



Bourke Small Stock Abattoir—SSD 7268

Response to Submissions

Prepared for CAPRA Developments Pty Ltd | June 2016



Bourke Small Stock Abattoir

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Prepared for CAPRA Developments Pty Limited | 23 June 2016

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Bourke Small Stock Abattoir

Final

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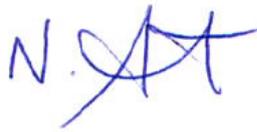
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Date 23 June 2016

Date 23 June 2016

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1 Introduction

1.1 Purpose of this report

CAPRA Developments Pty Ltd (CAPRA) is seeking consent under Part 4, Division 4.1 of the New South Wales (NSW) *Environmental Planning and Assessment Act 1979* (EP&A Act) for the construction and operation of a small stock abattoir (herein referred to as the project), approximately 14 km north of Bourke in north-western NSW.

A development application and accompanying Environmental Impact Statement (EIS) for the project was submitted to the NSW Department of Planning and Environment (DP&E) and publicly exhibited from 11 March 2016 to 26 April 2016.

This response to submissions report responds to submissions received on the *Bourke Small Stock Abattoir SSD 7268 Environmental Impact Statement* (EMM 2016) (the EIS). CAPRA acknowledges and thanks all stakeholders for taking the time to review the EIS, and to prepare and submit a response.

1.2 Project overview

The key aspects of the project for which approval is sought, as specified in the EIS, are as follows:

- construction of an abattoir with the capacity to process up to 6,000 head per day, comprising goat, sheep and lambs;
- construction and provision of ancillary infrastructure to support the abattoir, including reticulation of power, water and telecommunication services, vehicular access off the Mitchell Highway, heavy vehicle manoeuvring and turning areas, livestock holding yards, car parking, administration office, staff amenities and a wastewater treatment system;
- livestock will be principally sourced from the surrounding region and trucked to the development site;
- meat products from the abattoir will be chilled to less than 7 degrees Celsius (°C) or frozen for transport;
- construction of four water treatment ponds where wastewater will be treated via an aerobic and anaerobic ponding process, and then utilised for irrigation;
- no rendering will take place on site with waste products to be transported off site for disposal at licensed facilities;
- employment of approximately 200 FTE personnel when fully operational; and
- operation 24 hours per day, 7 days per week.

No significant changes to the project were required as a result of the submissions received. A few minor additions/changes were made as listed below, and are described further in Chapter 2 of this report.

- The new intersection into the project site on the Mitchell Highway will include a dedicated auxiliary left turn lane that will allow following traffic to pass a left turning vehicle. The BAL treatment will be consistent with that provided in Figure 8.3 of Part 4A of *Austroads Guide to Road Design* (rural auxiliary left-turn treatment – short turn land (AUL(S)) on a major road).
- Designated areas for manure composting and the disposal of animals in the unlikely event of a mass mortality have been identified. A plan showing the layout and design of these areas is presented in Appendix A.
- Following detailed design of the wastewater treatment ponds, the surface area affected by the ponds has been reduced from that presented in the EIS from around 8 ha to 2.8 ha.
- The footprint associated with the manure composting area and the mass disposal area is around 0.13 ha and 1.045 ha respectively. Taking into account the reduced footprint of the wastewater treatment ponds, the overall disturbance footprint to the abattoir (including the irrigation area) has been reduced from approximately 55 to 51 ha, a reduction of 4 ha.

1.3 Submissions

Following public exhibition of the EIS, a total of eight submissions were received; seven from government agencies and one public submission in support of the project.

The following government agencies provided a submission:

- Bourke Shire Council (BSC);
- NSW Department of Primary Industries (DPI) – DPI Water and DPI Agriculture;
- NSW Environment Protection Authority (EPA);
- NSW Health – Far West Local Health District (NSW Health);
- NSW Roads and Maritime Services (RMS);
- NSW Office of Environment and Heritage (OEH); and
- NSW Local Land Services – Western Region (LLS).

The DP&E also requested additional information in a letter dated 6 May 2016.

All submissions are available on the DP&E Major Project Assessments website at the following address: http://www.majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7268

The submission from NSW Health stated that the potential for an increased risk of community acquired Q fever has been adequately addressed in the health risk assessment prepared for the project. As such, no further response is required to NSW Health.

Responses to the issues raised by all other government agencies are provided in Chapter 2 of this report.

2 Government agency submissions

2.1 Department of Planning and Environment

The EIS concludes that there will be a net reduction in heavy vehicles transporting livestock from the Bourke region to other abattoirs in Charleville, Melbourne and Nyngan. The letter from DP&E, dated 6 May 2016, requested further justification and discussion on this assumption, which is provided below.

During the feasibility and design phase of the project, CAPRA held discussions with the small stock depots and farmers in the area regarding the potential to supply small stock to an abattoir in the Bourke region, rather than sending stock further afield as they do now. Firstly, these discussions confirmed that the depots in the area, as identified in the EIS, do not have long term contracts in place with other abattoirs given the seasonal and rangeland nature of the goat supply industry. As such, they are not contractually obliged to continue to send small stock the large distances to abattoirs in Charleville, Nyngan or Melbourne.

Secondly, the cost of transporting small stock to an abattoir is borne by the farmer and/or depot who are delivering the stock. Further, it is anticipated that a large portion of the small stock to be sold to the abattoir will be 'over the hook' (directly by individual farmers). Given the cost of transport will be borne by these farmers, the cost and logistics of small stock transport will have a significant bearing on movements of the livestock, resulting in delivery to the nearest abattoir (ie Bourke), and a subsequent reduction in movements of livestock outside the Bourke region compared with the movements currently taking place.

The operation of an abattoir in Bourke and the competitive dynamics between the various other abattoirs in Charleville, Nyngan and Melbourne mean that each will be more competitive in sourcing livestock close to their operations. Whilst it is an open market, it is anticipated that the logistics and cost of transport will result in the change in livestock movements to the Bourke abattoir, as documented in the EIS.

CAPRA has also entered into an arrangement with one of the major depots in Bourke, pending project approval, to supply small stock to the abattoir once operational. This depot currently sends around 200,000 head of livestock per year to abattoirs outside the Bourke region. This alone will likely result in a reduction of livestock transport movements to other abattoirs such as the one in Charleville.

