The Pastoral Pork Company Pty Ltd

Unit7, 1 Rutland Street

Newtown 3220

CONSULTANT:

Ian Farran

Agribiz Engineering

Unit 4, 10 Carramar Crt.,

Highton 3216

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October 2021

1. PROPOSAL

Establishment of a Piggery with capacity of 11,054 Standard Pig Units as EITHER:

PROPOSAL A: a free range piggery growing out approximately 250 female pigs a week from 4 weeks of age to market weight approximately 21 - 23 weeks age and 250 male pigs a week in straw lined shelters for 8 to 23 weeks of age.

OR

PROPOSAL B: a rotational outdoor breeder piggery, nominally 1000 sows with growing out of progeny 400 pigs per week in straw-based shelters to 21-23 weeks of age.

PROPOSAL A

The development consists of two different growing pig production systems: a rotational free-range system where 260 female weaner pigs each week are placed in a paddock(s) with portable shelters, portable ad lib feeders, water troughs, wallows, and electric fences where they stay for 18 weeks before moving to a load out area to be put on a truck and taken to the abattoir. The 256 male grower pigs are placed in a straw lined shelter with feed and water systems each week for up to 14 weeks and then moved to the load out area for trucking to the abattoir. There will also be an onsite feed mill using about 3000 tonne of local grains to provide 5000 tonne of finished pig feed for the pigs on the farm.

There will be 1.5 hectare paddocks (2 x 0.75ha) with about 260, 4 week old pigs introduced into the paddock and they stay there, until they reach market weight (110 kg liveweight) about 21-23 weeks of age. The pigs have access to feed all the time in the ad-lib feeders and water in the troughs. As the pigs grow additional feeders, troughs and shelters (12 x 6 metres) are placed in the paddock(s) to maintain the required shelter areas per pig and feed and water access required by the industry standards.

Wallows will be provided for the pigs over warmer months of the year, these will consist of a low-pressure water spray over a puddle of water contained in a clay base to provide mud and/or water for the pigs to cool in, in some areas an artificial impermeable plastic liner will be used to retain water and mud. See photo of wallow in photograph following page.

The pigs will be removed from the paddock. The paddock will be rested for two weeks, then tidied up, some shelters removed, remaining shelters moved, re-strawed, set up for weaner pigs in a run and another batch of weaner pigs will use the paddock.

After 38 weeks the paddock(s) will have had 2 batches of 260 pigs; the shelters will be dismantled and set up on a new fenced area of land and the operation repeated. The vacated land will then be sown to forage crops such as cereal hays or grasses which, when harvested for livestock feed offsite, will remove the nutrients that the pigs have deposited on the land. The soil nutrients are monitored through the Australian Pig Industry Quality assurance program.

The straw lined shelters will be standard operations with dimensions of 24 x 10 metres with feeders and drinkers at the west end, the floors will be concrete and the accumulated straw and manure will be removed after each batch and removed off site to related farms to the east at Wombelano where it will be applied to grazing land as a soil improver or placed on the composting pad in windrows where the straw and manure will be pasteurised by composting to temperatures of about 55oC after 4 turns of the material, this material will also be spread on the properties at Wombelano, the composting/storage provides a contingency in the event of wet weather, breakdowns of equipment, staffing and other seasonal events.

There will be up to 9,180 pigs on site at any one time or the equivalent of 11,054 Standard Pig Units.

The proposed piggery will employ around 3-4 full time labour equivalents on site with other off site employment opportunities to provide services for the piggery.



Typical free range grower paddocks showing wallow (water and mud in fore ground for pigs to cool in during summer) water trough, fencing with electric outrigger wire, shelters and feeders in the middle of the picture.



Typical grower pig shelter 24metres x 10 metres with about 250 male pigs placed on straw at age 8 weeks and grown out for 14-16 weeks, feeders are at the far end of the shelter.

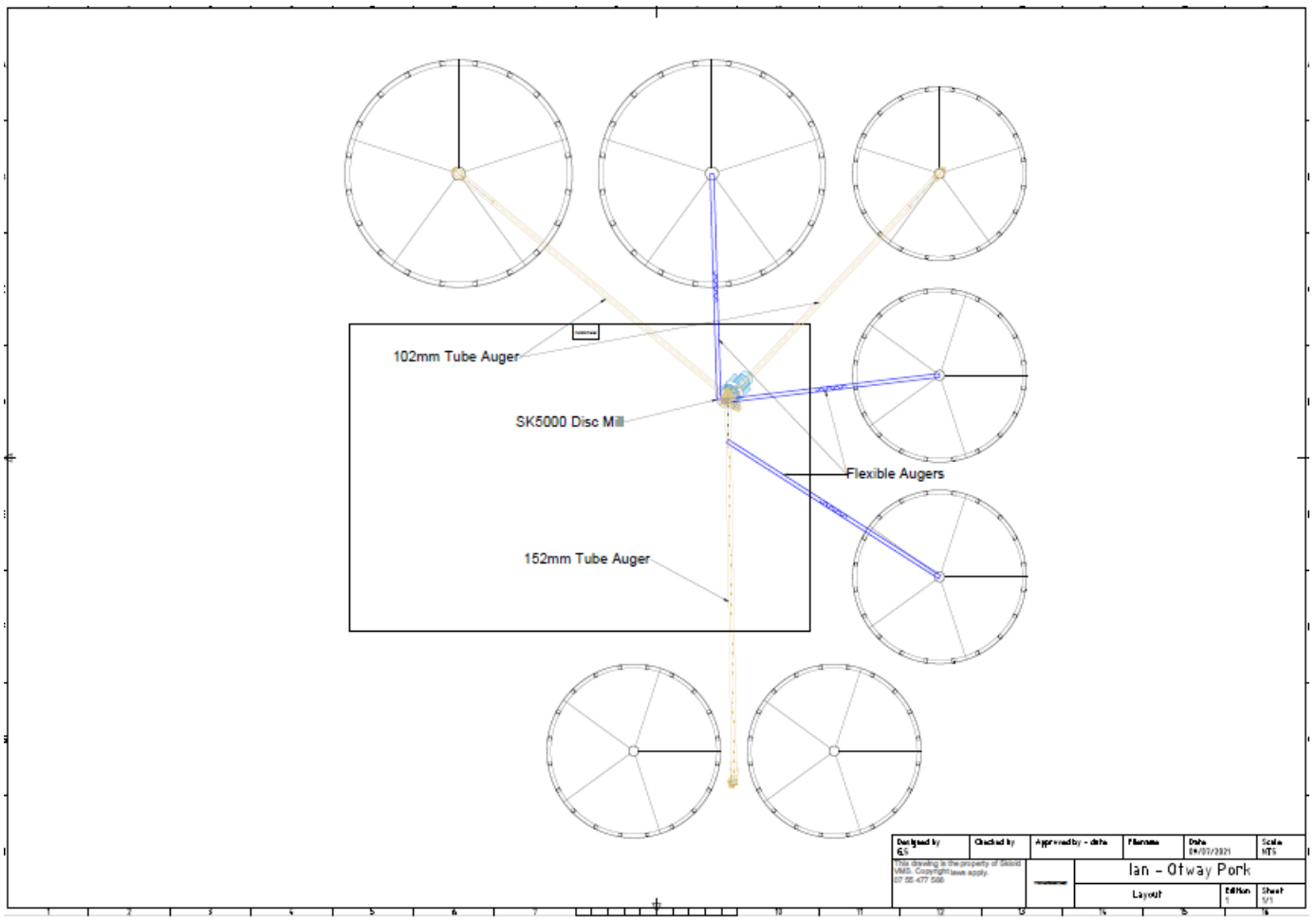
PROPOSAL B

Rotational Outdoor Breeder Piggery and progeny grown out in straw based shelters. (10,054 Standard Pig Units)

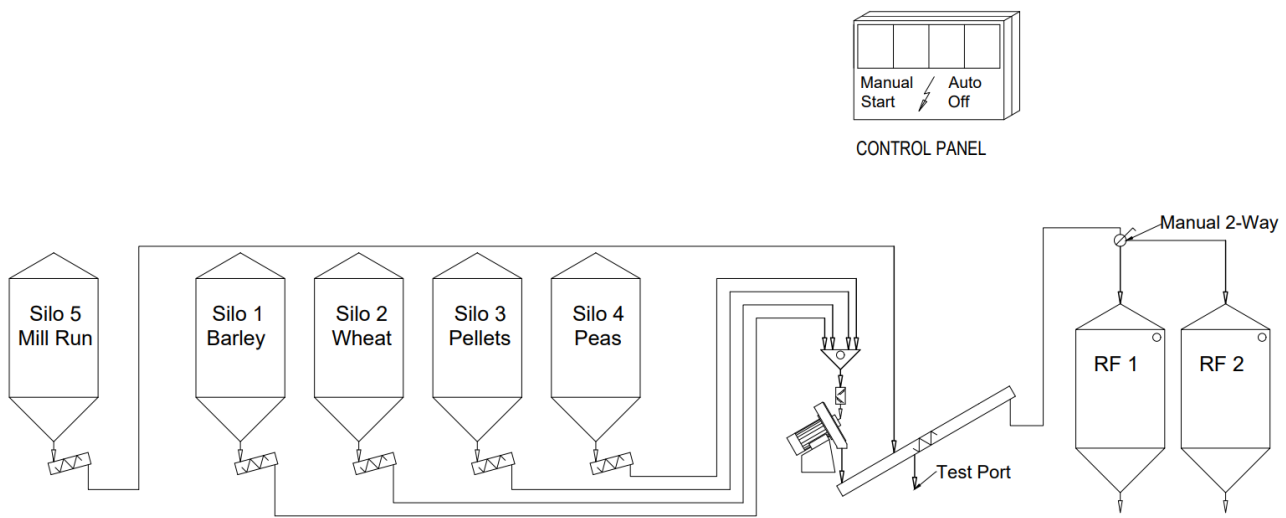
This method of pig breeding is based on establishing a good pasture-based rotation system with sows spending two or three years on the same area of land in the rotation. Following the pigs will be one or two years of cropping or harvested forage crops to use up the nutrients deposited by the pigs. This will be followed by a pasture phase established on the improved nutrient status of the soil. The soil nutrients are monitored through the Australian Pig Industry Quality assurance program.

FEEDMILL

A feed mill shed 12 x 10 metres will house electrical switchboard and a grain processor either a hammer mill with 6 input augers or a disc mill with 6 input augers, these units grind the grains and a pellet which contains all the minor ingredients and mixes them together to form a mash feed. There will be a diesel electric generator external to the shed to provide the electrical power required. The following page shows a concept drawing of the feedmill set up. There are silos for the finished feed or for feed delivered from an external feed mill, from which a tractor and feed cart will distribute feed to the pig feeders.



Typical layout for proposed feed mill.



Conceptual flow chart for proposed feedmill.

2. LAND: CA 79, 80A PARISH OF CHARAM

Location Map:



Property Report from www.land.vic.gov.au on 11 November 2020 08:52 AM

Address: CHARAM-WOMBELANO ROAD EDENHOPE 3318

Lot and Plan Number: This property has 2 parcels. See table below.

Standard Parcel Identifier (SPI): See table below.

Local Government (Council): WEST WIMMERA Council Property Number: 1024785

Directory Reference: VicRoads 38 H9

This property is in a designated bushfire prone area. Special bushfire construction requirements apply. Planning provisions may apply.

