Preliminary assessment of the potential for a small-scale multi-species abattoir in the ACT

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For:
The Territory as represented by the Environment, Planning and Sustainable Development Directorate (EPSDD).

March 2026

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- Possession of an Australian Financial Services (AFS) Licence
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Table of Contents

About the Author

Tammi Jonas has personal expertise as a farmer, butcher, meat inspector, and Australian Food Sovereignty Alliance's focal point for farmers. In 2024 she completed a PhD on the rise of agroecology and a new peasantry in Australia, who face many legislative barriers to rebuilding the supply chain infrastructure intrinsic to direct sales models that feed local communities. Tammi and her partner Stuart Jonas are nearing completion of a micro-abattoir build at Jonai Farms & Meatsmiths on unceded Djaara Country in the central highlands of Victoria.

Background

A recent survey of farmers by the Australian Food Sovereignty Alliance (AFSA) found that nationally, 80% of respondents have lost access (or are about to lose access) to service kills at their closest abattoir in the past five years[1]. (A 'service kill' is a fee-for-service model in which farmers retain ownership of the carcass after slaughter to sell the meat as they choose, as opposed to selling livestock to the abattoir for processing and sale by the processor.) Communities across the country are collectivising to build micro-abattoirs, and AFSA and state-based allied organisations are lobbying for reforms to simplify this process given its increasing urgency.

In this context, the ACT Government commissioned an initial assessment of the potential for a small-scale ("micro") multi-species abattoir in the ACT. A micro-abattoir in this report refers to operations that process less than 120 tonnes per year

Executive Summary

The consolidation of ownership in the food system—especially processing infrastructure like abattoirs—is creating challenges for small- and medium-scale farms and rural communities in Australia and elsewhere. As of 2024, the only known abattoir offering service kills within range of Canberra is in Picton (in Sydney), highlighting a critical gap in infrastructure for local meat production. Australia's export-oriented agricultural policy tends to benefit larger producers, and place smaller farms at a disadvantage. At the same time, an increasing number of farmers are adopting more localised, agroecological approaches that emphasise community, environmental sustainability, and system resilience. A growing, farmer-driven interest in establishing micro-abattoirs reflects this broader shift, though there are still open questions about the role of government in supporting such infrastructure. International examples from the UK, Aotearoa/New Zealand, Canada, and the US demonstrate policy approaches that can reduce regulatory burdens, and provide funding for small abattoirs, recognising their value to rural economies and local food security.

The benefits of a micro-abattoir located in the ACT could potentially be multiple, including improvements to animal welfare from significantly reduced transport times, and associated improved well-being of farmers. A local abattoir could provide opportunities for the development of circular economies in the form of waste conversion to local fertiliser or energy, reducing emissions and reliance on synthetic inputs to agriculture. A local abattoir could also potentially help slow or reverse the decline of small- and medium-scale farms by enabling them to participate more effectively in local food systems, improve their income, and reduce production and transport costs. For consumers, such an abattoir would mean improved availability of local, ethical meat from pasture-raised animals. Circular economic practices, shorter transport distances, the use of renewable energy, and support for farms that reduce emissions and sequester carbon could contribute to addressing climate change, while also strengthening the resilience of local food systems to climate-related and pandemic-related risks.

The following summary outlines the key findings and recommendations related to regulatory and operational requirements, provides an assessment of risks and benefits, and sets out proposed next steps.

Regulatory Requirements

Zoning and Site Selection

Micro-abattoirs face challenges under the current ACT Territory Plan, which lists abattoirs as examples of 'offensive industry,' implying they can only be sited in Industrial Zone 1 (IZ1) as a primary land use. However, micro-abattoirs could be considered as 'ancillary use'—a secondary

[1] https://afsa.org.au/survey-report-secure-the-future-of-small-scale-livestock-farming/

activity on land primarily used for agriculture—which could allow them to be sited in rural zones NUZ1 (Broadacre) and NUZ2 (Rural), subject to planning approval and alignment with the Planning Act 2023.

Jurisdictional Precedents

In Victoria, abattoirs are considered 'rural industry' and are permitted in farming zones. The 2024 Victorian Civil and Administrative Tribunal (VCAT) decision approving a micro-abattoir at Jonai Farms set a legal precedent that small-scale meat processing is intrinsically linked to agricultural activity and can be compatible with rural zoning. South Australia has the most enabling framework, with small-scale 'stock slaughter works' being fast-tracked in rural zones without public advertising.

Infrastructure and Services

A farm-based facility could offer advantages including proximity to livestock, reduced animal stress, and easier avoidance of sensitive urban areas. Key requirements for establishing a such abattoir include:

- **Cold Chain Logistics**: Carcass transport vehicles are needed, and a local abattoir offering this service could reduce emissions and costs to farmers.
- **Water Supply**: Water must be potable and meet hygiene requirements. Micro-abattoirs use significantly less water than large facilities (as little as 0.175 kL/tonne carcass weight). Where no mains supply is available (such as on most farms), options include tank or bore water with appropriate treatment systems.
- **Power**: Access to three-phase power is ideal. Renewable energy systems such as solar with backup generators (e.g. waste vegetable oil-fuelled) are preferred for sustainability.
- **Waste Management**: A closed-loop waste system is recommended, including biodigesters, worm farms, or compost drums to reduce odour and create value-added products like biofertiliser. Environment Protection Authority (EPA)-compliant waste management plans are required.

Biosecurity and Food Safety

Facilities must develop a comprehensive Biosecurity Plan including controls for visitors, personal protective equipment (PPE), disease traceability, waste, and animal transport. Abattoirs must also register as food businesses with ACT Health under the Food Act 2001. This includes:

- Submitting a detailed Food Safety Program (FSP) and Hazard Analysis and Critical Control Points (HACCP) plan
- Undergoing inspections and regular audits
- Ensuring ante- and post-mortem inspections are conducted by qualified meat safety inspectors
- Currently, only a small number of Registered Training Organisations in Australia offer the required qualification for meat inspection (Certificate III in Meat Processing – Meat Safety). State and Territory governments should address this shortage through targeted policy and funding initiatives as a priority**.**

Animal Welfare

High animal-welfare standards must be built into the facility's design, operations, and organisational culture. This requires appropriate staff training—especially for stunning and slaughter—and key features such as:

- use of high-welfare stunning methods (e.g., captive bolt)
- facility design elements like curved races, suitable lighting, and non-slip flooring
- measures to minimise noise and stress during handling.

Operational Recommendations

Livestock

A **multi-species abattoir** that accommodates both small and large animals—including poultry—is the recommended operational model to meet the diverse needs of the Canberra region's agricultural community. An abattoir that processes multiple species also increases flexibility and mitigates risks associated with seasonal fluctuations in livestock availability.

Labour Requirements

Labour force planning is critical to operational success:

- Micro-abattoirs can operate with small, versatile teams, typically two for slaughter/dressing and one for droving.
- At least one worker, and preferably more, should be trained as a **meat inspector**.
- Administrative functions may be fulfilled by part-time or multi-role staff.
- A strong **manager-slaughterer** role is essential to oversee food safety, animal welfare, scheduling, and inventory.
- A multi-skilled workforce can improve job satisfaction, reduce workplace injuries, and strengthen operational resilience through shared skills.