2.2 Bourke Shire Council

BSC confirmed their strong support for the project in their submission. They provided one comment on the project requiring a response in relation to waste management.

Section 2.9 of the EIS states that waste will be removed from site by licensed contractors and delivered to a licensed facility. CAPRA acknowledges that council's landfill does not have the required licence to accept waste produced by the abattoir, and an upgrade of this facility would be required if waste from the abattoir was to be accepted there. Waste will therefore not be disposed of at the BSC landfill (unless an appropriate upgrade of the facility occurs), and will instead be transported offsite by licensed contractors and disposed of at appropriately licensed facilities to accept such waste.

CAPRA has held preliminary discussions with a number of animal waste processing facilities to identify a suitable plant for the processing of by-products from the abattoir, should the required upgrade to the BSC landfill not occur.

Two facilities have indicated an interest in, and an ability to accept the waste, as listed below. Upon receipt of project approval, CAPRA will finalise negotiations with the appropriate facility for the receipt of waste from the Bourke abattoir.

- AJ Bush & Sons (Manufactures) Pty Ltd - operates rendering plants in both NSW (Windsor Road, Riverstone) and in Queensland (Sandy Creek Road, Bromelton). Both plants process abattoir by-products into high-grade protein meals and tallows for use in products such as stock food and organic fertilisers. The NSW render plant in Riverstone operates under Environment Protection Licence (EPL) 1100 for the activity of rendering or fat extraction. It is licensed to process more than 4000 tonnes per year.
- Cowra Meat Processors Pty Ltd – operates an abattoir and rendering plant in Cowra, NSW. It holds EPL 564 for the slaughter or processing of animals, and for rendering and fat extraction of greater than 4000 tonnes per year.

Waste to be disposed of off-site includes:

- non edible waste;
- hair;
- dead animals;
- paunch;
- blood; and
- wastewater solids.

2.3 DPI Water

In their submission, DPI Water recommended the following be undertaken prior to commencement of the project:

- Drill two monitoring bores to intercept the water table in the Upper Darling Alluvial Groundwater Source to a minimum depth of 20 m below ground level (bgl) to establish groundwater level and baseline groundwater quality. Complete an assessment of the impact of the development against the minimal impact considerations in the *NSW Aquifer Interference Policy (AIP)*.
- The proponent in consultation with DPI Water identify the location and timing of the proposed two monitoring bores, depth, slot intervals, monitoring frequency and suites of analytes to be monitoring, and development of a mitigation plan in the unlikely event of adverse impact on the groundwater source.

As described in Section 14.4.1 in the EIS, a groundwater monitoring network will be installed within the project site to monitor the local groundwater and identify impacts if they were to occur. The groundwater monitoring network will include:

- one monitoring bore located down hydraulic gradient from the wastewater treatment ponds; and
- one monitoring bore located up hydraulic gradient from the wastewater treatment ponds.

As requested and discussed with DPI Water these monitoring wells will be installed prior to commencement of the project (ie at the start of the construction phase). This will allow up to 12 months of baseline data on groundwater levels and quality to be obtained prior to the commencement of irrigation on site. An assessment of the impact of the development against the minimal impact considerations in the AIP will then be undertaken in consultation with DPI Water once sufficient baseline data is obtained, and prior to irrigation commencing.

As committed to in the EIS, the monitoring bores are planned to be constructed of 50 mm casing with a slotted section. Gravel will be placed around the casing with a bentonite seal. However, as requested by DPI Water, the location, timing of installation, slot intervals, monitoring program (frequency and analytes), and mitigation plan will be developed in consultation with DPI Water prior to the groundwater bores being installed. The outcomes of this consultation will be documented in the Environmental Management Plan (EMP) to be prepared for the project.

In relation to water security, DPI Water also recommended provisions are made in either BSC's Drought Management Plan or in CAPRA's EMP for determining priorities between the abattoir and town water supply requirements in a worst-case scenario of inadequate supplies being available to meet all demands.

The water demands of the project will be serviced by both a raw water connection via BSC's water access licence from the Darling River, and through a connection to Council's filtered reticulated water supply system from North Bourke. BSC has confirmed council has adequate capacity to supply the required 770 kL per day, and up to 1 ML daily. As described in Appendix C of the EIS, BSC considered its ability to meet the demands of the project under drought conditions. The impact on the town supply during drought conditions combined with the abattoir operating at full capacity was modelled, finding that at level three water restrictions the required water for the abattoir would still be available.

BSC are also in the process of commissioning Walkden's bore, which will provide emergency water supply to the town in the event of long-term severe drought conditions. In recent discussions with CAPRA over the issue of water supply, BSC has indicated that the bore is due to be commissioned by mid July, subject to favourable weather conditions. It is therefore anticipated that the bore will be in place prior to the commencement of operation of the abattoir. CAPRA will continue discussions with BSC in relation to water security, and will develop the relevant section within the site's EMP relating to water security in consultation with BSC, including addressing water supply priorities between the town and abattoir.

2.4 DPI Agriculture

In the unlikely event of a mass mortality at the abattoir, the EPA and DPI will be contacted as soon as possible and will likely assume control of the site. As stated in the EIS the preferred option for disposal of carcasses will be via on-site mass burial within the project site, or within the larger CAPRA landholdings surrounding the project site, and will be undertaken in accordance with relevant DPI Agriculture procedures. In their submission DPI Agriculture recommended that a specific area be selected for mass animal disposal and tested for its suitability for purpose to ensure runoff and groundwater is not subject to pollution.

Accordingly, CAPRA has identified an area within the project site that can be used to bury carcasses in the event of a mass mortality at the abattoir. The layout of the area is shown in the plan attached in Appendix A. Based on a maximum of 11,000 small stock at the site, an area of approximately 0.3 ha and 3 m deep would be required to dispose of the animals should a mass mortality occur. A burial pit will therefore be installed during construction works so that it is ready for use if required. The pit will be excavated and lined with an EPDM synthetic rubber liner with a permeability of 2.233×10^{-11} to ensure no contamination of groundwater can occur.