Further information about the building control system and building in bushfire prone areas can be found in the Building Commission section of the Victorian Building Authority website www.vba.vic.gov.au

Site Dimensions

All dimensions and areas are approximate. They may not agree with the values shown on a title or plan.



Area: 269745.5 sq. m
(269.7 ha)

Perimeter: 12577 m

For this property:

— Site boundaries

— Road frontages

Dimensions for individual parcels require a separate search, but dimensions for individual units are generally not available.

1 dimension shorter than 30m not displayed

Calculating the area from the dimensions shown may give a different value to the area shown above - which has been calculated using all the dimensions.

For more accurate dimensions get copy of plan at [Title and Property Certificates](#)

Parcel Details

Letter in first column identifies parcel in diagram above

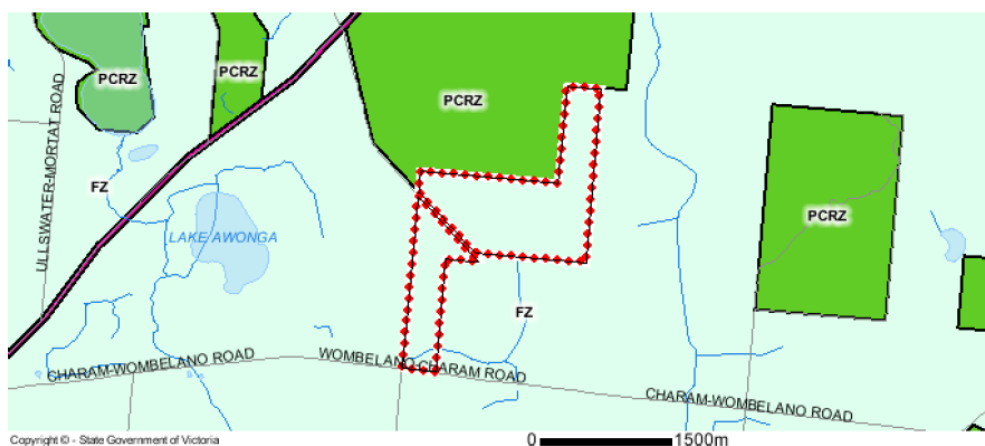
	Lot/Plan or Crown Description	SPI
	PARISH OF CHARAM	
A	Allot. 79	79/PP2371
B	Allot. 80A	80A/PP2371

Planning Zones

Planning Zones

FARMING ZONE (FZ)

SCHEDULE TO THE FARMING ZONE (FZ)



FZ - Farming

PCRZ - Public Conservation & Resource

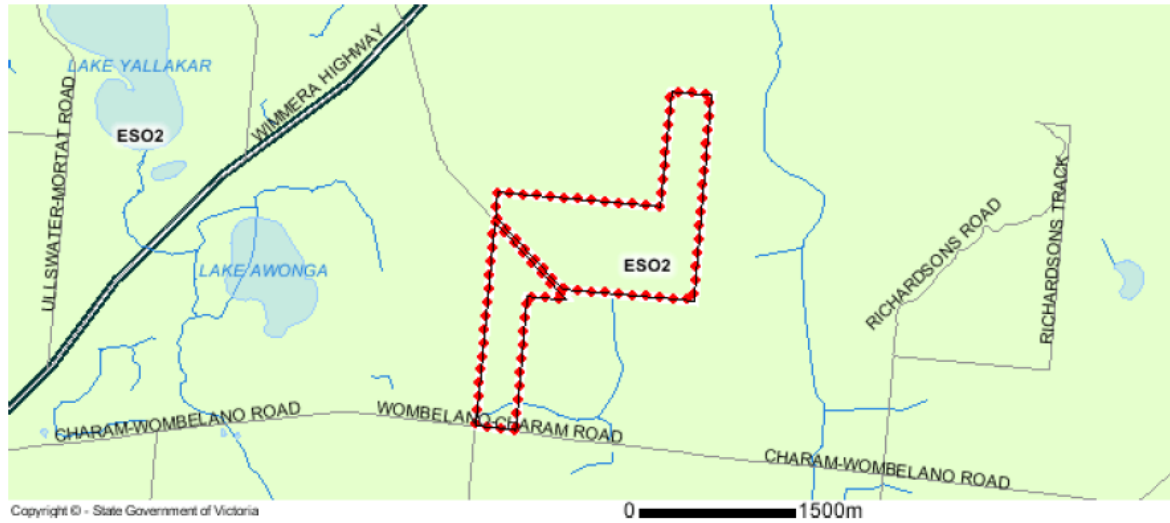
RDZ1 - Road - Category 1


Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

FARMING ZONE FZ

ENVIRONMENTAL SIGNIFICANCE OVERLAY (ESO)

ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 2 (ESO2)



 ESO - Environmental Significance

Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend.

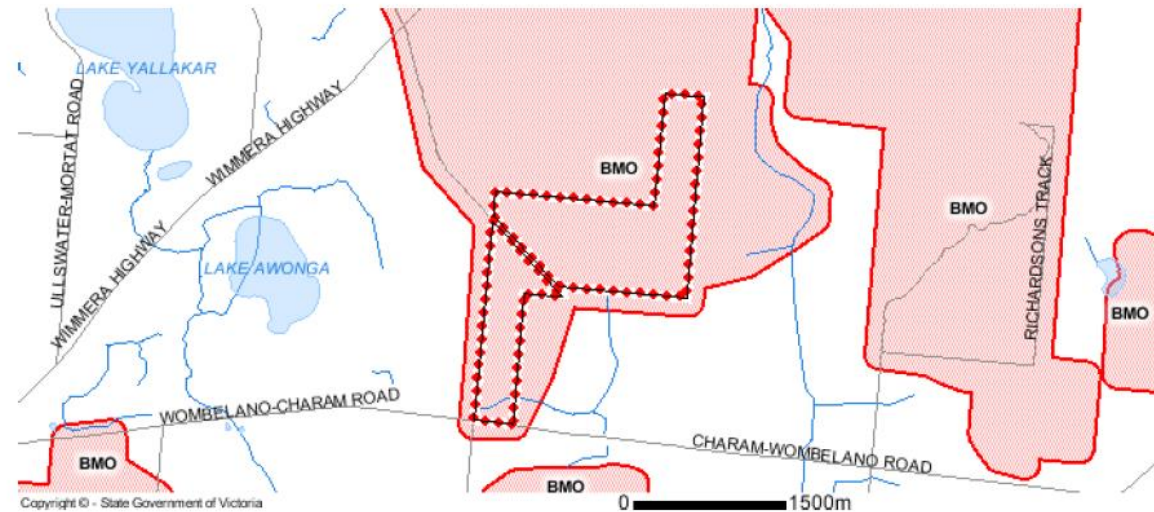
SCHEDULE 2 TO THE ENVIRONMENTAL SIGNIFICANCE OVERLAY

Shown on the planning scheme map as **ESO2**

RED-TAILED BLACK COCKATOO HABITAT AREAS

Planning Overlays

BUSHFIRE MANAGEMENT OVERLAY (BMO)

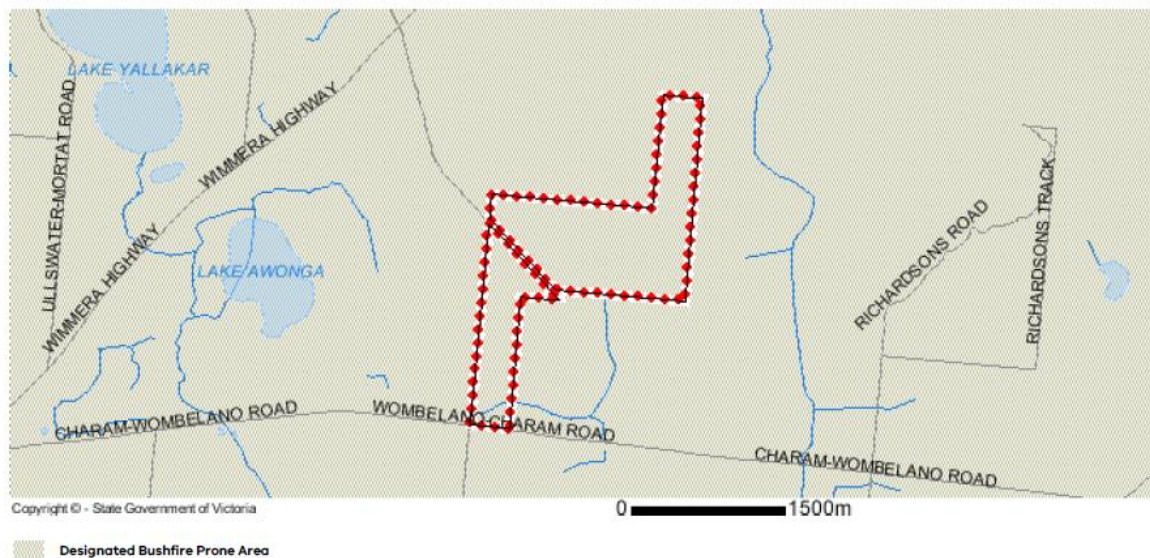


 BMO - Bushfire Management

Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend.

Designated Bushfire Prone Area

This property is in a designated bushfire prone area.
Special bushfire construction requirements apply. Planning provisions may apply.



3. TYPICAL PHOTOGRAPHS OF WHAT A FREE RANGE GROWER PRODUCTION SYSTEM LOOKS LIKE.



A Free Range Grower Farm showing varying numbers of shelters in a paddock as the age of the pigs increases.



Showing the number of huts in a paddock in the final weeks of a paddocks production