Design and Scale

The facility design must be tailored to species-specific needs:

- All slaughter must occur **indoors** under Australian Standard AS4696:2023 (Hygienic production and transportation of meat and meat products for human consumption).
- Required equipment differs by species: scalding tanks or tumblers for pigs, pluckers for poultry, skinning cradles for cattle and sheep.
- Operational considerations include noise mitigation, odour control, smooth workflow, and **cross-contamination prevention**.
- **Carcass rail height** (4.5-5m for cattle) and rail strength influence both processing throughput and carcass quality.
- **Refrigeration capacity** is a key constraint, determining both the scale and the frequency of slaughter.
- Clean/dirty zones, hand sinks and knife sterilisers, and **best-practice airlocks** help maintain hygiene and workflow efficiency.
- Ultimately, the facility's **scale should be defined by community and environmental needs**, not market growth pressures.

Ownership and Governance

Robust, farmer-led governance is essential for long-term success. Three main ownership models are outlined:

- **Proprietary Limited (Pty Ltd):** A private company with farmer-shareholders, allowing for flexible rights and risk-reward structures.
- **Cooperative:** A democratic model supporting member needs; success is higher when member goals are aligned.
- **Incorporated Association:** A low-barrier legal structure that creates a separate legal entity with limited liability for members and full capacity to enter contracts, while unsuitable for distributing profits or raising private investment.

Key **governance** principles:

- Financial sustainability without profit extraction
- External funding rather than debt-based capital investment
- Democratic decision making by member-users

Food Hub Linkage

A micro-abattoir could potentially be integrated with a **local food hub**. Such a partnership would deliver:

- Shorter supply chains
- Improved access to locally produced meat for consumers in the ACT region
- Circular economies and low-emissions outcomes
- Stronger economic viability for small-scale producers
- Improved resilience to climate change and pandemic risks

Risk and Benefit Assessment

Circular Economy and Climate Benefits

A micro-abattoir can play a pivotal role in building circular economies:

- **Avoided waste**: Offal and other by-products can be processed for local pet food or fertiliser.
- **Nutrient cycling**: Localised reuse of waste (as compost, animal feed, mulch, biogas) reduces emissions and can improve soil health.
- **Energy from waste**: Biodigestion and other closed-loop or localised systems (e.g. waste vegetable oil from local cafes) can support energy self-sufficiency.

Animal Welfare and Social Licence

Small-scale abattoirs can provide higher animal-welfare standards , especially when designed to high standards (e.g. Temple Grandin-style lairage). Maintaining social licence to operate requires openness, trust, and cultural sensitivity, when responding to misinformation or activism. .
Community values around ethical treatment can be upheld through:

- **Transparent operations** and public education on slaughter processes.
- **Proactive training** in animal handling, supported by strong animal welfare policies and fair labour conditions.
- **Use of CCTV** to support verification of operational standards, anticipate likely future compliance requirements, and respond effectively to activism and public scrutiny.

Governance Risks and Models

Three governance scenarios were assessed:

- **Government-Owned:** Past experience shows that this model can face difficulties due to weak accountability (e.g. the example of Canberra Abattoir), highlighting the need for full-time, dedicated management and robust oversight if this model is pursued.
- **Community-Owned with Government Support:** The **recommended** model for the ACT. In this model, infrastructure is supported by grant funding, while governance rests with a cooperative or association. However, the Murray Plains Meat Cooperative case illustrates the risks that can arise when collaboration between councils and communities is weak — resulting in costly retrofits, delays, and trust erosion. Lessons include the importance of meaningful engagement, shared decision-making, and community empowerment from the outset.
- **Privately Owned:** While common and sometimes effective, risks include facility closure or refusal of service if ownership or priorities shift. This model offers less long-term security for broader community use unless backed by cooperative governance structures (e.g. Jonai Farms' Meat Collective).

Financial Risks and Mitigation

The emphasis on economies of scale in industrial abattoirs tends to drive consolidation in the sector, which can exclude small scale producers. A micro-abattoir counters this by:

- Avoiding debt through **public grants, self-funding, or fundraising**.
- Minimising fixed costs with **multi-skilled teams** and shared infrastructure.
- Creating a **service-kill-only model**, avoiding the risk and capital drain of purchasing and marketing livestock.

Although corporate processors often receive substantial government subsidies, small-scale initiatives frequently remain underfunded. There is a need for advocacy to ensure that modest, equitable funding is directed toward cooperatives that deliver public benefits.

Operational and Seasonal Risks

Operational costs can be stabilised by:

- Maintaining a lean and cross-trained workforce.
- Designing for year-round, multi-species slaughter to reduce seasonal variation.
- Integrating the facility in a regenerative system that recycles waste and relies on renewable energy.

Legal and Regulatory Compliance

Micro-abattoirs must navigate a complex legal landscape, including food safety, occupational health and safety (OH&S), and animal welfare laws. Risks include shutdowns or reputational damage due to non-compliance, legal liability for worker injuries, and misunderstandings with farmers, especially regarding carcass damage, traceability, and scheduling.

These risks are mitigated through:

- Robust **food safety programs**, comprehensive **training**, and transparent **induction processes** for farmers.

Next Steps

To commence the process towards a potential small-scale abattoir in Canberra or the region, it is recommended that the ACT Government partner with a farmers' organisation (for example the Southern Harvest Association) to establish a working group. They should first jointly agree on the group's decision-making processes and administration. The working group should then map all farmers who currently sell meat directly into the ACT and the broader Canberra region, and document the average number of livestock each processes per month. This will help determine the appropriate scale and location of a potential future facility. Input should also be sought from commodity farmers who could take up the opportunity to transition into direct sales.

Once these data are gathered and relationships established, investigations in regard to a potential site can begin, alongside discussions with the Territory Planning Authority to clarify land use, zoning and other regulatory requirements. Early work should also focus on securing access to meat-inspection training for farmers.

Farmers will likely need to form a cooperative—similar to the Murray Plains Meat Cooperative—unless another structure is preferred. Funding could come from a mix of grants, community fundraising, and farmer investment through cooperative shares.

High Level Process Diagram

NB While ownership and governance are placed last on the diagram, in fact these discussions should take place before proceeding with site selection, design, or funding. However, the process can proceed while determining the best structure (e.g. level of (if any) government involvement, company v. cooperative).