A bund will be constructed around the burial pit to both prevent clean water runoff into the pit, and to prevent runoff from the area. Excess material from excavations undertaken during construction will be stockpiled next to the selected burial site, as shown in the plan in Appendix A, so that suitable material is available to cover the carcasses following disposal in the pit. Sufficient material will be available to cover the animals with at least 1 m of cover. The pit will also be fenced as shown in Appendix A.

Boreholes were drilled on site during the preparation of the EIS to a maximum depth of 8.8 m bgl. No groundwater was encountered up to this depth. Burial of carcasses following a mass mortality event in a pit 3 m deep would therefore be expected to be well above the groundwater table. Nevertheless, as noted in Section 2.3, groundwater bores will be drilled within the project site and in the vicinity of the mass disposal pit at the commencement of construction to confirm the local groundwater conditions and the suitability of the area for mass disposal.

DPI Agriculture also requested that a buffer area be considered around the irrigation area adjacent to the neighbouring property. A 15 m wide vegetative buffer zone consisting of grasses, shrubs and trees will be maintained immediately downslope of the irrigation area to slow down and capture any runoff that occurs from the irrigation area. In addition, CAPRA holds a conditional contract to purchase the lots immediately adjacent to, and surrounding, the irrigation area. This land will provide a further buffer between the abattoir and associated irrigation area, and other surrounding properties.

2.5 Environment Protection Authority

2.5.1 Effluent quality and site limitations

The EPA notes that the predicted quality of effluent to be produced by the abattoir's wastewater treatment plant as documented in the EIS is based on data from a wastewater treatment plant supplier. Appropriate commissioning monitoring will therefore be undertaken once the wastewater treatment plant commences operation to establish the actual effluent characteristics. If the effluent quality determined during commissioning monitoring differs from that predicted, nutrient and salt balances will be recalculated, and the planned management of effluent irrigation adjusted accordingly.

It is also acknowledged that effluent quality may vary over time. Contingencies in irrigation management will also be developed for implementation should this situation occur.

The commissioning monitoring program and contingencies in irrigation management will be documented in an irrigation management plan, which will be developed for the site in consultation with the EPA prior to irrigation commencing.

The irrigation management plan will also document management and mitigation measures for the range of potential site limitations for irrigation, including saline soils, sodic soils, and low phosphorus sorption capacity. The management plan will also include appropriate wet weather overflow management measures.

2.5.2 Water balance and wet weather storage

i Proposed detention period

The layout and design of the wastewater treatment ponds is shown in the plan attached in Appendix A. The detention period for each wastewater treatment pond to allow the various treatment processes to be effective is provided in Table 2.1.

Table 2.1 Treatment pond details

Pond	Treatment	Detention period	Volume
1	Anaerobic	32 days	22 ML
2	Aeration	7 days	4.9 ML
3	Standing	7 days	4.9 ML
4	Irrigation	5 days	3.5 ML

The treatment ponds have been designed to ensure the required detention period is achieved. After primary treatment, the effluent will enter the anaerobic pond which will contain a series of baffles to regulate the flow through the pond such that the water is contained in the pond for the required 32 days. The effluent will then overflow into the aeration pond, which will also include a series of baffles at one end to ensure the water spends the appropriate detention time of seven days in this pond. From here, the effluent will either be pumped or will overflow to the standing pond (pending detailed design). Effluent will then flow from the standing pond as required into the irrigation pond, which will be emptied via irrigation as it reaches capacity.

ii Wet weather storage

The final two ponds in the treatment process, the standing pond and irrigation pond, will provide seven and five days storage respectively, providing a total of 12 days capacity. If required, prior to a major storm event both ponds can be emptied via irrigation, providing a total of 12 days storage. The procedures for emptying the ponds prior to a major storm event, including responsibilities, will be documented in the irrigation management plan.

The volume of each treatment pond, as specified in Table 2.1, has been calculated to include a 500 mm freeboard to provide additional wet weather storage (refer Appendix A). In the context of the mean annual rainfall at Bourke of 327.9 mm, as recorded by the Bourke Airport Bureau of Meteorology Automatic Weather Station number 048245, 500 mm of wet weather storage (in addition to that required for operation of the ponds) represents a significant wet weather contingency.

iii Irrigation scheduling

The treated effluent will be irrigated over a 38 ha area. This area will be divided into two areas; one for summer cropping and one for winter cropping, with each area planted with species appropriate for that season. The size of the area for the summer and winter crop rotation within the 38 ha irrigation area will be determined and documented in the irrigation management plan.

2.5.3 Salinity and sodicity, and nutrient balances

The required irrigation area was determined based on the predicted characteristics of the wastewater and the outcomes of nutrient balances, which found that an irrigation area of 38 ha would be required. The effluent characteristics, including salinity, sodicity and nutrient levels, will be confirmed during the commissioning stage monitoring program (refer Section 2.5.1). If these characteristics vary from that assumed in the irrigation study provided in the EIS (Envirowest 2016), nutrient and salt balances will be re-calculated and the planned management of the irrigation area adjusted accordingly. Any adjustments will be documented in the irrigation management plan.

A total of around 96 ha of land is available and suitable for irrigation within the project site, as identified in the site plan in Appendix A. With 38 ha identified as being required for irrigation, 58 ha of additional land is therefore available should characteristics such as salinity and sodicity levels be found to be greater than that predicted, providing a large contingency if the need for additional irrigation land is identified.

The management of salinity and sodicity following confirmation of these effluent characteristics will be addressed in detail in the irrigation management plan, which will include calculation of the necessary soil amelioration application rates, and measures to account for yield reductions due to salinity and sodicity should this occur. Monitoring triggers for action and specific actions for key risk factors will also be identified as follows:

- the salinity, major ions and sodium absorption ratio (SAR) of effluent;
- salinity and exchangeable sodium percentage of soil at depths; and
- permeability and water logging measures.

Soil samples will also be taken during construction works and further analysed to confirm phosphorus-absorption rates in comparison to the 4,500 kg/ha derived in the irrigation study. Any subsequent necessary adjustments in irrigation management will be documented in the irrigation management plan.

2.5.4 Pond design

The proposed layout of the treatment ponds is shown in detail in the figure attached in Appendix A. A typical cross section of the treatment ponds is also provided.

The four wastewater treatment ponds will be lined with an EPDM synthetic rubber liner with a permeability of 2.233×10^{-11} to ensure no contamination of groundwater can occur. This exceeds the minimum permeability of 1×10^{-9} specified by the EPA.