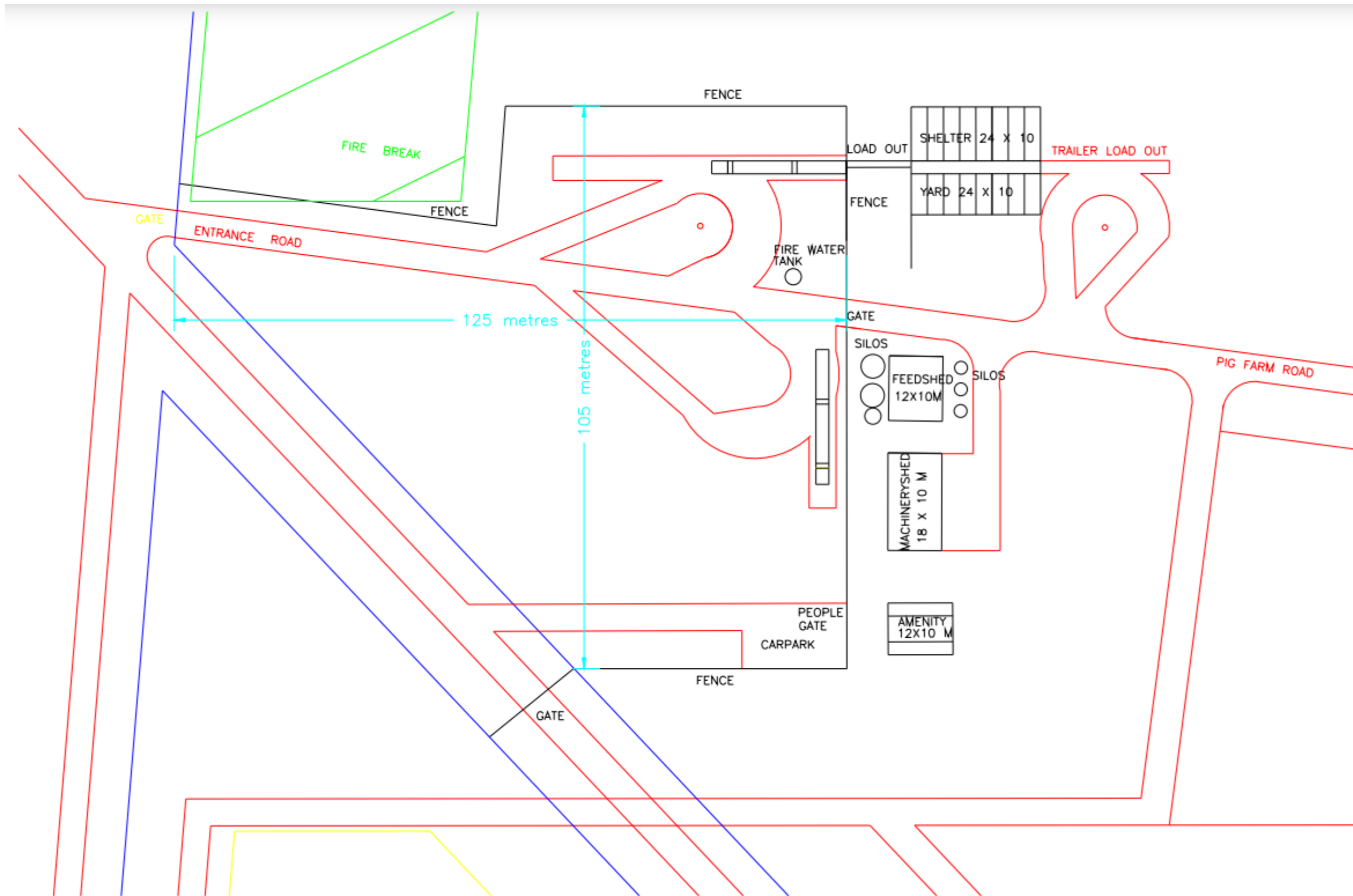
Typical Free Range Grower Shelter 12m x 6m



Typical free range weaner facility for first 4 weeks on site, panels are removed at 8 weeks of age.

Drawing: Location land for pig rotations for the free range growers, the grower shelters centre of property and composting (mortalities, manure and straw) areas. <North





4. PROPOSED BUILDINGS

Permanent Pig Shelters	14 number 24 metres x 10 metres straw on concrete floor
Loadout Pig Shelter	1 number 24 metres x 10 metres on concrete floor
Machinery Shed	1 number 18 metres x 10 metres
Feed Shed	1 number 12 metres x 10 metres on concrete floor
Amenities	1 number 12 metres x 10 metres with facilities and septic tank system
Portable pig shelters	60 number 12metres x 6 metres on straw on ground.

5. PROPOSED PIG MORTALITY AND MANURE AND STRAW COMPOSTING PADS WITH RUNOFF DAMS

5.1 Mortalities Composting

The pigs that die on the farm will be collected daily and placed in bins constructed from straw bales with straw and the straw and manure mixture from the shelters to be statically composted.

A composting pad 25 x 40metres bunded with compacted clay base 300mm permeability $<1 \times 10^{-9}$ metres/sec with a gravel surface and 2% slope to a runoff evaporation dam of 0.75 ML capacity. The mortalities will be composted in accordance with industry best practice as set out in the EMP and Appendix 6.

The cured compost from this process will be spread on the property and quarantined from any livestock for 60 days to avoid any biosecurity issues.

5.2 Straw and manure from shelters pasteurisation process (partial compost)

Some of the straw and manure from the shelters maybe composted when events preclude the spreading of the material direct to land on family properties to the east around Wombelano.

A composting pad 30 x 65metres bunded with compacted clay base 300mm permeability $<1 \times 10^{-9}$ metres/sec with a gravel surface and 2% slope to a runoff evaporation dam of 0.80 ML capacity. The straw and manure from the shelters will be composted in accordance with industry best practice as set out in the EMP.



COMPOSTING PADS

6. SEPARATION DISTANCES TO NEIGHBOURS

An indoor straw-based piggery with the pigs on straw in shelters, of the same capacity (11054 SPU) would require a separation distance from the pigs to a rural house of 1215 metres. The houses to the south east are about 1383 metres and the house to the north (through the forest) is about 2300 metres. Outdoor (freerange) piggeries generate considerably less odour (barely detectable) than straw based piggeries or the more intensive indoor piggery where the pigs are on concrete floors and the manure is collected in channels and treated in anaerobic lagoons.

Table 1 Separation distances to neighbours

Buffer Section Guidelines	Approved Measure (metres)	Actual Buffer (metres)	Notes
Appendix A National Environment Guidelines Indoor Piggeries (2018) See Appendix 2 this report			Measured from proposed piggery property boundary to neighbouring house or township zone or Rural residential zone
Town Sec 8.2	750	11900	Edenhope town ship boundary
Town	2638	11900	Edenhope township
Rural residential area Sec 8.2	500	13400	Edenhope outskirts
Rural residential area	1583	13400	Edenhope outskirts
Rural dwelling	1215	2300	House to North
Rural dwelling	1215	4750	House to the north east
Rural dwelling	1215	5900	House to the east
Rural dwelling	1215	1385	House to the south east
Rural dwelling	1215	2527	House to the south west
Rural dwelling	1215	3000	House to the west
Rural dwelling	1215	2627	House to the north west
Neighbouring piggery	3000	3130	Piggery to west south west

7. **ROAD ACCESS: THE PIGGERY WILL BE ACCESSED OFF THE WIMMERA HIGHWAY AT PAHLS ROAD (PREVIOUSLY USED BY LOGGING TRUCKS). THE REQUIRED INTERSECTION TREATMENT FOR THE LOW VEHICLE MOVEMENTS IS CONSIDERED AN UNCHANNELISED AND UNFLARED INTERSECTIONS**

(This type of intersection is normally adequate where minor roads meet and where a major road intersects with a minor road and does not require turning lanes or traffic islands)

Table 2 Vehicle Movements

Truck Movements/week	Frequency	Notes
Pigs in	1 semi-trailer per week	From nearby Glen View Plains piggery
Pigs out	1 semi-trailer per week 1 B Double per week	To abattoir at Laverton (Melbourne) or Murray Bridge (South Australia)
Feed in pellets, grains or meals	3 B Double per week or 6 semi-trailers per week	4680 tonne per year from St Arnaud, local grain growers
Straw in Free Range Shelters	19 semi-trailers harvest time 38 semi-trailers	375 tonne per year 780 tonne per year
Employees/ service vehicles	Up to 5 vehicles/day	7 days per week
Cereal Hay or Forage crops out	Up to 85 semis harvest time	Up to 1800 tonne per year
Straw and manure from Shelters out (some may be pasteurised compost)	4 Tippers per week about 68 tonne of wet manure and straw	To family properties to the east at Wombelano as soil improver



Intersection of Pahls Road to the right to the piggery and the Wimmera Highway looking north east.



Intersection of Pahls Road to the left and the Wimmera Highway looking south west, with Hauslers Road going north on the right.

Line of sight along the Wimmera Highway

Looking north east from intersection gradient change approx. 360 metres, corner 850 metres

Looking south west from intersection gradient change approx. 400 metres, corner 830 metres

Line of site along Pahls Road to the north, gradient change approx. 280 metres from intersection, corner 1353 metres from intersection, there is some tree incursion along the length of the road line of sight that will require management.

These distances are adequate to provide for the safe intersection sight distance for trucks and cars on the Wimmera Highway and for the approach sight distance along Pahls Road coming to the Highway Intersection.

8. NEIGHBOUR CONSULTATION

In June the neighbouring land owners and others nearby were visited and/or given a summary of the piggery proposal as shown as Attachment 3, there was general acceptance of the proposal and some clarification provided by neighbours around the water courses at the southern end of the property. Since this neighbour consultation the proposal has been changed to having only 250 grower pigs per week as free range and 250 grower pigs per week in shelters, as detailed in this final proposal.

9. CULTURAL HERITAGE MANAGEMENT PLAN

'Areas of cultural heritage sensitivity' are defined in the Aboriginal Heritage Regulations 2018 (the Regulations) and relate to landforms and soil types where Aboriginal places are more likely to be located. These include land within 200 metres of named waterways and land within 50 metres of registered Aboriginal cultural heritage places.

The defined areas of 'cultural heritage sensitivity' are shown on the [online mapping tool](#). While Aboriginal Victoria maps these areas as accurately as possible, this mapping is indicative only and may not represent the true geographic extent as defined in the Regulations.

<https://achris.vic.gov.au/#/onlinemap> (accessed June 2021)

See Attachment 1 showing the cultural heritage sensitive areas located external to the property where the piggery will be established. There are no identified areas on the subject land which could trigger a need for a cultural heritage management plan.

10. SCHEDULE 2 TO THE ENVIRONMENTAL SIGNIFICANCE OVERLAY

The property is covered by an Environmental Significance Overlay shown as ESO2 on the planning scheme map. This is about protecting the endangered Red-Tailed Black Cockatoo habitat areas in the Shire, through protection of live and dead hollow bearing trees and other suitable trees within the birds known nesting area. To protect the feeding habitat of the Red-tailed black cockatoo through the retention of Buloke and Stringybark trees.

The property was previously planted to Pine Trees most of which have been harvested, most of the remaining pine trees on the eastern side of Crown Allotment 79 will be harvested over the next 4 years to make way for the pig rotations to improve the soil fertility of the soil which has been depleted by the pine trees.

The proposed piggery development will not impact on the habitat of the Red-tailed Black cockatoo habitat as set out in schedule 2 of the Environmental Significant Overlay of the West Wimmera Shire Planning Scheme.