PROCESS EXPANDED

Context

Increasing consolidation in the food system—particularly in processing infrastructure—is contributing to the decline of small- and medium-scale farms and the weakening of rural communities worldwide [2]. The Australian Government's focus on competitiveness and export markets is intended to support the entire agricultural sector [3], however, in 2016–2017, this approach saw 14 per cent of farms account for 59 per cent of the total market value [4]. Industrial livestock produced for the export market are bred to maximise productivity and profitability, resulting in uniformity of animal carcasses suited to the standardisation required by high-volume slaughter facilities such as those processing up to 2,500 pigs per day. This emphasis on uniformity can disadvantage producers of slower-growing heritage breeds raised on pasture, whose more variable carcasses are not well suited to highly mechanised processing lines. The concentrated processing sector also brings heightened food security and food safety risks[5], as witnessed when many abattoirs were forced to close during COVID outbreaks. In the state of Victoria, capacity restrictions reduced abattoirs' throughput to 80 per cent during repeated restrictions, leaving some farmers with no access to processing for months at a time, while larger producers were given priority.

The loss of the 'infrastructure of the middle'[6] – such as smaller scale abattoirs, grain mills, dairy processing– particularly impacts on the 'agriculture of the middle'[7], the mid-sized farms operating in the space between the vertically-integrated commodity markets and direct to consumer markets. This gap is often described as a 'missing middle', and there is an argument that small producers need third-party-controlled facilities so they can trade with large customers[8]. The dominance of commodity markets is rarely contested, leading to business-as-usual proposals for small- and medium-scale farmers to maintain viability by aggregating their efforts in order to access middlemen to process and distribute their produce within commodity markets

Common sense advocacy for such middle infrastructure fails to centre farmers' knowledge and skills to build solutions collectively for the infrastructure that is intrinsic to local agricultural production, with aims to re-embed food systems in local economies[9]. In many parts of world the notion of a linear supply chain does not fit the reality, as smallholders grow, harvest, process, and distribute their produce in local 'nested markets'[10]. As re-localisation counters the long-standing process of globalisation, many farmers are (re)turning to direct sales and social solidarity economies (ie those that prioritise social and often environmental objectives over profit). In doing so, they recognise the need to (re)gain control of the means of production[11]. In these models, a network of farmers embedded in their local communities are providing food rather than commodities and reducing emissions while increasing farm and community resilience[12].

In this context, farmers in and around the ACT (who are almost exclusively small and medium scale) are interested in developing a micro-abattoir. This infrastructure is essential to enable direct to consumer sale of meat from animals raised in the region. A central question is what role governments should play in supporting such infrastructure. To answer this, it is helpful to first briefly review what actions other countries and jurisdictions are taking.

[2] McMichael 2009, 2013; Muir 2014; Berti 2020
[3] Richards et al. 2016; Iles 2020
[4] ABARES 2021: 4
[5] Wallace 2021
[6] Stahlbrand 2018
[7] Kirschenmann et al. 2008: 3
[8] Morley et al. 2008: 2
[9] Wezel et al. 2020
[10] van der Ploeg et al. 2012
[11] van der Ploeg 2008
[12] Wittman 2009

International policy and funding support for small-scale abattoirs

A 2019 UK report by the All-Party Parliamentary Group for Animal Welfare entitled 'The Future For Small Abattoirs In The UK: Report on an Inquiry into Small Red Meat Abattoir Provision'[13] recommended the following:

> Government should consider low capacity abattoirs processing under 1,000 LSUs[14] and running alongside other farming and processing activities being deemed agricultural buildings with respect to business rates and building control.
>
> Government should ensure that public bodies and in particular, economic partnerships or forums see small abattoirs as essential infrastructure supporting the rural economy.
>
> Local government should seek to support local food production by procuring locally supplied meat where possible, including using the local abattoir network.
>
> Building regulations classifying in "Sui Generis" terms should be changed to regard small abattoirs as agricultural facilities.

Subsequently in 2019, the Prince of Wales convened a roundtable of farmers, butchers, grocers, abattoir owners and others in the meat supply chain to better understand the context of the declining number of abattoirs in the UK, and to explore the sustainability and viability of small-scale abattoirs that offer service kills. The roundtable recommended that the Royal Countryside Fund[15] commission research into:

> 'the rapid shrinkage in the number of local abattoirs – from 1,146 licenced red meat abattoirs in Great Britain in 1979, to just 213 such abattoirs across the UK in August 2020 (with 13 smaller abattoirs who offered private kill having closed in the 20 months prior).'

Of 17 key conclusions, several point to the essential nature of service kills to the viability of small-scale livestock farmers, and one refers specifically to the need for government intervention to maintain diversity in the scale and model of slaughter options:

> [3] Without support to rebalance these economic forces, for example to help smaller abattoirs purchase species-specific specialist equipment and to simplify the regulations they operate under (perhaps using the "de minimis" derogations available to European abattoirs under EU Directive 853/2004/EC (European Commission, 2004: p 47)), smaller abattoirs will continue to close.

The eight recommendations include a range of targeted areas for policy reform and funding support, including by redirection of a proportion of the slaughter levy to fund a small abattoir advisory group. Most of the recommendations underscore the importance of applying a scaled lens to regulations of abattoirs, including:

> applying the "de minimis" derogation to reduce the regulatory burden imposed on small abattoirs which supply meat locally.

[13] https://apgaw.org/wp-content/uploads/2020/06/The-Future-for-Small-Abattoirs-in-the-UK.pdf
[14] 'Livestock Units' – a measure of livestock equivalent nutrient inputs and outputs similar to the more common DSE (dry sheep equivalent) used in Australia, in which a two-year-old-plus steer or dry heifer = 1 LSU.
[15] https://www.royalcountrysidefund.org.uk/our-impact/our-research/all-on-the-table/

In 2023, the UK Government responded to the reports with the creation of The Smaller Abattoir Fund (Dec 2023)[16], which offers funding support to small abattoirs in the range of £2,000 to £60,000.

Aotearoa/New Zealand also recognises the importance of scale in its regulatory approach to abattoirs, and has developed a Risk Management Template for Micro-Abattoirs[17] that process fewer than 20 large animals or 50 small animals per day. In 2021, Canada also produced its Farmgate and Farmgate Plus licences[18], which take a lighter regulatory approach to very low throughput facilities selling into direct markets, and since 2020, the USDA has offered funding support to micro-abattoirs through its USDA Assistance for Small-Scale Meat Processors[19] program.

A brief history of abattoirs servicing the ACT

Those who cannot remember the past are condemned to repeat it.

~George Santayana

Until the 1980s, there were abattoirs in most regional towns across Australia, including those surrounding the ACT in NSW, many of which were government owned and operated. A 2019 ABC article[20] examining the history of abattoirs in Australia found that at the dawn of the 20th century, state governments and councils determined to take control of slaughter after Upton Sinclair's ground-breaking book *The Jungle* shone a spotlight on the horrific conditions for animals and workers in many meat processing works in the US, a situation mirrored in Australia and elsewhere. Large abattoirs were built in the capital cities and governments began implementing higher standards of hygiene, animal welfare and work safety. The article claims that:

> At the same time that governments were building large-scale abattoirs to supply the domestic markets, entrepreneurs were investing in private abattoirs looking to export.