As described in Section 2.3, a groundwater bore will be drilled down-gradient of the treatment ponds, which will enable detection of any leakage from the system in the unlikely event that this was to occur. The exact location and design of the bore will be confirmed in consultation with DPI Water prior to construction.

The potential for breakdown of the rubber lining in sunlight was also raised by the EPA in their submission. The liner to be used (ie EPDM synthetic rubber) has been designed for the purpose intended, noting that it will be used in an outdoor environment. The supplier of the liner has confirmed a 25 year warranty on the liner, reflecting it's appropriateness for use.

In relation to the management of sludge build up, the aerobic pond is designed and operated such that solids float to the surface and continually skimmed off the top. Only limited sludge will therefore collect in the base of this pond. The pond will be monitored and sludge cleaned out by an appropriate contractor as required. Sludge build up is not expected in the standing and irrigation ponds given that the effluent has been through primary, anaerobic and aerobic treatment prior to these ponds, removing solids from the effluent. Notwithstanding, these ponds will also be monitored and sludge removed and disposed of off-site by a licensed contractor when required.

2.5.5 Tailwater and stormwater runoff control

A bund will be constructed around the irrigation area to contain and divert stormwater runoff from the irrigation area into a sediment dam. This sediment dam will be designed, installed and operated in accordance with the relevant requirements of the Landcom publication *Managing Urban Stormwater, Soils and Construction, Volume 1* (Landcom 2004) (the 'Blue Book').

2.5.6 Monitoring

The irrigation management plan will detail the site specific monitoring program to be implemented, including a detailed monitoring program for:

- pre-irrigation (baseline) monitoring;
- commissioning monitoring; and
- ongoing monitoring during irrigation.

The monitoring program will include site specific sustainability triggers which will be based on the sustainability indicators in McGahan, Eugene and Tucker (2003) as recommended in the EPA submission, and will include a trigger action response plan based on these trigger values.

2.5.7 Solids management

Manure collected from the holding yards will be composted onsite. A manure composting will be established adjacent to the wastewater treatment ponds, as shown in the plan attached in Appendix A. The area will be lined with the same EPDM synthetic rubber liner that will be used to line the wastewater treatment ponds (refer Section 2.5.4), over which 600 mm of compacted base material will be placed to protect the liner.

The base of the composting area will be constructed with a 0.5% grade such that it drains to a small sump in the corner of the area. Leachate from here will be pumped into the aeration pond for treatment within the site wastewater treatment system. The compost area will also be surrounded by a 3 m wide bund to prevent both clean water runoff entering the area, and runoff from the compost flowing to surrounding land.

Composted manure may be applied to the irrigation area within the project site and surrounding CAPRA landholdings. The application of manure will be taken into account when re-calculating the nutrient balances as part of preparation of the irrigation management plan.

2.5.8 Chemicals in wastewater

Chlorine based disinfectants will be used in the abattoir to ensure all necessary areas are kept clean and hygienic. The specific cleaning chemicals to be used will be determined during the construction phase and will be chosen based on their compatibility with the wastewater treatment system. It is noted however that the small volumes of chemicals to be used will be minor compared to the volume of wastewater to be generated and entering the wastewater treatment system each day (up to 700 kL).

2.5.9 Carcass disposal

CAPRA has identified an area within the project site that can be used to bury carcasses in the unlikely event of a mass mortality at the abattoir, as shown in the plan attached in Appendix A.

The design of the area and procedure for carcass disposal is described above in Section 2.4.

2.6 Roads and Maritime Services

RMS require a dedicated auxiliary left turn lane on the Mitchell Highway that will allow following traffic to pass a left turning vehicle into the project site. Accordingly, the new intersection into the project site on the Mitchell Highway will include a BAL treatment consistent with that provided in Figure 8.3 of Part 4A of *Austroads Guide to Road Design* (rural auxiliary left-turn treatment – short turn land (AUL(S)) on a major road), and reproduced below.

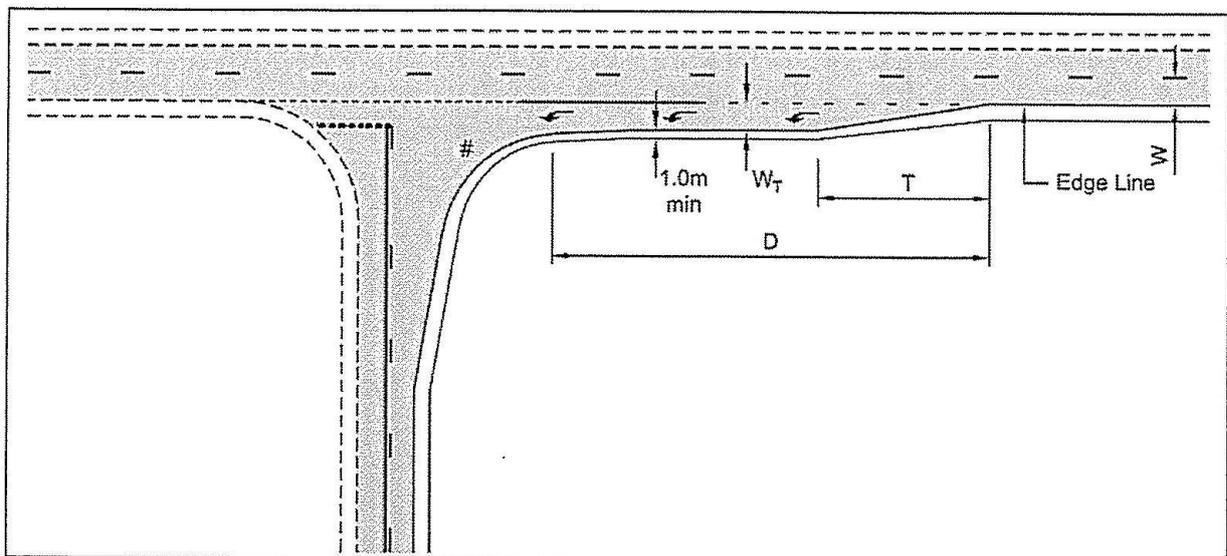


Figure 2.1 Rural AUL(S) treatment with a short left-turn lane

2.7 Office of Environment and Heritage

OEH considered the issues of biodiversity, including the proposed biodiversity offset strategy, and heritage.