11. BUSHFIRE MANAGEMENT OVERLAY

The property adjoins the Amold State Forest on the northern boundary and the northern parts of the western boundary, the property is covered by the Bushfire Management Overlay which requires the proposed development to address the requirements of the Planning Scheme Clause 53.02 Bushfire Planning, this is set out in the following Table:

Clause 53.02-4 24/01/2020 VC160 Bushfire protection objectives

Objective	Approved Measure	Proposal
Clause 53.02-4.1 Landscape, siting and design objectives		
Development is appropriate having regard to the nature of the bushfire risk arising from the surrounding landscape.	AM2.1 The bushfire risk to the development from the landscape beyond the site can be mitigated to an acceptable level.	The landscape to the north of the property is known as Arnolds State Forest which is about 3.2 km east to west and 2.2 km north to south. To the north of Arnolds Forest is the Wimmera Highway. The landscape to the west of the property is grazing land with swamps and lakes. Approaching fire from these areas can be mitigated by the annual establishment of fire breaks (ploughed or grader blade) along the property boundaries on the north and west adjoining the State Forest.
Development is sited to minimise the risk from bushfire.	AM 2.2 A building is sited to ensure the site best achieves the following: *The maximum separation distance between the building and the bushfire hazard. *The building is in close proximity to a public road. *Access can be provided to the building for emergency service vehicles.	<p>Amenity building, machinery shed and feedmill shed will have a defendable space of 50metres to the north and west (Forest) and 25 metres to the south and east, which will be forage crop (green and/or harvested) or pig paddocks.</p> <p>Table 2 clause 53.02-5 Pig shelters will have a defendable space of 70 metres to the north and west and 20 metres to the east and south. The 70 metres will consist of 10 metres firebreak, 50 metres heavily grazed (Cut) land and 10 metres gravel road along shelters.</p> <p>Amenity building, machinery shed and feedmill shed are located near the property entrance which can be accessed by public roads from the north west or from the south. Pig shelters are located near the same property entrance, but further into wards the centre of the property to manage the fire risk.</p> <p>All buildings are adjacent to all weather gravel roads and adequate fire truck turning circles or through roads.</p>

Development is sited to provide safe access for vehicles, including emergency vehicles. Building design minimises vulnerability to bushfire attack.	AM 2.3 A building is designed to be responsive to the landscape risk and reduce the impact of bushfire on the building.	Buildings occupied by staff will be constructed to Building Assessment Level 12.5 (BAL 12.5) using steel cladding to minimise the effect ember attack. This includes sealing roofs, sealing around doors and windows and screening windows.
53.02-4.2 Defendable space and construction objective Defendable space and building construction mitigate the effect of flame contact, radiant heat and embers on buildings		
A building used for a dwelling (including an extension or alteration to a dwelling), a dependent person's unit, industry, office or retail premises is provided with defendable space in accordance with:	AM3.1 Table 2 Columns A, B or C and Table 6 to Clause 53.02-5 wholly within the title boundaries of the land; The building is constructed to the bushfire attack level that corresponds to the defendable space provided in accordance with Table 2 to Clause 53.02-5	Buildings occupied by staff will be constructed to Building Assessment Level 12.5 (BAL 12.5) using steel cladding to minimise the effect ember attack.
53.02-4.3 Water supply and access objectives		
A static water supply is provided to assist in protecting property.	AM 4.1 A static water supply for fire fighting and property protection purposes specified in Table 4 to Clause 53.02-5. The water supply may be in the same tank as other water supplies provided that a separate outlet is reserved for fire fighting water supplies.	A 10,000 litre steel water fire tank with CFA approved fire connections will be located at the main entrance to the property with free access by heavy vehicle gravel roads.
Vehicle access is designed and constructed to enhance safety in the event of a bushfire.	Vehicle access that is designed and constructed as specified in Table 5 to Clause 53.02-5.	Clause 53.02-5 Table 5 Vehicle access design and construction can be complied with for an entrance road greater than 200 metres as shown on the site drawing. <ul style="list-style-type: none"> All weather road for B double trucks 60 tonnes capacity width 5 metres, clear of encroachments 0.5metres each side and 4 metres overhead, curves 15 metre radius, grades no more than + or - 2°, turning circles for all vehicles turning radius greater than 8 metres, passing bays every 200 metres of 6 metre trafficable width and 20 metres length.
	Table 6 Vegetation management requirement	Defendable space is provided and is managed in accordance with the following: <ul style="list-style-type: none"> Grass must be short cropped and

		<p>maintained during the declared fire danger period</p> <ul style="list-style-type: none">• All leaves and vegetation debris must be removed at regular intervals during the declared fire danger period• No trees or shrubs within 10 metres of a building, flammable objects must not be located close to vulnerable parts of any buildings
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12. COMPLIANCE PLANNING PRACTICE NOTE 86 APPLYING FOR A PLANNING PERMIT FOR A PIG FARM

The assessment of this planning permit application against Planning Practice Note 86 Applying for a planning permit for a pig farm (2018) Appendix 1 is provided in the following pages:

Appendix 1 of Planning Practice Note 86 (September 2018)

Amenity/ Environmental Consideration	National Environmental Guidelines Piggeries¹ (for all systems other than rotational outdoors)	National Environmental Guidelines Rotational Outdoor Piggeries	Manure Guidelines (for all systems)
Site Selection	Section 5	Section 7	
Pig Housing	Sections 8.1 & 8.2	Section 9 - 13	Section 6.2
Fixed buffer distances	Section 6.1	Section 8.1	
Separation Distances	Appendix A	Section 8	
Effluent Management		Section 9,10 & 11	Section 10-12*
Environmental risk assessment	Section 15	Section 14	
Environmental management plan	Section 17		

1 National Environmental Guidelines for Indoor Piggeries (NEGIP) May 2018

*Assumed this should be Sections 9 – 11 for free range grower pigs on the rotational outdoor production system and Sections 8, 10, 11 for the grower pigs in shelters (discussed with Mick O’Keefe Coordinator – Panel of Animal Industries Experts Biosecurity and Agriculture Services | Agriculture Victoria part of DELWP)

12.1 FREE RANGE GROWER PIGS COMPLIANCE NATIONAL ENVIRONMENTAL GUIDELINES ROTATIONAL OUTDOOR PIGGERIES (REVISED 2013) AND PIGGERY MANURE AND EFFLUENT MANAGEMENT AND REUSE GUIDELINES (2015)

Criteria	Approved Measure	Proposal																																																																																																																																
7.1 Planning Restrictions:		Land zoned Farming Section 2 Permit required Animal Production Pig Farm Planning Practice Note 86 (September 2018). Environmental Significance Overlay ESO2 Red-Tailed Black Cockatoo Habitat, Bush Fire Management Overlay																																																																																																																																
7.3 Road Access		Existing access road, off Wimmera Highway which was used by log trucks previously will be used with internal road access to rotational areas part of biosecurity program																																																																																																																																
7.4 Water		Underground water is available in a managed system, current bore has a pumping capacity 1.25 litres/sec and 1200 EC units or about 700 mg/litre salt which is very acceptable for pigs. Water requirement is about 25-35 ML per year which will be a licenced commercial bore with a water allocation, to be developed on the grant of planning permit.																																																																																																																																
7.5 Climate	Mean maximum summer temperature <28oC Annual rainfall less than 750mm Map page 18 National Environmental Guidelines Rotational Outdoor Piggeries	This proposal is just north of identified area for rotational outdoor piggeries on Map page 18 guidelines. Mean maximum monthly temperature 29.7oC Jan rest around 28oc or less Annual rainfall 500mm maximum ever 714 mm																																																																																																																																
<table border="1"> <thead> <tr> <th colspan="16">Maximum temperature</th> </tr> <tr> <th></th> <th>Jan</th> <th>Feb</th> <th>Mar</th> <th>Apr</th> <th>May</th> <th>Jun</th> <th>Jul</th> <th>Aug</th> <th>Sep</th> <th>Oct</th> <th>Nov</th> <th>Dec</th> <th>Annual</th> <th>Years</th> <th></th> </tr> </thead> <tbody> <tr> <td>Mean maximum temperature (°C)</td> <td>29.7</td> <td>28.6</td> <td>26.0</td> <td>21.3</td> <td>16.7</td> <td>14.1</td> <td>13.4</td> <td>14.6</td> <td>17.0</td> <td>20.7</td> <td>24.5</td> <td>26.9</td> <td>21.1</td> <td>16</td> <td>2005-2020</td> </tr> <tr> <td>Highest temperature (°C)</td> <td>45.0</td> <td>44.9</td> <td>41.2</td> <td>36.2</td> <td>27.8</td> <td>23.5</td> <td>20.2</td> <td>25.2</td> <td>28.3</td> <td>35.9</td> <td>39.4</td> <td>46.5</td> <td>46.5</td> <td>16</td> <td>2005-2020</td> </tr> <tr> <th colspan="16">Statistics</th> </tr> <tr> <th colspan="16">Rainfall</th> </tr> <tr> <td>Mean rainfall (mm)</td> <td>31.9</td> <td>18.1</td> <td>24.3</td> <td>33.4</td> <td>47.8</td> <td>47.8</td> <td>65.4</td> <td>67.5</td> <td>50.3</td> <td>36.3</td> <td>27.2</td> <td>37.8</td> <td>498.9</td> <td>14</td> <td>2005-2021</td> </tr> <tr> <td>Highest rainfall (mm)</td> <td>110.2</td> <td>66.2</td> <td>69.0</td> <td>78.4</td> <td>86.8</td> <td>107.2</td> <td>115.4</td> <td>126.6</td> <td>131.2</td> <td>89.4</td> <td>56.6</td> <td>154.2</td> <td>714.8</td> <td>16</td> <td>2005-2021</td> </tr> </tbody> </table>			Maximum temperature																	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Years		Mean maximum temperature (°C)	29.7	28.6	26.0	21.3	16.7	14.1	13.4	14.6	17.0	20.7	24.5	26.9	21.1	16	2005-2020	Highest temperature (°C)	45.0	44.9	41.2	36.2	27.8	23.5	20.2	25.2	28.3	35.9	39.4	46.5	46.5	16	2005-2020	Statistics																Rainfall																Mean rainfall (mm)	31.9	18.1	24.3	33.4	47.8	47.8	65.4	67.5	50.3	36.3	27.2	37.8	498.9	14	2005-2021	Highest rainfall (mm)	110.2	66.2	69.0	78.4	86.8	107.2	115.4	126.6	131.2	89.4	56.6	154.2	714.8	16	2005-2021
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7.6.1 Topography	undulating sites, land features to obscure line of sight	Site is on slightly undulating ground, with slopes of around 1 % no sensitive locations in line of site of piggery, some remaining trees to screen off piggery operations
7.6.2 Soils	soils of low erosivity and reasonable water holding capacity	Soils can be described as sandy , with some sandy loam areas, there are clays at depth about 2 metres and then there is about an 18 metres of clay strata, sands are permeable, acid pH, nitrogen, phosphorus and potassium deficient soils following the pine plantation harvest. See Attachment 2 for soil tests.
7.6.4 Flora and Fauna	Avoid remnant vegetation, wildlife habitats and wetlands	Proposed rotational land area has all been under a commercial pine plantation which was harvested in about 2019.
7.7 Community Amenity	Rotational outdoor piggeries produce low levels of odour, dust and noise. Provide screening of piggery from view	Tree plantations will be established along the Charam-Wombelano Road boundary fences. The other boundaries are to State Forests or rolling farm land. Buffer distances all exceeded section 8.2
7.8 Cultural Heritage	Aboriginal Heritage Regulations 2018 (the Regulations)	No identified cultural heritage issues, see attachment 1 for the defined areas of 'cultural heritage sensitivity' as shown on the online mapping tool . The land has been used for a commercial pine plantation for the past 20 years.
7.9 Future Expansion Plans		None planned
9. Pig Housing Pig Accommodation and Paddock Facilities		
9.1 Rotation Regime	Pig phase 2 years	The pig phase is 0.62 years with 3-4 years cropping/hay production for nutrient removal.
9.2 Stocking Density		166 grower pigs per hectare (Up to 20 sows per hectare should proposal B be adopted)
9.3 Paddock Layouts	Rotational Outdoor Piggeries Guidelines Standard	Rotational Outdoor Piggery layouts using rectangular and radial designs as required.
Criteria	Approved Measure	Proposal
10 Nutrient Budgeting		

10.1 Estimating Nutrients and Salt added to Paddocks		A weeks production of weaner & then grower on a paddock of 1.5 hectares twice over 36 weeks will excrete about 1125kg nitrogen/ha, 359kg phosphorus/ha, 296kg Potassium/ha and 245kg salt (sodium chloride)/ha See Appendix 3.
11. Promoting more even Distribution of Manure Nutrients	Move shelters, shade, feeding points every 6 months for breeders and 3 months for growers	Growers at the end of each initial batch of growers in the paddock the shelters and feeders will be relocated and at the end of the second batch the paddock will be vacated completely. (Breeder System Farrowing huts will be moved every 4-5 weeks, wallows moved after 6 months, feeding points varied regularly. Dry sow huts moved 6 monthly.)
12 Land and Water protection Measures		
12.1 Preventing Nutrient Loss	Land with flat to gentle slope	Land slopes are around 1%, tree plantations will reduce wind erosion potential and grass strips along free range paddock fence lines will provide surface soil wind reduction.
12.2 Weed Control	Regularly monitor and control weeds	Weeds along electric fences are sprayed as required.
12.3 Pests and Vermin Control	Strategic baiting for foxes	Baiting for foxes and wild dogs will be carried out, feral pig populations will be monitored in the region to ensure strict biosecurity protection.
12.4 Paddock Rehabilitation	Pig land remediated for cropping	After the pigs have moved off the rotation paddocks they will be levelled off with a blade each year and sown to a forage crop to be harvested and remove the nutrients from the property.