By the 1950s, there was a move to decentralise, and councils built many abattoirs in regional towns, shifting slaughter back away from cities and closer to where animals were grown. In 1942, the Commonwealth built the Canberra Abattoir (though it burnt down during construction and was re-built, commencing operations in 1943). The abattoir was governed by the Department of Health, but it

> was not conducted as a full service abattoir in that the Department provided only the facilities for slaughter, storage of carcases in chillers and the handling of by-products. Slaughtering was carried out by a number of licensed operators who paid a killing charge for each animal slaughtered and provided their own labour for this purpose.[21]

[16] https://www.gov.uk/government/news/applications-open-for-new-4-million-fund-to-support-smaller-abattoirs
[17] https://www.mpi.govt.nz/dmsdocument/29528-Risk-Management-Programme-RMP-Template-for-Micro-Abattoirs
[18] https://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/food-safety/meat-inspection-licensing/farmgate-and-farmgate-plus-licences
[19] https://www.fsis.usda.gov/shared/pdf/USDA-Assistance-for-Small-Meat-Processors-7-28-2020.pdf
[20] https://www.abc.net.au/news/rural/2019-06-29/animal-welfare-expectations-change-the-meat-industry/11173092
[21] Report from the Senate Select Committee on the CANBERRA ABATTOIR, THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA 1969—Parliamentary Paper No. 99, https://www7.austlii.edu.au/au/other/cth/AUSSelCPubInq/1969/8.pdf

In 1969, the Government sold the Canberra Abattoir to its main user, Red Hill Meat Supply, even as a Senate Inquiry into the sale was underway. The Minister for Health at the time withheld a key inter-departmental report on the abattoir, so the Senate Committee had to rely on Minister's public statements, which cited cost of upgrades, declining market share, excess capacity in NSW abattoirs, stock availability, long-distance transport efficiency, and regional development as reasons for the sale. However, other evidence to the Committee showed strong support for retaining a government-run, full-service abattoir and little support for the official rationale. The Committee concluded the facility should have remained under government control, though it accepted that the purchaser could continue operations with government-funded upgrades.

The Canberra Abattoir closed permanently in 1997, having suffered temporary closures in 1982[22], and 1991[23], the latter caused when the new national budget withdrew support for meat inspector salaries (previously the government paid 40% of those wages), leaving many abattoirs with a deficit for which they were unprepared.

In the 1970s and 80s, many regional abattoirs closed, in part due to price volatility in the increasingly export-focused market (especially during the 1970s energy crisis), and partly due to extreme drought across the eastern states between 1979 and 1983. According to a 1983 Parliamentary Commission Report[24], many abattoirs in regional towns had been and still were the major employer, key to the town's economic base. But variability in demand was causing considerable market uncertainty for processors, and the Australian Exporters' Federal Council made a recommendation towards 'rationalisation […] to increase capacity utilisation and increase returns within the industry,' suggesting that the government use 'closure compensation schemes' to encourage smaller facilities to close. The government declined.

Which abattoirs are left?

While there are many abattoirs surrounding the ACT region, very few offer service kills to local farmers. Many are partly or fully vertically integrated – that is, they own the supply chain from production to processing and retailing meat from their own livestock (this is especially true of family-owned sheep abattoirs). Most cattle and sheep abattoirs are 'purchase-process-sell' models, which are export oriented and purchase livestock through saleyards or on contract from medium and large-scale operations, including feedlots. While historically many offered service kills to local farmers and butchers, very few continue to offer this service.

The map in Figure 1 shows the abattoirs within a four-hour drive of Canberra, and their status: offers service kills, does not offer service kills, and recently closed.

[22] Canberra Times, 19 August 1982, p. 15
[23] Canberra Times, 12 April 1991, p. 1
[24] The Abattoir and Meat Processing Industry, Industries Assistance Commission Report, No. 155/1983, The Parliament of the Commonwealth of Australia.

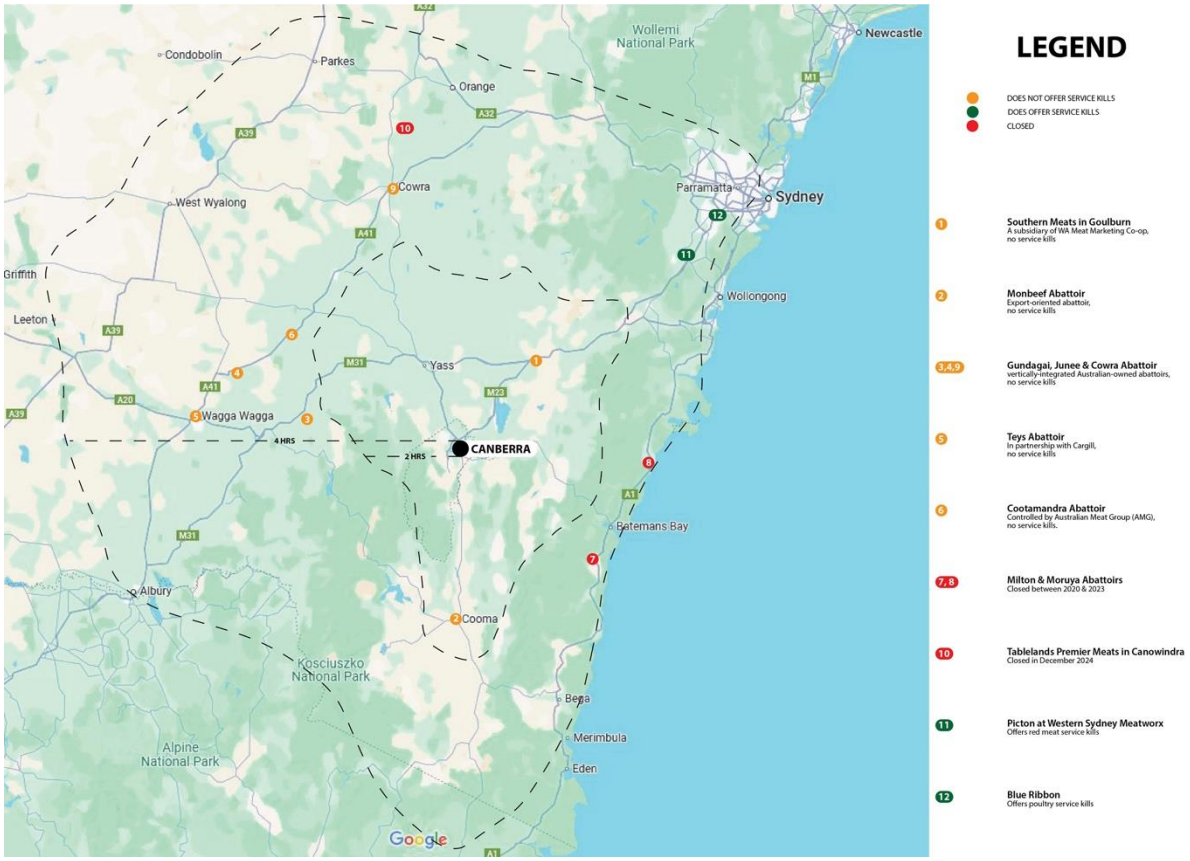

Figure 1 Location & status of abattoirs within four hours of Canberra.