2.7.1 Biodiversity

In relation to the offset strategy OEH noted that:

OEH is concerned that while a PVP applies to the land any offsets proposed may not meet principle four 'offsets must be additional to other legal requirements'.

As per the commitment in the EIS and supported by OEH, a biodiversity offset strategy will be developed and an offset secured under a biobanking agreement within 12 months of development approval.

The Property Vegetation Plan (PVP) covering the project site and surrounding lots for which CAPRA has entered into a conditional contract to purchase will be considered in finalising this offset strategy, to ensure that the strategy meets principle four. Relevantly, as discussed in Section 2.8, the LLS and the currently landowners of the project site are in the process of de-registering the PVP.

2.7.2 Heritage

OEH stated in their submission that the Aboriginal cultural heritage assessment for the project adequately addresses the investigation of Aboriginal cultural heritage values, and that the consultation conducted was consistent with OEH consultation requirements.

OEH raised three points for consideration in the development of the heritage management plan; firstly, that a clear long term management plan for the artefacts be developed. As described in the EIS, a keeping place (designated secure area) will be established within the offices on site to store all Aboriginal stone artefacts collected from the project site, and a selection of these artefacts will be put on display. All associated reports and records will be stored in close proximity to the artefacts in a bound hard copy and digital form. All materials will be held in a locked cabinet (both those objects on display and those in storage). Further detail on the proposed long term management of artefacts, including whether a Care Agreement will be lodged with OEH, will be provided in the heritage management plan.

Secondly, the irrigation area will be surveyed, and any artefacts found collected accordingly.

And finally, Aboriginal site cards have been prepared for all sites found during the site survey conducted as part of the preparation of the Aboriginal cultural heritage assessment, and these cards have been lodged with the Aboriginal Heritage Information Management System (AHIMS).

2.8 Local Land Services – Western Region

2.8.1 Travelling stock reserve and stock watering hole

The submission from LLS notes that there is travelling stock reserve (TSR) and stock watering place (SWP) called Gidgee Camp Bore adjacent to the project site. In relation to the TSR, LLS raises the potential for collision with stock and disruption to stock movement due to the increase in traffic along the Mitchell Highway as a result of the project. This risk is acknowledged, however is considered to be negligible as described below.

The traffic impact assessment undertaken for the project investigated the relative increase in traffic on the Mitchell Highway past the proposed abattoir site access point. As documented in Section 9.3.1 of the EIS, a negligible 7% increase in traffic from existing traffic volumes on the Mitchell Highway immediately north of the project site is predicted. The associated increase in the risk of collision with stock using the TSR would also be negligible. South of the project site, a much greater increase in traffic volumes of 88% based on existing levels is predicted on the Mitchell Highway. However, there are low existing traffic volumes using the route currently in comparison to other major rural highways in NSW.

Although noticeable, these traffic increases will generally have only minimal future effects on traffic operations, level of service and traffic safety for the future local and regional traffic using the Mitchell Highway route, which will remain within acceptable levels.

The Gidgee Camp Bore is located some 5 km from the proposed location of the abattoir. As documented in Section 13.3 of the EIS, no impacts on groundwater are predicted as a result of the project for the following reasons:

- excavation works during construction will not exceed 3 m bgl. With no groundwater found to a depth of 8.8 m bgl during drilling conducted on site, no interception of groundwater during construction is anticipated. Groundwater depths will be confirmed during drilling of the monitoring bores to be installed at the start of the construction phase (refer Section 2.3);
- all wastewater produced by the abattoir will be contained in a closed wastewater collection system. The wastewater treatment ponds will be lined with an EPDM synthetic rubber liner, preventing seepage of the wastewater into the ground;
- irrigation scheduling will ensure irrigation only occurs when the soil and crop require moisture, minimising the potential for runoff and seepage from the area; and
- a 15 m wide vegetative buffer zone consisting of grasses, shrubs and trees will be maintained immediately downslope of the irrigation area to slow down and capture any runoff that occurs from the irrigation area.

Notwithstanding, and as described in Section 2.3, a groundwater monitoring program will be implemented to ensure no groundwater contamination and subsequent offsite impacts occurs as a result of the project.

2.8.2 Property vegetation plan

LLS request that contact be made prior to DA approval to discuss the PVP that currently applies to the project site.

CAPRA have consulted with LLS, who have advised that the existing landowner and LLS are currently progressing de-registration of the PVP. Once this process is complete the PVP will no longer apply to the project site or the development.