Criteria	Approved measure	Proposal
<p>13.1 Mortalities Composting</p>	<p>Composting dead grower pigs OR dead sows, boars and piglets with straw and manure, on impermeable surface.</p>	<p>A composting pad 25 x 40 metres bunded with compacted clay base 300mm permeability $<1 \times 10^{-9}$ metres/sec with a gravel surface and 2% slope to a runoff evaporation dam of 0.75 ML capacity. The mortalities will be composted in accordance with industry best practice as set out in the EMP and Appendix 6</p>

Piggery Manure and Effluent Management and Reuse Guidelines 2015		
Criteria	Approved measure	Proposal
6.2 Effluent Collection Systems		Not relevant for the free range rotation system (grower or breeder) as manure is randomly deposited onto land as per any land based animal production system.
8. Fixed Buffer Distances		
8.1 Buffer Distances from Surface Water and Groundwater	see Table 3 below	see Table 3 below
8.2 Separation distances for Community Amenity	see Table 3 below	see Table 3 below

Table 3 Buffer Distances

Buffer Section Guidelines	Approved Measure (metres)	Actual Buffer (metres)	Notes
Major Water Supply Sec 8.1	800	2	Not Applicable
Water Course Sec 8.1	30	50	Water course south end of property and swamps on the property
Bore Sec 8.1	20	20	
Town Sec 8.2	750	3772	Edenhope town ship boundary
Town (Appendix A NEGIP (2018)) see Appendix 2 this report	2638	11900	Edenhope township
Rural residential area Sec 8.2	500	13400	Edenhope outskirts
Rural dwelling Sec 8.2	250	1385	Off the property house to the south east
Rural dwelling Appendix A NEGIP (2018) see Appendix 2 this report	1215	1385 2300	House to the south east House to the north

Criteria	Approved Measure	Proposal
9.1 Rotation Regime	None provided	Pigs are on the land for about 36 weeks every 3-4 years.
9.2 Stocking Density	Weaner pigs outside run 1.5 times shelter area (APIQ) None provided for grower pigs Dry Sows 20-25 Sows /ha Lactating Sows 9-14 Sows/ha Feeding facilities are included in this allowance Model Code of Practice for the Welfare of Animals Pigs 3 rd edition.PISC Report 92 2008	Weaner pigs 1.2 sqm/weaner Grower pigs 60sq m /grower Dry sows 400sqm/sow Lactating 710sqm/sow
9.3 Paddock Layouts	Rectangular paddocks or Radial paddocks	Rectangular Paddocks approx. 85 m x 85m square paddocks or rectangular paddocks area 7500 sqmetres
9.4 Paddock Facilities	Electric fencing Shelters space and bedding in accordance with Model code of practice for welfare of animals pigs (2008) Weaner 30kg live 0.38 sqm/pig Grower 105kg live 0.9sqm/pig Sows 1.2-1.5sqm Lactating sows 4-6sqm Boars 2sqmBreeder pigs shelter moved every 6 months, Grower pigs shelter moved every 3 months Feeding Self feeders to be moved every 3 months Water Troughs to be movable Wallows be provided import clay base for lighter soil types	Electric fencing will be used for paddock divisions and there will be pig proof property boundary fences Weaners 0.55sqm/pig Growers 1.15sqm/pig Huts moved every 3 months for growing pigs Self feeders will be used which will be moved between batches of pigs Movable water troughs will be used. Clay or an artificial base wil be provided for the wallows given the light soils
10 Nutrient Budgeting	Difference between N,P,K applied and the N,P,K, removed from the land	See Appendix 3
	Estimate Nutrients and salt added to paddocks	See Appendix 3
	Estimate Nutrients removed by the Crop or Forage phase	See Appendix 3
	Nutrient Budget	See Appendix 3

11 Promoting Even Distribution of Manure Nutrients	Relocate shelters, shade, feeding points, waterers, wallows (water cooling) within paddocks, 6 monthly for breeding herd paddocks and 3 monthly for grower paddocks	Facilities will be moved every 3 months for weaner grower production system to distribute nutrients across paddocks or 6 monthly for breeders

10.3 Monitoring for rotational Outdoor Piggeries

Monitoring of the system will consist of paddock soil testing as for fertilizer recommendations on the surface soil and at 600mm for environmental parameters as a minimum on a yearly basis for paddocks that are receiving wastes from the breeding herd, analysis to include available and total phosphorus, total nitrogen and nitrate. In accordance with the Australian Pig Industry Quality Assurance (APIQ) program of soil testing for extensive piggeries which are externally audited each year.

Soil testing at 600 mm depth (ie below root zone) from 4 sites receiving wastes at the end of the rotation, analysis to include nitrate and total phosphorus.

This is set out to comply with APIQ with the Environment Management Plan for the operation which forms part of the application.

Section 11 Worker Safety

None of the issues listed in this section are relevant to this Outdoor Rotational Piggery, the piggery operator will have appropriate legislated Workcover insurance for employees as well as employment practices.

Section 14 Environmental Risk Assessment

The proforma risk assessment and the combined risk rating at the end of the risk assessment shows scores of 1-4 for the different combined rating which are considered low risk and do not trigger any action, this is supported by the regular APIQ audits that will be carried out. The mortalities management shows a combined risk rating of 4, this will be reduced by having the base of the compost area which is compacted to a level typically 95% for these soils for a thickness off 300mm to give a permeability of less than 1×10^{-9} metres/sec. The distribution of manure nutrients has a high rating and this will be monitored in the initial years and waterers, feeders, shelters can be moved more frequently than 3 months to reduce the impact of this issue.

The Rotational Outdoor Piggeries guidelines quote 'The environmental risk is a subjective self assessment tool only, and should never be used as a regulatory instrument.'

This planning permit application as submitted conforms with the requirements of Appendix 1 Planning Practice Note 86 (as modified) as required for Outdoor Rotational Piggeries.

12.2 FREE RANGE GROWER PIGS COMPLIANCE NATIONAL ENVIRONMENTAL GUIDELINES FOR INDOOR PIGGERIES (2018) AND PIGGERY MANURE AND EFFLUENT MANAGEMENT AND REUSE GUIDELINES (2015)

Criteria	Approved Measure	Proposal
National Environmental Guidelines for Indoor Piggeries (2018)		
5. Site Selection		
5.1 Planning Restrictions	West Wimmera Planning Scheme	Land zoned FZ Farming, Planning Permit required for a piggery, ESO2 for protection of Cockatoo Habitat and Bushfire Management Overlay
5.2 Available Land Area	Adequate area to contain the piggery complex, don't have to own land for the separation distance to sensitive land uses	Land area 269 hectares, grower pigs in shelters located centre of property to maximise separation distances to sensitive receptors and bush fire management
5.2.1 Reliable Water Supply	Require 8 L/SPU/Day plus 10-50% for wastage	5264 SPU's in shelters require 23ML per year, water will be sourced from bore in the centre of property with a Commercial Water Licence of at least 50ML for total development.
5.2.2 Suitable Road Access	Suitable standard Good visibility at intersections Minimise road dust at neighbours	Pahls Road from the north west of the property was used by the logging trucks to remove the harvested timber from the property and will be used as the piggery access, the intersection with the Wimmera Highway provides good line of sight in all directions, the road dust from Pahls Road will be minimised by the adjacent tree coverage of the road reserve
5.2.3 Access to Power		The piggery does not need to be connected to an external electricity supply, solar installations can run electric fences and amenity and a

		generator and solar can power the proposed feed mill.
5.2.4 Access to Inputs Labour and Markets		The Pastoral Pork Company Pty Ltd is already the largest commercial employer in the Shire and if there is no local labour interest organises for migrant employees. Piggery is located to use abattoirs in Melbourne or Murray Bridge and feed mills in St Arnaud and Murray Bridge
5.2.5 Climate		The rainfall is adequate for the use of nutrients generated by the piggery in forage crops and the temperature is ok for growing pigs in shelters see data presented page 26.
5.3 Natural resources		
5.3.1 Topography	Aesthetical acceptance with topo screening Odour dispersion Flat land gravity flow of effluent Reuse area gentle slope	Shelter piggery is located in centre of property well back from the Charam – Wombelano Road to the south and state forest to the north and Wimmera Highway. No reuse area on this site
5.3.2 Soils	Existence of clay floor shelter floors, composting pads, runoff dams Suitability of soil type for reuse area	Shelters will have concrete floors, there is subsoil clay to found runoff dams in and construct impermeable pads
5.3.3.1 Surface Water Protection	Separation of piggery complex and reuse areas from watercourses Separate clean runoff from contaminated runoff Floor levels above natural surface Bunding around composting pads and contaminated runoff collection	Shelter piggery is sited away from water courses bank between piggery and swamp. Compost pads with runoff dams are bunded and fully contained using evaporation to recycle water
5.3.3.2 Flood Risk	Piggery complex higher than 1 in 100 year flood level All weather access Piggery reuse areas above 1 in 5 year flood level	Piggery is sited above the 1 in 100 year flood level. All weather roads already exist to property and across the property. Off site reuse areas above the 1 in 5 year

		flood level
5.3.3.3 Groundwater Protection	Effluent and manure reuse areas located on land where groundwater is deep, stored within confined aquifers or protected by clay layer	Manure reuse area is not on this property. Land to receive manure and straw at fertiliser replacement rates has a clay layer between the pasture and the groundwater
5.3.3.4 Flora and Fauna	Planning overlay ESO2 habitat protection. Where there are sensitive receptors, use of tree and scrub buffers will provide visual screen, promote odour, dust and noise dispersion	Overlay ESO2 will be complied with.
5.4 Community Amenity	Site selection, communication strategy	The shelter piggery site is 2240 metres from the house to the south east Appendix A NEGIP (2018) Requires 1215 metres.
5.4.1 Odour	Site selection buffer separation, piggery management	Shelter piggery is nearly double the required buffer distance required by the guidelines.
5.4.2 Noise	EPA Publication 1411 Noise from Industry in Regional Victoria	Machinery operations are during daylight hours, there is no restrict feeding practiced so minimal pig noise at feeding time again all done in daylight hours
5.4.3 Dust and Smoke	Good siting, piggery, reuse areas, access roads	Access gravel road is remote from
5.4.4 Flies Rodents and other Vermin	Siting piggeries reuse areas from sensitive land uses, good management	See EMP for program for flies, rodents and vermin control
5.4.5 Pathogens	Use of separation distances 21 days grazing livestock quarantine from spreading on reuse areas	Reuse areas on other properties the 21 day withholding from grazing will be implemented
5.4.6 Visual Screening	Vegetative screening between the piggery and a neighbour mask visual reminder	The shelter piggery is set back well off the Charam-Wombelano Road
5.5 Cultural Heritage	Aboriginal Heritage Regulations 2018 (the Regulations)	See section 9 of this report page 21 compliant
5.6 Future Expansion Plans	Consider any plans for possible future expansion	The site does not provide for any future expansion of the proposed piggery system
6. Separation Distances & Buffers		
6.1 Fixed Buffer Distances	Buffer distances from reuse areas Table 6.2 NEGIP (2018) Distance from major water supply	