Government-owned abattoirs in Goulburn and Wagga Wagga closed in 1980 and 1981, and now both regional cities have large export abattoirs, Southern Meats in Goulburn, a subsidiary of WA Meat Marketing Co-op, and Teys in Wagga, now wholly owned by multinational Cargill. Neither abattoir provides a service kill for local farmers who sell direct-to-market. Monbeef abattoir to the south in Cooma is an export-oriented abattoir that does not offer service kills, and Cootamundra to the north is controlled by Australian Meat Group (AMG), offering no service kills. Junee, Gundagai, and Cowra are vertically-integrated Australian-owned abattoirs, and Cowra cancelled its last remaining private kill agreements in 2024 (though anecdotally we have learned that some farmers have retained their services, but are not confident of the security of this arrangement). A small poultry cooperative abattoir in Bega closed in 2016, leaving poultry growers with nowhere but two or three abattoirs in Sydney to process birds, with Blue Ribbon apparently the most used by smallholders.

The Milton and Moruya abattoirs closed between 2020 and 2023. Tablelands Premier Meats in Canowindra (three hours north of Canberra), a small on-farm multi-species abattoir used by many farmers in the area surrounding Canberra for 12 years, closed operations in December 2024 on retirement of its owners, unable to find a buyer. The only remaining red meat abattoir that offers service kills in range of the ACT appears to be in Picton at Western Sydney Meatworx, a two-to-four-hour drive for local Canberra region producers, depending on where they are located.

Desktop Review of Previous Reports

Summary

A review of nine reports was undertaken; seven Australian, one from Aotearoa/New Zealand, and one from Scotland. The two international examples were included due to their distinct relevance to the situation ACT regional farmers find themselves in regarding loss of access to abattoirs and investigations into a small, locally-controlled facility focused on service kills. The reports range from pre-feasibility and feasibility studies to high level mapping of the need for more meat processing

capacity, revealing many commonalities, and a wide spectrum of cost estimates to build new facilities.

All refer to **industry consolidation** and the **shrinking number of abattoirs offering service kills**, citing vertical integration, acquisitions by multinational corporations, and volatility in livestock availability due to drought and unfavourable export markets. The seasonal nature of beef and lamb throughput is cited as a challenge, but the reports that focus on throughput from this perspective are primarily concerned with the 'purchase-process-sell' model. Those with a focus exclusively on service kills do not anticipate as much seasonal variation, as direct-to-market farmers more often finish animals fairly consistently year round, though farmers consulted for the Aotearoa/New Zealand report note the need to improve their grazing practices to achieve year-round finishing of cattle. Several assert that there is no room in the existing highly consolidated market to competitively establish a new purchase-process-sell abattoir, but that **small facilities to serve local farmers who sell directly are needed and likely to be viable as long as they are built without debt.**

Nearly every report recommends **funding support for construction**, with most recommending government funding mixed with philanthropic funds and farmer shareholder buy in. Only the Meridian Agriculture report for the Tasmanian Government recommends against government intervention, citing the importance of free markets as its rationale. Meridian and two other reports note the high regulatory burden that makes Australia less competitive than other high exporting countries, but for a facility focused on domestic sales, this is less relevant, though costs of compliance must be understood.

In **selecting a site**, most reports highlight the importance in considerations of **zoning**, **access to power and water, waste management, and proximity to sensitive uses, such as waterways and residential areas**. The few reports that consider mobile abattoirs discount this option due to cost and viability. Several refer specifically to ensuring abattoirs are **sited centrally to need**, to achieve their stated aims of **higher animal welfare** from shorter distances travelled, and ensuing higher meat quality.

In terms of **ownership** and **governance**, most recommend strong **representation from farmers** whether owned by a public or private third party, or by a cooperative of farmers. As the facilities proposed vary a great deal in size and throughput, the **number of staff** proposed is quite variable, but for the smallest (with a throughput of 5-10 cattle or equivalent per processing day), there is **generally consensus that two to four workers are sufficient** (two to three drover and slaughter people and one part-time admin). According to author's experiences of working in a small-scale goat abattoir, having three people on stun and slaughter is quicker, but two is sufficient.

Of the nine studies reviewed, only two have progressed to construction of an abattoir – a large-scale purchase-process-sell abattoir in north-western WA and a small-scale service kill facility, the Murray Plains Meat Cooperative in NSW. Given that many of the reports reviewed saw a clear and viable case for a new abattoir and yet have not to date resulted in their development, further research is warranted to better understand the **barriers to progress**. Reports from farming communities cite **access to funding for construction (without debt)** and **restrictive land use legislation** as significant barriers to autonomous local development of processing facilities. Later in this report there is a review of three Australian micro-abattoirs, none of which conducted feasibility studies. **Appendix A contains more detailed summaries** of each of the reports reviewed.

Demand for a local abattoir

There are approximately 160 rural leaseholders in the ACT, and those engaged in commercial agriculture predominantly produce beef, lamb and wool on small- and medium-scale farms. The surrounding region similarly produces beef and lamb, as well as dairy, pork, poultry, eggs, and

artisanal fruit, vegetables, nuts and wine.[25] Southern Harvest Association serves as a hub for over 100 local farms, aggregating produce into subscription boxes for the Canberra region, including meat from seven livestock farms who must transport animals to Sydney for slaughter. Additionally, nine livestock farms in the region sell through the Capital Region Farmers' Market (CRFM), and others through other diverse direct channels including farm gate shops. Between 5000 and 8000 people shop at the CRFM each Saturday morning.

With more than a 15 livestock farms who already sell meat directly into the ACT market[26], and more who would like to[27], both the need for local slaughter and the demand for local meat are already established. In spite of the loss of access to local abattoirs, farms have persevered, driven longer distances, collaborated and formed organisations such as Southern Harvest to keep farming and feeding the local community. Without an abattoir, these numbers will keep diminishing, and there is little opportunity for those selling into commodity markets who wish to transition to direct sales to achieve this. Many of the feasibility studies reviewed for this report pointed to the opportunity in the market for a purpose-built service kill abattoir, noting that this is probably the only viable model of new abattoir in the present context of a high throughput, export-focused, consolidated slaughter industry. **It is recommended that a first step in developing a potential micro-abattoir project for the ACT should be to establish the average number of livestock currently processed and sold by local farmers within the region. These farmers should be invited to participate in a community-led process towards a facility to service their needs.**

1. High-level regulatory analysis

This high-level regulatory analysis outlines the planning, zoning, environmental, animal welfare, and food safety considerations relevant to establishing a micro-abattoir in the ACT. It provides a roadmap for navigating regulatory frameworks, drawing from current ACT legislation and precedents in other Australian jurisdictions.

1.1 Site selection

A site should be selected based on its **centrality to the farms it will service, security of tenure, and the option of no lease payments for the site use**. For any site, one must consider land use regulations, accessibility, water supply, power supply, and options for waste management.