3 Summary

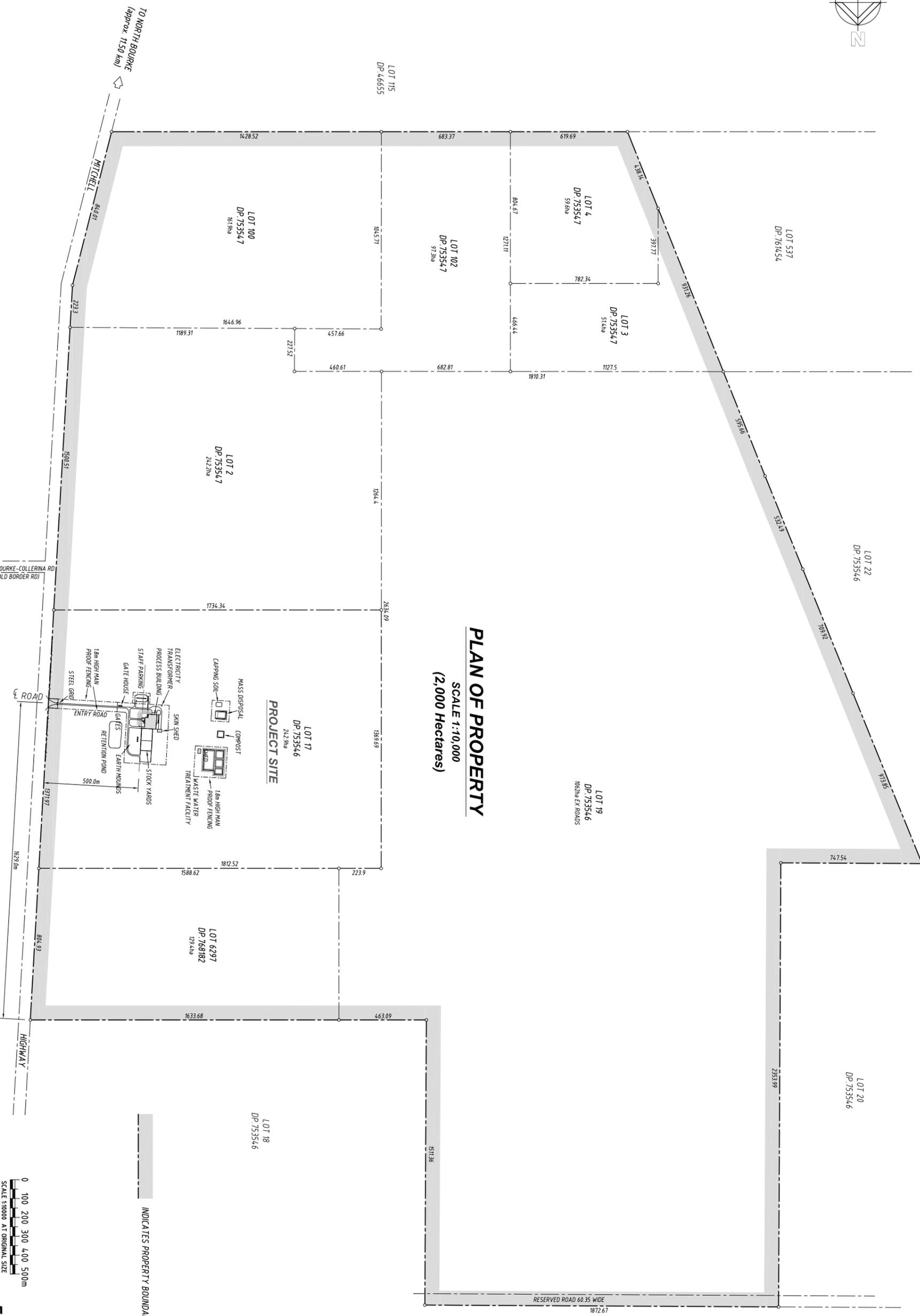
A summary of the commitments made in response to the submissions received relating to the project is provided below.

- Waste produced by the abattoir will be transported offsite by licensed contractors and disposed of at facilities appropriately licensed to accept such waste. Waste will not be disposed of at the BSC landfill unless an appropriate upgrade of the facility occurs.
- The new intersection into the project site on the Mitchell Highway will include a dedicated auxiliary left turn lane that will allow following traffic to pass a left turning vehicle. The BAL treatment will be consistent with that provided in Figure 8.3 of Part 4A of *Austrroads Guide to Road Design* (rural auxiliary left-turn treatment – short turn land (AUL(S)) on a major road).
- Two groundwater monitoring bores will be drilled at the commencement of construction works within the project site to intercept the water table in the Upper Darling Alluvial Groundwater Source, to a minimum depth of 20 m bgl, to establish groundwater levels and baseline groundwater quality.
- An assessment of the impact of the project against the minimal impact considerations in the AIP will be undertaken once sufficient baseline data is obtained, and prior to irrigation commencing.
- An EMP will be developed in consultation with relevant government agencies, which will outline the environmental management measures to be implemented on-site, including those committed to in this RTS report, within 6 months of receiving project approval.
- A pit for the on-site burial of carcasses in the unlikely event of a mass mortality will be constructed, as per the design and layout shown in the plans attached in Appendix A to this report. This pit will be lined with an EPDM synthetic rubber liner with a permeability of 2.233×10^{-11} , and in the event carcasses are disposed of there, the pit will be capped with approximately 1 m of cover.
- Manure collected from the holding yards will be composted in the designated area as shown in the plans included in Appendix A of this report. The area will be lined with the same impervious rubber membrane that will be used to line the wastewater treatment ponds and mass disposal area, over which 600 mm of compacted base material will be placed to protect the liner.
- A 15 m wide vegetative buffer zone consisting of grasses, shrubs and trees will be maintained immediately downslope of the irrigation area to slow down and capture any runoff that occurs from the irrigation area.
- A site specific irrigation management plan will be developed for the abattoir in consultation with the EPA prior to irrigation commencing, and will include:
 - a detailed monitoring program for:
 - i) pre-irrigation (baseline) monitoring;
 - ii) commissioning monitoring; and
 - iii) ongoing monitoring during irrigation.

- contingencies in irrigation management to be implemented if the effluent quality determined during commissioning monitoring differs from that predicted. In this instance nutrient and salt balances will be recalculated, and the planned management of effluent irrigation adjusted accordingly;
 - management and mitigation measures for the range of potential site limitations for irrigation, including saline soils, sodic soils, and low phosphorus sorption capacity;
 - wet weather overflow management measures;
 - the procedures for emptying the standing pond and irrigation pond prior to a major storm event, including responsibilities for management of these ponds;
 - the size of the areas to be planted with summer and winter crops;
 - site specific monitoring triggers for action and specific actions for key risk factors will also be identified as follows:
 - i) the salinity, major ions and sodium absorption rate (SAR) of effluent;
 - ii) salinity and exchangeable sodium percentage of soil at depths;
 - iii) permeability and water logging measures; and
 - iv) measures to account for yield reductions due to salinity and sodicity.
 - design and management of the bund and sediment dam to be constructed to capture runoff from the irrigation area.
- Soil samples will be taken during construction works and further analysed to confirm the phosphorus absorption rates in comparison to the 4,500 kg/ha derived in the irrigation study prepared as part of the EIS.
 - An offset strategy for the project will be developed in consultation with DP&E and OEH within 12 months of development approval.
 - A Heritage Management Plan will be developed for the project in consultation with the registered Aboriginal parties, OEH and DP&E, and will include a long term management plan for the artefacts collected from the project site.
 - All areas within the disturbance footprint (as shown on the layout plan in Appendix A) that were not surveyed as part of the heritage assessment completed for the EIS, such as the 38 ha irrigation area, mass disposal area and manure composting area, will be surveyed for heritage items prior to the commencement of any on-ground works. Any artefacts found will be managed in accordance with the management measures detailed in the Heritage Management Plan.