	<p>storage 800 metres Distance from watercourse (m) Category 1 Effluent Systems 100 metres Category 2 Manure on surface > 48 hours 50 metres</p> <p>Category 3 Manure incorporated into soil <48 hours, or injected or a contained reuse area 25 metres</p>	<p>Not Applicable</p> <p>Not Applicable</p> <p>Reuse area on Family farms at Wombaleno > 50 metre buffer to watercourses Not applicable</p>
6.2 Separation Distances for Community Amenity Protection Appendix A	Applying Appendix A see Appendix 2 separation distance to a neighbouring house 1215 metres for the number of pigs on site assuming all in shelters	Nearest houses are 2240 metres to the south east, 4750 pigs are freerange very low odour emissions and 3500- 4000 pigs are in shelters
15 Environmental Risk Assessment	Environmental Outcome Identification, minimisation and mitigation, and monitoring of the Piggery's environmental risks.	
17 Environmental Management Plan (EMP)	EMP not mandatory, recommended for piggeries provides evidence that the operator is committed to pig production in an environmentally sustainable manner	Separate document for the application is attached.
Piggery Manure and Effluent Management and Reuse Guidelines (2015)		
Criteria	Approved Measure	Proposal
7.3.3 Spent Bedding	<p>Weaners 265 kg or 0.38 m³/hd/year</p> <p>Growers 530 kg or 0.76 m³/hd/year Finishers 860 kg or 1.2 m³/hd/year</p> <p>Breeders 870 kg or 1.2 m³/hd/year</p>	<p>Not applicable</p> <p>Appendix 4, 3.71 batches per year about 1150 kg/hd/year Grower and Finisher</p> <p>Not applicable</p>
7.3.4 Mortalities	<p>Breeder Mortality rates 2%-19.2% Piglet Mortality Wean to Finish Mortality 0.1%-1.7%</p> <p>Mass Mortality Event</p>	<p>Not applicable Not applicable See Appendix 6 sets out composting of mortalities proposed for this site Chief Veterinary Officer decides what and how this happens</p>
7.4 Manure Stockpiling and Composting Area	Provide an area to store and manage solid manure until it can be	A composting pad 30 x 65 metres bunded with compacted

	<p>spread on land.</p> <ul style="list-style-type: none"> *Bunding *slope 1 – 3% *windrows run down the slope *runoff collection dam *overtopping frequency 1 in 10 years *pad permeability $<1 \times 10^{-9}$ m/sec 	<p>clay base 300mm permeability $<1 \times 10^{-9}$ metres/sec with a gravel surface and 3% slope to a runoff evaporation dam of 0.80 ML capacity, to evaporate yearly runoff volume 1 in 10 years. The straw and manure from the shelters will be composted in accordance with industry best practice as set out in the EMP.</p>
7.7 Managing Mortalities	Options: Composting, Rendering, Incineration, Burial, Burning (in descending order of preference)	Mortalities will be composted. A separate composting pad 25 x 40 metres bunded with compacted clay base 300mm permeability $<1 \times 10^{-9}$ metres/sec with a gravel surface and 3% slope to a runoff evaporation dam of 0.75 ML capacity. The mortalities will be composted in accordance with industry best practice as set out in the EMP and Appendix 6.
8. Reusing Manure and Effluent	Pig manure is a valuable source of nutrients and organic matter beneficial to land management	Pig manure and straw from shelters will be used on Family Farms at Wombaleno to fertilise grazed pastures
8.3 Selecting a Reuse Area	<p>Grazing is not suitable as a reuse area.</p> <p>With holding time of 21 days after spreading manure on pasture from grazing animals.</p> <p>Reuse areas need to be large enough to sustainably spread the nutrient load</p> <p>Provide buffers between reuse areas and water courses and poorly protected aquifers.</p> <p>Provide separation distances between reuse areas and neighbours houses</p>	The Hawkins family have developed a composted pig manure and straw system for improving their soils at a number farms used for grazing sheep. Using the manure on large reuse areas at fertiliser replacement rates considerably reduces the potential for environmental impact.
8.4 Management Practices that Protect the Environment	<p>Apply nutrients at times that will maximise nutrient uptake.</p> <p>Apply manure at rates that are sustainable (nutrients and salts)</p> <p>Spread manure evenly</p> <p>Incorporate spread manure (if practical)</p> <p>Not spreading manure when soils are above field capacity</p> <p>Monitor soil nutrients on a regular</p>	These requirements can be complied with.

	<p>basis. Spread manure when wind directions are favourable. Establish Vegetative Filter Strips down slope of reuse areas Install terminal ponds downslope of reuse areas Install contour banks on sloping land Maintain continuous ground cover and incorporate manure into soil after spreading(if practical). Buffer and separation distances from reuse area for Category 1 Spent bedding spread on surface.</p> <p style="text-align: right;">metres</p> <table> <tr> <td>Major water supply</td> <td>800</td> </tr> <tr> <td>Watercourse</td> <td>100</td> </tr> <tr> <td>Town</td> <td>1000</td> </tr> <tr> <td>Rural residential area</td> <td>600</td> </tr> <tr> <td>Rural dwelling</td> <td>300</td> </tr> <tr> <td>Public road >50 vehicles/day</td> <td>50</td> </tr> <tr> <td>Public road <50 vehicles/day</td> <td>25</td> </tr> <tr> <td>Property Boundary</td> <td>25</td> </tr> </table>	Major water supply	800	Watercourse	100	Town	1000	Rural residential area	600	Rural dwelling	300	Public road >50 vehicles/day	50	Public road <50 vehicles/day	25	Property Boundary	25	
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Property Boundary	25																	
8.5 Nutrient Budgeting																		
8.6 Practical Effluent Reuse		Not Applicable No effluent																
8.7 Practical Manure Reuse																		
8.8 Odour Control																		
10 Risk Based Environmental Monitoring																		
11 Worker Safety		<p>None of the issues listed in this section are relevant to this Outdoor Rotational Piggery, the piggery operator has appropriate legislated Workcover insurance for employees as well as employment practices. PPPE for composting operations</p>																

PIGGERY CLASSIFICATION

The piggery will be a free range female pig growout 250 pigs a week (4 weeks -22weeks age) and 250 male pig growout in shelters OR an outdoor breeder operation 1000 sows with straw based shelters for the growing out of pigs. The computed “Standard Pig Unit (SPU)” value for the proposal is determined using PPN86 reference to the National Environmental Guidelines Piggeries 2018.

Table 1: Number of Pigs based on a Standard Pig Unit (SPU) for a freerange growout piggery.

Class of Pig	SPU/pig	No pigs x weeks	No. of Pigs	No. of SPUs
Free Range Female Pigs				
Weaners	0.5	263 x 4 weeks	1052	526
Growers	1.0	258 x 8 weeks	2064	2064
Finishers	1.6	250 x 8 weeks	2000	3200
TOTAL			5116	5790
Straw Lined Shelters Male Pigs				
Growers	1.0	258 x 8 weeks	2064	2064
Finishers	1.6	250 x 8 weeks	2000	3200
TOTAL			4064	5264
GRAND TOTAL			9180	11054 SPU

OR

Table 2: Number of Pigs based on a Standard Pig Unit (SPU)

Class of Pig	SPU/pig	No. of Pigs	No. of SPUs
Freerange Breeding Herd (Outdoor Bred)			
Gestating Sows	1.6	750	1200
Lactating Sow	2.5	160	400
Gilts	1.8	90	130
Boars	1.6	76	64
Piglets	0.1	1680	168
In Straw Lined Shelters			
Weaners	0.5	1600	800
Growers	1.0	3136	3136
Finishers	1.6	3045	4872
TOTAL		10537	10770

APPENDIX 2

Separation Distances to sensitive neighbours

Using the National Environmental Guidelines for Piggeries edition 2018 (Australian Pork Ltd) Appendix A National Odour Guidelines for Piggeries the Level 1 odour assessment for the proposed piggery is:

$$\text{Separation Distance} = N^{0.55} \times S1 \times S2 \times S3$$

$$N = \text{number of standard pig units (SPU)} = 11054$$

S1 = design factor relative to odour deep litter single batch straw more than 7 weeks $S1_R = 1.0$, deep litter stock piled composted on site $S2_T = 0.63 = 1.00 \times 0.63 = \mathbf{S1 = 0.63}$

S2 = siting factor for odour dispersion $S2_R$ receptor type $S2_R = 15$ Rural dwelling, $S2_S$ surface roughness flat open country some trees, $S2_S = 1.0 = 15 \times 1 = \mathbf{S2 = 15 Rural Dwelling or S2 = 25 for Township}$

S3 = terrain weighting flat less than 1% down slope $\mathbf{S3 = 1.0}$

$$\text{Separation Distance Legal House} = N^{0.55} \times S1 \times S2 \times S3 = 11054^{0.55} \times 0.63 \times 11.5 \times 1.0 = 1215 \text{ metres}$$

$$\text{Separation Distance Rural Residential Dwelling} = N^{0.55} \times S1 \times S2 \times S3 = 11054^{0.55} \times 0.63 \times 15 \times 1.0 = 1583 \text{ metres}$$

$$\text{Separation Distance Township} = N^{0.55} \times S1 \times S2 \times S3 = 11054^{0.55} \times 0.63 \times 25 \times 1.0 = 2638 \text{ metres}$$

FREE RANGE WEANER & GROWER NUTRIENT BALANCE

A3.1 Nutrient Output for Free Range Grower Operation

Analysis of having free range grower pigs on the former pine plantation site is showing the following basic nutrient balance based on the following assumptions:

- 250 weaner pigs per week in a shelter (12 x 6 metres) and run (18 x 6 metres) for 4 weeks on the grower paddock they are going to grow out in.
- 250 pigs per week on 1.5 hectares for 14 weeks out in the paddock 2 consecutive batches ie equivalent to 166pigs/hectare/28 weeks
- Straw usage of 31.5 kg per grower pig and 12.5 kg per weaner pig (source TPPC)
- Manure nutrient output based on NEGP 2010 data and a linear model for age
- Organic nitrogen in the manure is 44% of manure nitrogen voided which has to be mineralised into nitrate or ammonium nitrogen for a plant to use, assumed 25% per year
- 20 % of the nitrogen voided is lost to the atmosphere as ammonia nitrogen.
- The site rainfall can produce a 10 tonne (dry matter)/ha forage crop (cereal crop, grass) approx. equivalent to a 5 tonne grain crop (Growing season rainfall potential 4.8 tonne grain crop)
- 60 % of the nitrogen (as ammonia and nitrate) is available for plant uptake
- No allowance for luxuriant nutrient uptake by the cereal hay has been allowed for there will be some.