1.1.1 Territory Plan, zoning and land use regulations

As abattoirs industrialised their operations, they increasingly have been considered industrial in nature rather than agricultural. In the ACT Territory Plan, 'abattoir' is listed as an example in the definition of 'offensive industry':

> **offensive industry** means an industry, not being a general, hazardous, light, or mining industry, which by reason of the process involved or the method of factory manufacture or the nature of the materials or goods used, produced, or stored requires to be isolated from other buildings, when all measures to reduce or minimise impact have been employed. (e.g. abattoir, factory)

Under the Territory Plan an 'offensive industry' can only be undertaken as a primary land use, in the Industrial Zone 1 (IZ1).While it is listed as an example, nowhere in the Territory Plan is 'abattoir' *defined* separately.

[25] ABS, 2022; ABS, 2023
[26] Based on information from Southern Harvest Association and farmers at the CBR Regen Forum.
[27] Canberra Region Local Food Strategy 2024-2029

According to the Territory Plan, '**ancillary use** means the use of land for a purpose that is incidental and subordinate or secondary to the primary use of the land.' **It is this definition which is most applicable to a micro-abattoir processing livestock from or near the land on which it is sited**, so long as the land continues to be used primarily for agriculture, and an abattoir is a secondary use. If this interpretation is supported, micro-abattoirs would be an acceptable land use in NUZ1 – Broadacre Zone and NUZ2 – Rural Zone, subject to District and Zone policies and strategies, and with a requirement to meet the relevant Planning Act 2023 approvals such as environmental impact assessment or development application.

A development application (DA) would have to be submitted to the Territory Planning Authority to gain consent for a micro-abattoir in any of the (dependent on interpretation) permittable zones (NUZ1, NUZ2, or IZ1).

Land use regulations in other jurisdictions relevant to ACT interpretation

If one considers the definition of abattoir in other jurisdictions, we see it is commonly understood as 'rural industry', and therefore a permitted use in rural zones. For example, in Victoria, an abattoir is nested under 'rural industry', which in the Farming Zone does not require a permit. However, while considered 'rural industry', abattoirs and sawmills are Section 2 uses, which do require a permit.

It is worth turning to the precedent set by the 2024 Victorian Civil and Administrative Tribunal (VCAT) decision to grant a permit to Jonai Farms for a micro-abattoir for administrative guidance on how best to apply the objectives of agricultural zones to micro-abattoir developments. Below is a quote from the VCAT Order in which Senior Member Rachel Naylor issued her decision.

> 26 There is nothing in the agricultural or industrial land use policies that discourage an abattoir land use from being located in a Farming Zone. Mr O'Neill & others have submitted this is an industrial land use on farming land with no intrinsic link to agriculture. I am not persuaded of this submission in regard to this proposal. 'Intrinsic' is defined in the online Macquarie Dictionary as an adjective meaning 'belonging to a thing by its very nature'. I agree with Mrs Jonas' submission that it is inherent in farming that livestock is grown for consumption (amongst other purposes), so the slaughtering of livestock does belong by its very nature to the growing of livestock. Mrs Jonas points out farmers can legitimately slaughter their own livestock for their own consumption on their farms. An abattoir is then a place in which livestock can be slaughtered for a larger cohort of consumers. How large a scale this may be depends upon the characteristics of the particular abattoir. In this proposal, Mrs Jonas is referring to it as a micro abattoir.
>
> 27 It must be remembered that there are only two rural industrial land uses that require planning permission in the Farming Zone, being a sawmill and an abattoir. I agree with Mrs Jonas that it is possible that these two land uses require permission because they have the potential to be large scale operations that can create adverse impacts. So, the acceptability of an abattoir land use in a Farming Zone is dependent upon its potential impacts being acceptable.
>
> 28 Furthermore, the 'as-of-right'/ no permit required nature of rural industries generally in the Farming Zone provides recognition that rural industries can be located amongst the traditional productive agricultural land uses. This is because the nature of farming is changing and the Victorian Planning Practice note 42: Applying rural zones (PPN42)[28] acknowledges this. PPN42 explains farming is becoming more diverse and 'becoming more industrialised'. In regard to diversity in farming related practices, PPN42 acknowledges that farming is expanding to respond to changing world and domestic consumption patterns and

[28] https://www.planning.vic.gov.au/guides-and-resources/guides/planning-practice-notes/applying-the-rural-zones

the need to remain profitable and sustainable. In regard to industrialisation, PPN42 explains modern farming practices use machinery and operate all hours. PPN42 identifies the desire for sound strategic planning to ensure farmland and farming industries of state, regional or local significance are protected. It explains:

The Farming Zone is primarily concerned with keeping land in agricultural production and avoiding land uses that could limit future farming or constrain agricultural activities. In this zone:

- farming is the dominant land use and all other land uses are subordinate to farming
- farming uses are encouraged to establish and expand with as little restriction as possible, subject to proper safeguards for the environment

Our research reveals that South Australia currently has the most enabling legislation for micro-abattoirs in the country. In SA, regardless of scale, a 'stock slaughter works' is a 'deemed-to-satisfy' development in the Rural Zone, and Rural Industry is encouraged in the Rural Zone and the Productive Rural Landscape Zone, so while it is assessed by an assessment manager, they fast track these development proposals, and there is no notice and review (advertising) period.

1.1.2 Accessibility, transport and cold chain logistics

As discovered in the Desktop Review of earlier reports, it is important to ensure abattoirs are sited centrally to farmer demand, to achieve their stated aims of higher animal welfare from shorter distances travelled, thereby also ensuing higher meat quality. Given the relatively small nature of the ACT region and surrounding NSW farmland, this aim should be relatively easy to achieve. A micro-abattoir located on a farm has the particular benefit of proximity to farms and less transport into cities and industrial zones, which are very unfamiliar environments for animals raised on pasture, with the added benefit of being easier to site away from sensitive urban uses.

Cold chain logistics can present one of the highest costs to farmers in direct sales models, and are critical to ensuring the safe transport of processed meat from abattoir to butcher, and butcher to the final customer. While most direct sales livestock producers own refrigerated transport vehicles, this is typically only for packaged meat ready for sale at farmers' markets or via direct deliveries, rather than for whole carcasses. Where a micro-abattoir does not include a boning room, a carcass transport vehicle will be required to safely transport meat to butchers for further processing. Even where a facility has a boning room, some carcasses will typically go whole to other butcher's shops or restaurants, necessitating a carcass transport vehicle. **It is more efficient and can reduce emissions for a local abattoir to offer carcass transport as part of its service to farmers.**

If a farm site is selected, road access will be an important consideration, as will access to water and energy. Where an industrial site is selected, access for farmers with trailers of livestock into quiet areas for stock handling and lairage are important to consider. Public land could also be used. For example, the Yarra Ranges Shire in Victoria is considering a micro-abattoir on land controlled by Yarra Valley Water, in collaboration with that organisation.