Appendix A

Site Plans



PLAN OF PROPERTY
SCALE 1:10,000
(2,000 Hectares)



FOR APPROVAL

No.	Revision Description	Drawn	Approved	Date
A	ISSUED FOR APPROVAL	LGH		15.06.16
B	FENCING REVISED	LGH		16.06.16

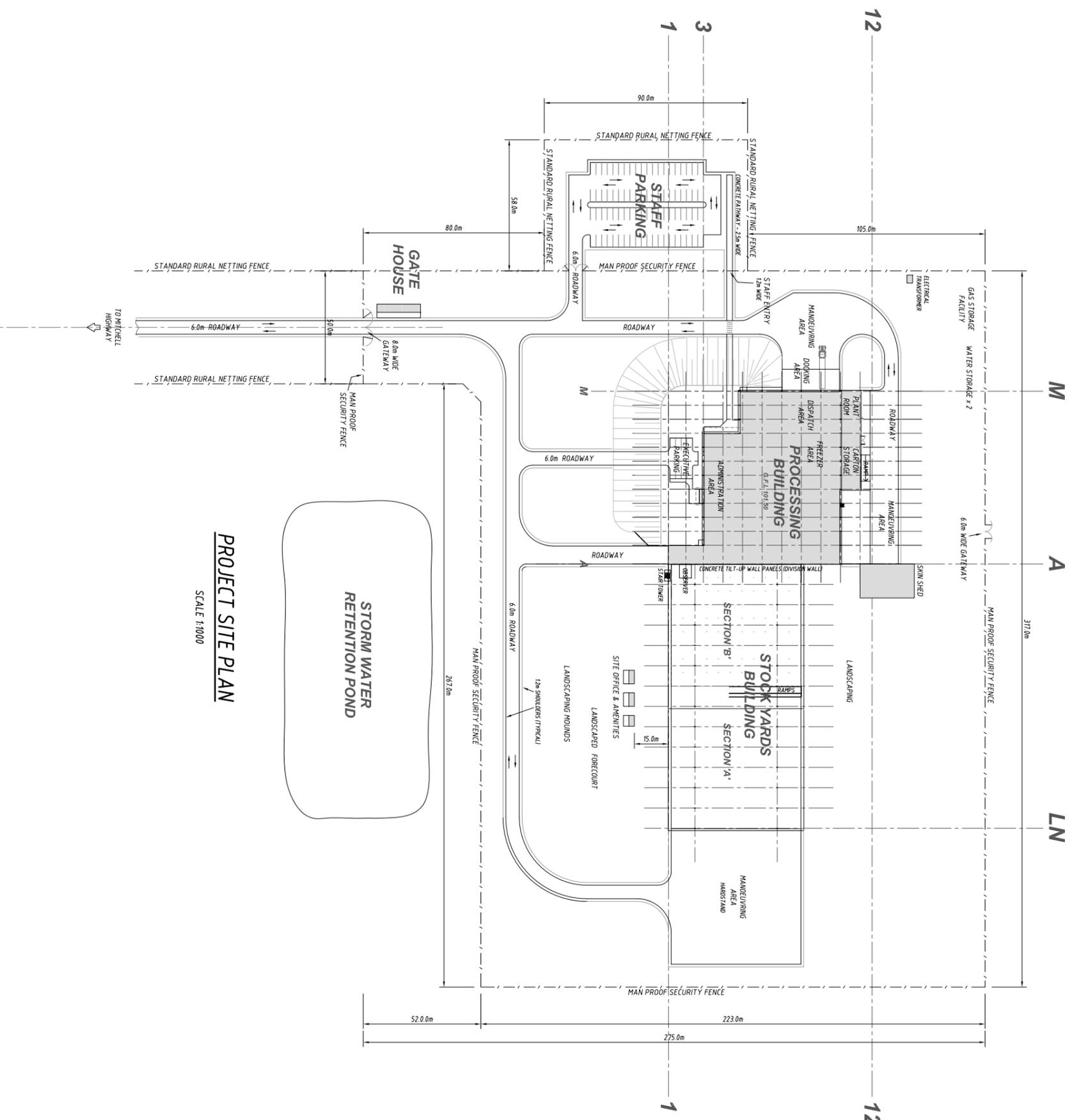
SARAN
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P.O. Box 8431, Orange, N.S.W. 2800

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Project
PROPOSED SMALL STOCK ABATTOIR
MITCHELL HIGHWAY, BOURKE N.S.W.
Title
PLAN OF PROPERTY

Client	CAPRA DEVELOPMENTS PTY LTD		
Drawn	LGH	Designed	
Scale	AS SHOWN	Date	FEB. 2016
Drawing No:	32061-A.01		Rev: B A1



PROJECT SITE PLAN
SCALE 1:1000



FOR APPROVAL

No.	Revision Description	Drawn	Approved	Date
B	FENCING REVISED	LGH		16.06.16
A	ISSUED FOR APPROVAL	LGH		14.06.16