Table A3.1 Typical weaner and grower nutrient production and balance

Weaner runs 33m x 6m (12m x 6m shelter)			
week	Nitrogen kg weaners	Phosphorus kg weaners	Potassium kg weaners
TOTAL per weaner	0.259	0.074	0.073
250 weaners/week	64.85	18.57	18.35
2 batches	129.69	37.14	36.70
Straw 25kg 2 batches	0.13	0.09	0.11
Total Weaners on 2 sites	129.82	37.23	36.81
	Nitrogen kg growers	Phosphorus kg growers	Potassium kg growers
Total per grower	3.13	1.01	0.82
250 growers/week	781.8	251.3	204.2
2 batches	1563.7	502.5	408.4
Straw 65kg 2 batches	0.34	0.24	0.30
	Nitrogen (N)	Phosphorus	Potassium
Per Pig kg	3.39	1.08	0.89
166 pigs kg/ha	562	179	148
2 batches kg/ha	1124	358	296
90 kg straw kg/ha	0.46	0.33	0.41
Weaner & Grower kg/ha	1125	359	296
Mineral N	630		
Organic N	495		
Ammonia N loss	225		
Removal			
year 1 crop	270	45	210
year 2 crop	270	45	210
year 3 crop	270	45	210
year 4 crop	270	45	210
before next pigs	-56	179	-544
organic N	150		

Salt as sodium chloride is added to the pig diets at the rate of 0.2% for weaners and growers and 0.1% for finisher pigs this is about 0.337 kg is consumed by a pig in the feed and about 0.45 kg in the bore water will be consumed, assuming there is about 50 grams of salt in the carcass there will be about 0.739 kg of salt as sodium chloride excreted by a pig in the paddock. This is equivalent to about 245 kg per hectare over 32 weeks while the pigs are present every 4 years. This salt will be leached through the sandy soil by the yearly rainfall events and some will be removed in the forage crops.

Following the free range pig rotation the land will be sown to a forage crop ie winter cereal hay, or grass hay or Italian ryegrass which will be harvested and used offsite so that the nutrients in the pig manure are removed off site in the forage crop and after 3- 4 years the land will be able to have a pig rotation all over again. The Australian Pig Industry Quality assurance program stipulates soil testing and compliance requirements for this to occur.

Table A3.2 : Annual Nutrient Removal by different forage crops.

	Yield	Nitrogen kg/ha	Phosphorus kg/ha	Potassium kg/ha
Wheat (grain only)	5 t/ha DM	105	17.5	25
Grass hay	10 t/ha DM	220	28.0	180
Cereal Hay	10 t/ha DM	270	45	210

Nutrient Budget

The table below is a supply and demand budget for nutrient production, losses anticipated and utilisation by biomass (plant material).

TableA3.3: Annual Nutrient Supply and Demand Budget

	Nitrogen kg	Phosphorus kg	Potassium kg
Annual supply	44050	14050	11593
Nitrogen losses (20%)	8810	-	-
Crop and pasture (for 39.2ha per year) for 4 years use	42336	7056	32928
Surplus/(deficit)	(7096)	6994	(21335)

Both nitrogen and potassium are likely to be less than crop needs and may have to be corrected through fertilizer inputs. Phosphorus is in surplus. However, the soils are starting in a very depleted nutrient status following the pine tree plantation harvest, the excess phosphorus will help in boosting the soil phosphorus to a sustainable level for growing future forage crops.

Table A3. 4: Nutrient Output – kg/day for breeder operation on the site

	Nutrient Output kg/day						Total
	Boar	76 Boars	Sow & Gilts	840 Sows & Gilts	Sow & Litter	160 Sows & Litter	
Nitrogen	0.041	3.12	0.032	26.88	0.045	7.2	37.2
Phosphorus	0.013	0.99	0.010	8.4	0.011	1.76	11.15
Potassium	0.024	1.82	0.019	15.96	0.021	3.36	21.14
Salt	0.006	0.46	0.006	5.04	0.019	3.04	8.54

Table A3.5: Nutrient Content of Pig wastes (as excreted by the pig)

	Breeders kg/day	Tonne/annum
Total Nitrogen	37.2	13.6
Total Phosphorus	11.2	4.1
Total Potassium	21.14	7.7
Total Salt	7.3	2.7

These nutrients are spread by the sows and boars in their paddocks by their random pattern of urinating and defecating, and will apply nitrogen (assuming no losses) at about 260kg per hectare per year for two years, phosphorus at 78kg hectare per year for two years and potassium at about 149 kg/ha per year for two years. Based on annual land use of about 54 hectares (20 breeder pigs per hectare). Some of the salt will be removed in the crops grown after the pigs and the remainder will be leached into the soil profile.

Following the pigs there will be a cropping rotation which will make use of those nutrients, similar to the free-range model set out before.

GROWERS IN SHELTERS MANURE PRODUCTION AND MINIMUM REUSE AREA REQUIRED

A4.1 Waste Production

A4.1.1 ESTIMATED VOLUME OF WASTE:

Growers (average liveweight 60 kg)

Bedding (straw or rice hulls) 60 kg/grower reared ** (Personal experience)

Manure (faeces and urine) 3.8 kg/day (Ref: Effluent at Work)

Total wastes per grower reared is:

60 kg straw + (98 days x 3.8 kg/day) = 433 kg

It is estimated that about 50% (180 litres) of the moisture excreted will be evaporated by the heat produced in the manure straw pad and 50% (1.5 kg) of the nitrogen will be volatilized resulting in a total of about 3270 tonnes of waste to be removed annually from the shelters. This is the same as about 69 tonnes of wastes per batch of 250 pigs.

Typical Waste Production

Per grower pig: 56-154 days

	Total Material Mass	As Moisture
Total Manure	98 days x 3.8 = 372 kg	310 kg
Total Solids (dry matter)	62.2 kg	-
Urine	210 kg	206*
Total Nitrogen	3 kg	-
Total Phosphorus	1.01 kg	-
Total Potassium	1.65 kg	-

* Assuming 1.8% solids in urine

(References: Effluent at Work, On Farm Composting Handbook)

Measured Material Removed from Shelter per grower

Straw and Manure		
as removed	277 kg	149 kg moisture
As Organic Matter	9 kg	4% of input
Total Nitrogen	0.6 kg	25 “
Total Phosphorus	0.4 kg	50 “
Total Potassium	1.3 kg	98 “

A4.2.3 Phosphorus

The area of grazed land required to satisfy the phosphorus loading rate (2 kg/ha) is 5,200kg/annum @ 2 kg/ha/annum 2600 hectares

This grazed land will also be cut for hay production to be feed on other areas of the properties not receiving straw and manure area is:

5200 kg/annum @ 12 kg/ha/annum 433 hectares

A4.3 Land to Receive Straw and Manure

The operator of the piggery has access to about 3000 acres (1214 hectares) of family related mixed farming land (grazing, cropping and pasture hay) in the Wombelano district and has experience in using pig manure and straw on other family properties in the West Wimmera Shire. There is access to enough land to manage the reuse areas and the nutrient budgets and balances required. This is a good application of nutrient recycling. This land is currently having 11kg/ha of phosphorus and 15 kg/ha of potassium applied to it for grazing sheep, so the straw and manure from the shelters will not be enough to replace the current fertiliser program on this land.

So initially the manure and bedding material can be used to raise the nutrient levels of the properties and then managed by the rotation of crops, hay production and grazing to optimise the use of the nutrients

Mortality Composting

Based on a mortality rate of 1.6% weaners and 2.9% growers

Weaners 1.6% x (26-8)/2 kg liveweight x 250 transferred = 68kg/week

Free Range Growers 2.9% x (105-26)/2 kg liveweight x 250 transferred = 440 kg/week

Shelter Growers 2.9% x (105-26)/2 x 250 transferred = 440 kg/week

Sample pig carcass compost mixture (weekly basis):

	Volume Ratio	Weight Ratio kg kg (approx.)	Wet Weight Water
Manure and litter from shelters	2	1.5	1500
Pig carcasses	1	1.0	1000
Straw	1	0.1	100

Water to add to give a damp sponge consistency 50% wet basis up to about 200kg

Carbon : Nitrogen Ratio 20:1 to 25:1

Composting pile:

Bottom Layer	Manure and litter from shelters	300mm
Next layer	Straw	300mm
Next layer	Carcasses small pigs and growers	
Top layer	Manure and litter from shelters	600mm

The pile is left for 4 months for a static composting process to break down the pig carcasses.

Weekly quantities in full production 2800 kg as is moist material, volume approx. 5.6 cubic metres

Design on a fortnightly bin basis ie 11.2 cubic metres per bin Bins 2.4 x 4.0 m x 1.8 m high

10 fortnightly bins (compounds) at 4 months bin contents is turned and a normal composting process completed, material is then removed and placed into a curing heap of composted material.

Bins established using straw bales 2.4m x 1.2m x 1.2m which are eventually composted as well.

Compacted clay pad 25 metres by 40 metres and 300mm compacted depth with 150mm compacted gravel on top with a 1 in 50 slope to runoff collection dam holding 1 in 10 year wet runoff volume 0.75ML which evaporates over the summer.

(Reference: On Farm Composting Handbook, Northeast Regional Agricultural Engineering Service, DPI, 2007

Section 7.7.1 Composting Piggery Manure and Effluent Management and Reuse Guidelines (2015)
Australian Pork Limited)

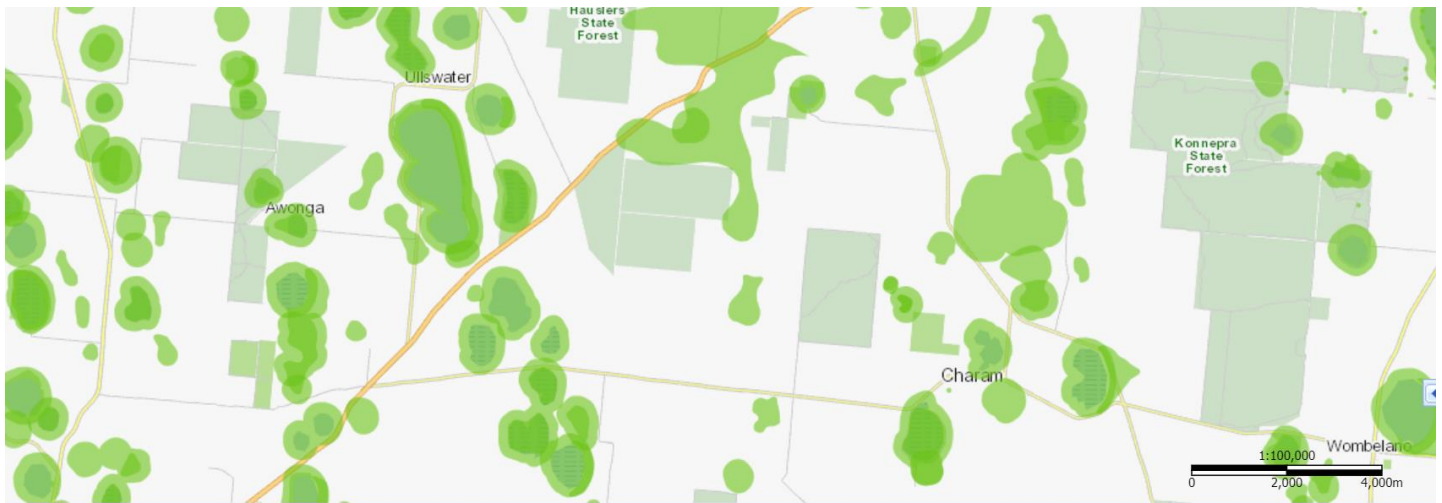
ATTACHMENT 1

AREAS OF CULTURAL HERITAGE SENSITIVITY

<https://achris.vic.gov.au/#/onlinemap> (accessed 4th May 2021)

Areas of cultural heritage sensitivity' are only defined for specifying when a cultural heritage management plan (management plan) must be prepared under the Aboriginal Heritage Act 2006.