1.1.3 Water supply and volume

An adequate supply of potable water must be available for livestock drinking, staff facilities and washing down floors and walls, hand and boot washing, and for washing down carcasses after evisceration (removal of offal) prior to chilling. According to the ACT Health Protection Service (HSP), 'food premises not connected to a town water supply must seek approval from the Health Protection Service prior to planning and designing a food business.' There is no prescribed testing schedule for tank or bore water, but presumably the HPS would make this a condition of registration. Where bore or rainwater is used it will be necessary to install a filter system to ensure potability. Water used for hygiene and sanitation must be able to be heated to at least 82 °C.

According to a 2008 MLA report[29], 'water usage and consequent wastewater generation in abattoirs can be expected to be 10-11 kL per tonne of carcass weight produced in large integrated export facilities, and 3-5 kL per tonne in small domestic facilities.' In micro-abattoirs reviewed in Australia and overseas, the volume is even lower, as these facilities approach resource use with greater conservation values to reduce both environmental and economic costs. Further, to minimize nutrient loads and Biological Oxygen Demand (BOD) of wastewater, clean-up operations of the kill floor incorporate a dry sweep prior to washdown. The Environmental Management Plan (EMP) for the Meat Collective @ Jonai micro-abattoir (see case study below) of 1500L/day for water use is modelled on the Victoria-based mobile beef abattoir Provenir's actuals, and based on processing up to 6 cattle (e.g. 1800kg Hot Carcase Standard Weight[30] HCSW). By this figure, a facility processing 10 cattle (3 tonne) in a day would require 2.5kL/day. However, the Meredith micro-abattoir (see case study below) uses just 350L/day for 100 goats (approx. 2000 HCSW), so a facility processing 10 cattle could potentially use as little as .175 kL per tonne. Pigs require a slightly higher water usage per carcass due to scalding.

Where no reticulated water supply is available, there are two options:

- a water storage tank suited to weekly needs and with contingency for drought conditions, with associated filters and pressure pumps;
- access to a bore, existing or newly drilled, with associated filters and pumps.

Should a bore be deemed the best option, a licensed driller will need to be engaged subsequent to obtaining a bore work licence. A bore completion report is due within one week of the bore being drilled. A Water Access Entitlement (WAE) will need to be obtained from the EPA, and finally, a Licence to Take Water is needed to obtain an allocation. All details are available on the Access Canberra website.[31]

1.1.4 Power supply

There must be electricity supply adequate to meet anticipated peak demand. Ideally, three-phase power should be available. Power demand will vary depending on equipment chosen for the facility and species processed (e.g. you need a scalder for pigs, and to decide whether to manually de-hair or use a tumbler, which has a high power requirement).

Climate change mitigation and adaptation should be built into any new power system, designed to avoid energy use where possible, and use renewables when power is needed. By sourcing and filtering waste vegetable oil from local cafes to heat water or fuel generators, facilities can not only avoid greenhouse gas emissions from diesel, they can also participate in a local circular economy and keep organics out of landfill.

Using biodigestion, hot water can potentially be provided by methane gas generated from waste created from the abattoir to avoid the environmental and economic costs of natural gas. Alternatively, a hot water boiler (using diesel or waste oil) and associated hot water storage tank may be incorporated into abattoir design.

For on-farm micro-abattoirs, there may be limited electrical supply available. A suitably sized solar array and battery storage system may be required to provide stable power to the facility. While the ACT is well placed for a solar-powered facility due to the high number of sunny days, a backup generator would be needed. By sourcing an older diesel generator, waste vegetable oil can be used as fuel.

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[29] Review of abattoir water usage reduction, recycling and re-use, https://www.mla.com.au/contentassets/ffa6954d3bec4c6c913f789307c8b47c/a.pia.0086_final_report.pdf

[30] Carcass weight immediately after slaughter, dressing, and trimming, but before chilling.

[31] https://www.accesscanberra.act.gov.au/business-and-work/building-and-construction/water-licensing-and-access-entitlement

1.1.5 Waste management

A closed system to manage surplus yield – aka 'waste' – is preferred for the best environmental and economic outcomes, producing fertiliser that can be used on farm.

According to the review of previous studies, the primary waste management amenity risk from abattoirs is odour from a number of potential sources, which include solid and liquid waste treatment and use, and animal holding pens. The use of odour control measures will help to minimise odour nuisance at nearby sensitive receptors. Waste management is governed by the Environmental Protection Authority (EPA) and local council planning guidelines.

The key environmental risk that must be managed is the potential contamination of local waterways and domestic water supply. It is important that the micro-abattoir is sited carefully, taking into account local waterways and catchment, and residents close to the development.

Key assessment criteria for acceptable treatment of surplus yield include:

- Adequate systems to store and treat solid and liquid waste.
- Sufficient land to apply properly treated surplus yield.
- Land Capability Assessment of the underlying seasonal water table to ensure wastewater will not adversely impact it.

In any event, a detailed waste management plan must be submitted with a Development Application. An example of an approved micro-abattoir Environmental Management Plan (EMP) from Victoria is available for download from jonaifarms.com.su/abattoir

Using a biodigester with closed tanks significantly reduces odour issues and also allows for potential on-site energy generation, as outlined above. For ACT, this report recommends designing a fully enclosed waste-management system using methods such as biodigestion, a rotating compost drum, or worm-farm septic tanks. These systems can produce value add outputs that can be used back on farm (biofertiliser) or compost that can be sold on (subject to relevant approvals).

As a backup, waste can be trucked off-site if other systems fail. The abattoir will normally have to pay a rendering plant for this service.

1.2 Biosecurity

Biosecurity starts on the farms supplying any abattoir, and open and regular communication channels are important to ensure animals are being raised in healthy environments, transported in a low stress manner, and delivered to the abattoir clean and in optimal health. Abattoirs are inspected for compliance against relevant sections or clauses of two primary pieces of legislation:

- ACT Biosecurity Act 2023
- Australian Standard AS 4696: 2023 Hygienic production and transportation of meat and meat products for human consumption

Facilities are required to develop and implement a Biosecurity Plan. It should include a detailed site map, and address visitor controls and appropriate signage, staff education, vehicle and equipment controls, appropriate PPE, livestock controls and traceability (e.g. The National Livestock Identification System , NLIS), feed and water controls, an exotic and notifiable animal disease plan (EAD Plan), waste management plan, fence maintenance, and personnel vaccination records for occupational risk diseases (e.g. Q fever and tetanus).