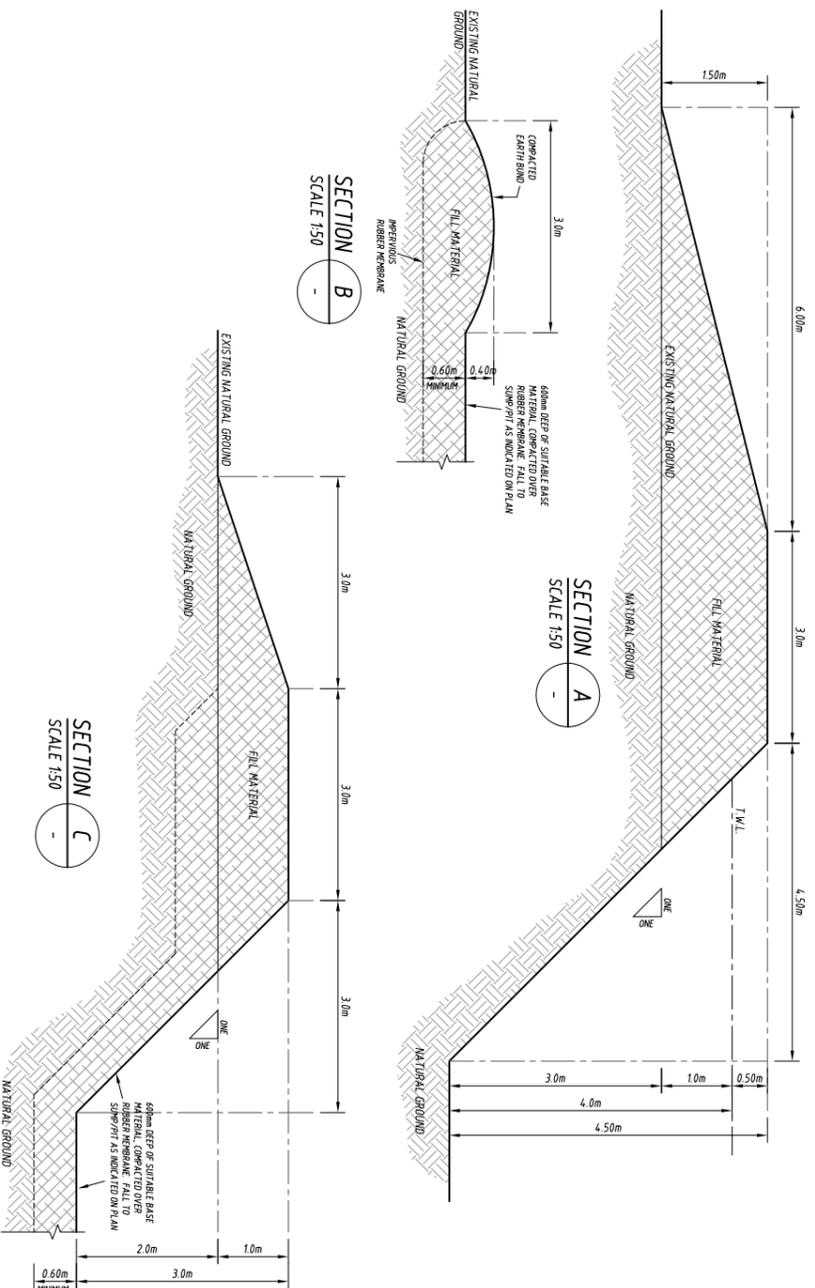
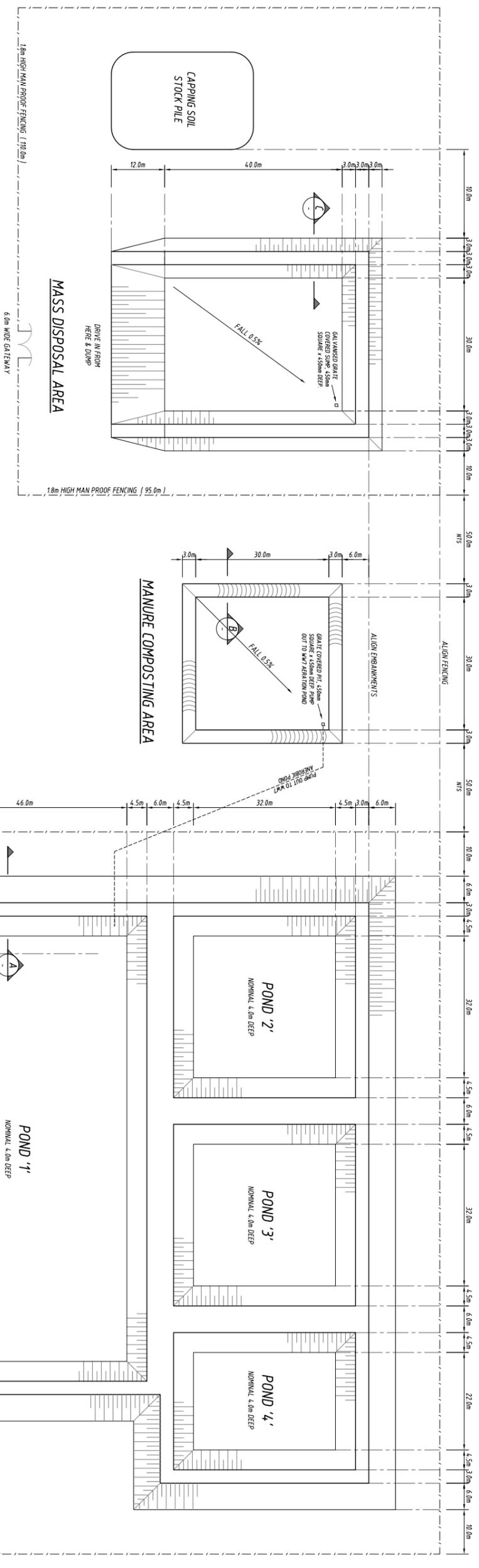
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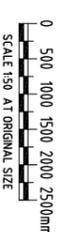
Project
PROPOSED SMALL STOCK ABATTOIR
MITCHELL HIGHWAY, BOURKE N.S.W.
Title
PROJECT SITE PLAN

Client
CAPRA DEVELOPMENTS PTY LTD
Drawn
LGH
Designed
Date
FEB. 2016
Scale
AS SHOWN
Drawing No:
32061-A.03
Approved
Rev:
B
A1



PLANS OF EVAPORATION PONDS, MANURE COMPOSTING & TIP AREAS

SCALE 1:500



FOR APPROVAL

- POND '1' - ANEROBIC - 32 DAYS - 22 Meg.
- POND '2' - AERATION - 7 DAYS - 5.0 Meg.
- POND '3' - STANDING - 7 DAYS - 5.0 Meg.
- POND '4' - IRRIGATION - 5 DAYS - 35 Meg.

No.	Revision Description	Drawn	Approved	Date
B	GENERALLY REVISED	LGH		16.06.16
A	ISSUED FOR APPROVAL	LGH		14.06.16

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Project
PROPOSED SMALL STOCK ABATTOIR MITCHELL HIGHWAY, BOURKE N.S.W.
Title
PLAN OF WASTE TREATMENT FACILITIES

Client
CAPRA DEVELOPMENTS PTY LTD
Drawn
LGH
Designed
Date
JUNE 2016
Approved
Drawing No:
32061-A.05
Rev:
B
A1



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