Some land use and development activities are more likely to harm Aboriginal cultural heritage when carried out in an 'area of cultural heritage sensitivity'. These activities are defined as 'high impact activities' in the Regulations.



SOIL TESTS FOR TIMBER BLOCK



SOIL ANALYSIS



Agent: Southern Soils Fertiliser Pty Ltd
Agent Address: 251 South Boundary Road, HAMILTON, VIC, 3300
Client: James Hawkins
Test Set or Quotation: CS1
Barcode: 110214567
Batch Number: 12369
Submission ID: 37275

Report Date: 11/10/2019
Sampling Date: 26/09/2019
Date Received: 02/10/2019
Sample Name: Wiran Phalaris
Crop: Pasture
Sample Depth: 0-10
GPS Start: NA
GPS End: NA

	Unit	Desired Level	Level Found	c.mol/kg	Very Low	Low	Acceptable	High	Excessive
ECEC	cmol/kg	5.00-25.0	1.78						
Organic Carbon (WSB)	%	0.500-1.00	0.690						
pH 1:5 water	pH units	6.50-7.50	5.61						
pH CaCl2 (following 4A1)	pH units	5.50-6.50	4.22						
Extractable N-P-K-S	Nitrate - N (2M KCl)	mg/kg	<1						
	Ammonium - N (2M KCl)	mg/kg	1.3						
	Olsen Phosphorus	mg/kg	1.6						
	Colwell Phosphorus	mg/kg	<5						
	PBI + Col P		35.0-70.0	25.0					
	Colwell Potassium	mg/kg	120-170	47					
	KCl Sulfur (S)	mg/kg	8.0-20	3.8					
	Exchangeable cations	Calcium (Ca) - AmmAc	mg/kg	170	0.849				
Magnesium (Mg) - AmmAc		mg/kg	53.0	0.439					
Potassium (K) - AmmAc		mg/kg	35.0	0.0890					
Sodium (Na) - AmmAc		mg/kg	26.2	0.114					
Exchangeable aluminium		cmol/kg	0.10-0.35	0.22					
Exchangeable hydrogen		cmol/kg	0.10-0.35	0.070					
Trace Elements	Boron	mg/kg	0.10						
	Iron (Fe)	mg/kg	100						
	Manganese (Mn)	mg/kg	5.0						
	Copper (Cu)	mg/kg	0.31						
	Zinc (Zn)	mg/kg	0.20						
Salt									
Ratios	Ca:Mg Ratio		1.9						
	K:Mg Ratio		0.20						
	GTRI		0.070						
Exch. cation %		Unit	Desired Level	Level Found	Exchangeable cation % (eCEC)				
	Calcium	%	60.0-80.0	47.7					
	Magnesium	%	10.0-20.0	24.7					
	Potassium	%	3.00-8.00	5.00					
	Sodium	%	0.500-6.00	6.40					
	Aluminium	%	0.500-10.0	12.3					
	Hydrogen	%	0.300-5.00	3.90					

Agent: Southern Soils Fertiliser Pty Ltd
Agent Address: 251 South Boundary Road,
HAMILTON, VIC, 3300
Client: James Hawkins
Test Set or Quotation: CS1
Barcode: 110223377
Batch Number: 12369
Submission ID: 37275

Report Date: 11/10/2019
Sampling Date: 26/09/2019
Date Received: 02/10/2019
Sample Name: Wiran Southern Stand
Crop: Pasture
Sample Depth: 0-10
GPS Start: NA
GPS End: NA

	Unit	Desired Level	Level Found	c.mol/kg	Very Low	Low	Acceptable	High	Excessive
ECEC	cmol/kg	5.00-25.0	1.36		Very Low				
Organic Carbon (W6B)	%	0.500-1.00	0.710			Low			
pH 1:5 water	pH units	6.50-7.50	5.44		Very Low				
pH CaCl2 (following 4A1)	pH units	5.50-6.50	4.04		Very Low				
Extractable N-P-K-S									
Nitrate - N (2M KCl)	mg/kg	20-50	<1		Very Low				
Ammonium - N (2M KCl)	mg/kg	2.0-10	1.2			Low			
Olsen Phosphorus	mg/kg	15-25	2.3		Very Low				
Colwell Phosphorus	mg/kg	15-20	<5		Very Low				
PBI + Col P		35.0-70.0	<2		Very Low				
Colwell Potassium	mg/kg	120-170	86			Low			
KCl Sulfur (S)	mg/kg	8.0-20	2.8		Very Low				
Exchangeable cations									
Calcium (Ca) - AmmAc	mg/kg	350-1000	160	0.799		Low			
Magnesium (Mg) - AmmAc	mg/kg	100-150	34.0	0.281	Very Low				
Potassium (K) - AmmAc	mg/kg	120-170	23.0	0.0600	Very Low				
Sodium (Na) - AmmAc	mg/kg	15.0-70.0	<8	0.035	Very Low				
Exchangeable aluminium	cmol/kg	0.10-0.35	0.10			Low			
Exchangeable hydrogen	cmol/kg	0.10-0.35	0.090			Low			
Trace Elements									
Boron	mg/kg	0.50-2.0	<0.1		Very Low				
Iron (Fe)	mg/kg	10-70	24			Low			
Manganese (Mn)	mg/kg	1.0-10	3.7			Low			
Copper (Cu)	mg/kg	0.50-1.0	0.15		Very Low				
Zinc (Zn)	mg/kg	0.50-1.0	0.37			Low			
Salt									
Salinity EC 1:5	dS/m	0.025-0.15	0.014		Very Low				
Ratios									
Ca:Mg Ratio		2.0-8.0	2.8			Low			
K:Mg Ratio		0.10-0.50	0.21			Low			
GTRI		0.020-0.070	0.060			Low			
Exch. cation %									
	Unit	Desired Level	Level Found	Exchangeable cation % (eCEC)					
Calcium	%	60.0-80.0	58.8	0 20 40 60 80 100					
Magnesium	%	10.0-20.0	20.6	0 5 10 15 20 25 30 35 40					
Potassium	%	3.00-8.00	4.40	0 5 10 15 20 25 30 35 40					
Sodium	%	0.500-6.00	1.90	0 5 10 15 20 25 30 35 40					
Aluminium	%	0.500-10.0	7.40	0 5 10 15 20 25 30 35 40					
Hydrogen	%	0.300-5.00	6.80	0 5 10 15 20					

James Hawkins & Pastoral Pork Company Pty Ltd

PROPOSAL : Rotational Free Range Grower Piggery 400-500 pigs per week

The development consists of portable shelters (10 metres x 5 metres, 3 metres high), portable ad lib feeders , water troughs, wallows, and electrified fences.

There will be 2.5 hectares of paddocks with up to 500, 8 week old pigs introduced into the paddocks each week, where they stay until they reach market weight (110 kg liveweight) about 21-23 weeks of age. The pigs have access to feed all the time in the ad-lib feeders and water in the trough. As the pigs grow additional feeders and shelters are placed in the paddock to maintain the required shelter areas per pig, and feed and water access required by the industry standards.

After 14 weeks the pigs will be removed from the paddocks. The paddocks will be rested and tidied up, some shelters and feeders removed, the remaining shelters re-strawed and another batch of pigs will use the paddock.

After the two batches of pigs, 28 weeks in total, each paddock will be dismantled and set up on a new area of land and the operation repeated again. The remaining land will be sown to crops to remove the nutrients applied by the pigs.

There will be up to 8000 pigs on site at any one time or the equivalent of 10,600 Standard Pig Units

There will be 3-4 direct employees involved in the day to day operation.

Land Area: 269.7 hectares Allotment 79 & 80A Parish of Charam

Water: The piggery will need about 30-35 ML per year which will be sourced from a licenced commercial bore with a water allocation.

Road Access: The piggery will be accessed off the Wimmera Highway at Pahls Road (previously used by logging trucks).

Truck Movements/week	Frequency	Notes
Pigs in	1 semi trailer per week	From nearby Glen View Plains piggery
Pigs out	1 semi trailer per week 1 B Double per week	To abattoir at Laverton (Melbourne) or Murray Bridge (South Australia)
Feed in	3 B Double per week	4680 tonne per year
Straw in	38 semi trailers harvest time	750 tonne per year
Employees/ service vehicles	Up to 5 vehicles/day	7 days per week
Cereal Hay or Forage crops	Up to 85 semis harvest time	Up to 1800 tonne per year

Buffer (Separation) Distance: An indoor straw based piggery of the same capacity would require a separation distance from the pigs to a rural house of 1186 metres, the houses to the south east are about 1383 metres and the

house to the north (through the forest) is about 2300 metres. Outdoor piggeries generate considerably less odour (barely detectable) than indoor piggeries.

Regulatory Requirements:

Planning Permit from West Wimmera Shire,

Planning Practice Note 86 Sept 2018 Applying for a planning permit for a pig farm.

National Environmental Guidelines for Rotational Piggeries (revised) 2013 Australian Pork Ltd

Annual Audit Australian Pork Industry Quality Assurance Program (APIQ)

Works Approval Pathways Application Environment Protection Authority



Typical grower shelter



Grower shelters on an initial pasture base



Typical site

Typical view shelters, feeders, water trough, electrified fence, wallow and pigs

Typical aerial views of free range grower operation at Shelford showing increasing number of shelters on the paddocks as the pigs grow





Contact Details:

James Hawkins (Landholder)	0419446058
Ian Farran (Director)	0427345883
Martin Newnham (Managing Director)	0417295162

June 16th 2021

WATER AVAILABILITY

ATTACHMENT 4

This email is to verify that GWMWater has confirmed with Mr James Hawkins the we will making additional volumes of unallocated groundwater available for sale in the latter part of 2021.

The additional volumes that will be available are situated in the Ullswater and Edenhope West Wimmera Groundwater Management Zones appropriate to the Hawkins operations along the Charam – Wombelano Road and the volumes that will be made available will comfortably satisfy the approximate 30 ML being sought by James Hawkins. The exact open process that will be adopted to offer the water for sale will be finalised and implemented over the coming months.

<image001.jpg>

Steven Briggs
Manager Customer Service
GWMWater

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