1.3 Food Safety Regulations

In the ACT, the licensing and regulation of abattoirs are primarily managed by ACT Health under the Food Act 2001, though there has not been an operational abattoir in the Territory since 1997**.**

1.3.1 Registration as a Food Business

1. **Application for Registration**: Any entity wishing to operate an abattoir must submit an application for registration to the Health Protection Service. This application includes details about the operation, facilities, and compliance with relevant health and safety standards.
2. **Health and Safety Standards**: The abattoir must comply with strict health and safety regulations that include proper handling of animals, hygiene practices, and ensuring that the meat produced is safe for consumption. A Food Safety Program (FSP) with a relevant Hazard Analysis and Critical Control Points (HACCP) Plan must be developed, and registered food businesses (including abattoirs) must have an appropriately trained Food Safety Supervisor. An abattoir FSP would include everything from a stock receival policy and traceability measures, to procedures for ante- and post-mortem inspection, slaughter and dressing procedures, chilling, storage, temperature verification, hygiene and sanitation procedures, waste disposal and a procedure for product recall. An example of an approved micro-abattoir FSP from Victoria is available for download from jonaifarms.com.au/abattoir**.**
3. **Inspections**: Before granting registration, ACT Health conducts inspections of the facility to ensure compliance with environmental health standards, animal welfare requirements, and food safety regulations.
4. **Ongoing Compliance**: After initial registration, abattoirs are subject to regular audits to ensure continued adherence to regulatory standards. Registrations are for one, two or three years at a time and must be renewed to allow operations to continue.

1.3.2 Meat Inspection

Ante- and post-mortem inspection must be performed by a qualified and registered meat safety inspector for every animal slaughtered (excluding poultry). In a micro-abattoir, the meat inspector is commonly also one of the slaughter persons. **Note that access to training to obtain the relevant qualification to become a meat inspector (AMP30316 Certificate III in Meat Processing (Meat Safety)) is increasingly difficult, as most courses are only offered to employees of existing large abattoirs.** Where a course can be found, it will generally take between three and 12 months to complete, including the requisite 100 hours of ante- and post-mortem inspection in a licensed abattoir (either 100 on one species, or 50 each on two).

1.4 Animal Welfare

The minimum standards for animal welfare in meat processing include providing water and shelter to animals in pens, stunning the animal using a **certified stunning method**, and limiting (or eliminating) the use of electric prods. Certified stunning methods include a captive bolt stunner, electric shock stunning, and CO2 stunning. CO2 stunning is a method commonly used for pigs in large-scale Australian abattoirs in which animals are lowered in groups into a gas chamber. However, it is controversial as CO2 is an aversive gas that can take up to 20 seconds to 'stun' an animal, during which time the animal experiences a suffocation- like sensation. This method is also not financially viable in a small facility due to the expense of the infrastructure required. One simple method for assessing whether animals are stressed is the level of vocalisation, as stressed animals will call out more than calm ones.

Good design goes a long way to achieve higher animal welfare outcomes, and it is recommended to follow design guidelines developed by Temple Grandin, which help livestock move along independently instead of needing encouragement from a drover. Using a **round forcing pen** and **curved race**, with **solid walls** so that a cow cannot see distractions or people outside the race, and that meets cattle's desire to turn back to where they came from, encourages them to move forward. Cattle tend to move toward light, so it is good to have a **light inside the knockbox** (where animals are restrained and stunned) while the holding pens are covered and dim. **Grooves in the**

concrete in a diamond pattern prevent slipping while not making animals balk. **Eliminating distractions and loud noises** keeps a quiet and calm environment as well.

Proper stunning plays a major role in humane handling. If electric stunning is used, there must be a backup captive bolt stunner in case of a failed stun. If captive bolt is used, there must also be a backup captive bolt stunner. Properly trained slaughter personnel are essential, with patience and precision to ensure an effective stun. Animals should be stuck for bleeding out as quickly as possible after the stun – within 20 seconds – to ensure they do not recover consciousness.

All abattoirs must have an animal welfare management plan that meets the standards below:

- Australian Animal Welfare Standards and Guidelines - Land Transport of Livestock
- Australian Standard for the Hygienic Production and Transport of Meat and Meat Products for Human Consumption
- Model Code of Practice for the Welfare of Animals - Livestock at Slaughtering Establishments. SCARM Report 79
- Industry Animal Welfare Standard for Livestock Processing Establishments Preparing Meat for Human Consumption

2 Operational considerations for a future micro-abattoir

This section outlines the operational, design, workforce, and governance requirements for establishing a resilient, community-focused micro-abattoir in the ACT or the broader Canberra region. The recommendations focus on supporting local producers, maintaining high animal welfare and environmental standards, and ensuring long-term viability through adaptable infrastructure and cooperative ownership.

2.1 Livestock

To best support a flourishing agricultural community in the ACT and Canberra region, **a multi-species abattoir for both small and large stock is recommended**. There is also a recognised demand for poultry processing, and this can be accommodated in a multi-species facility (as demonstrated at the Murray Plains Meat Cooperative) or as a standalone poultry abattoir, which is a much simpler facility to construct given the small size of poultry in comparison with other domestic livestock. Providing slaughter for a greater diversity of species is also a risk mitigation strategy that can smooth out seasonal variations in livestock finishing[32].

2.2 Labour requirements

A 'make-or-break' aspect of processing is getting the labour ratio right. A micro-abattoir can be managed by a sole operator for small numbers of animals, but the majority found in our study apply **two to the slaughter and dressing of carcasses**, and some with a single drover outside. Because of the need for a meat inspector present at the slaughter of all red meat animals (not poultry), most prefer to train one or more of the slaughter staff to serve as inspector. Administrative duties can be performed by one of these staff as well, or a part-time admin staff can be employed to schedule slaughter dates, manage communications, issue invoices and reconcile accounts. **A key to a safe and successful facility is a good manager**, who will likely also be a slaughter person in a very small abattoir, to maintain oversight of food safety standards, animal welfare, and inventory control.

The staffing profile for an associated boning room for further processing is outside the scope of this report, but a skilled butcher and apprentice can cut and pack on average two to three beef or 10-12 pigs in one full day, including clean-up time. In many fee-for-service-oriented butcher's models,

[32] Franks, J. 2021

unskilled farmers come in on processing days to do the packing, which can increase throughput or decrease time in a processing day. The actual numbers of staff on any given processing day should be weighed against desired throughput and number of value-add processes undertaken.

Worker health and wellbeing should be paramount to any system, and especially one focused on a local food system that nourishes everything from the soil and animals on the farm to the farmers, workers, and people they feed. Unlike most industrial abattoirs, a micro-abattoir provides opportunities for upskilling and working across many skilled jobs, reducing the likelihood of repetitive stress injuries, or boredom and lack of job satisfaction. Having workers employed across the supply chain – from farm work to slaughter and butchering, and possibly including customer-facing sales and deliveries – can result in more fulfilling work experiences and deeper knowledge of the entire food system. So, while there remains a need for skilled labour – especially in humane slaughter and quality butchering – a model that supports skill sharing and co-creation of knowledge will create a more motivated and resilient workforce.

2.3 Design / Scale

The space and infrastructure needs vary according to species, and in order to meet the standards (AS4696: 2023), at this time all **animals must be slaughtered indoors**. **For cattle, this requires a slaughter rail height of 4.5 to 5 metres**[33], so a building that is up to 6 metres in height externally. To slaughter **pigs**, one must have **a scalding tank**, with many preferring the dual-purpose **tumblers** that scald and de-hair inside the unit, and others preferring a system that requires less capital costs and energy, and more human labour to de-hair. **Poultry** requires a **plucker** and longer clean up times due to feather debris. The **noise of tumblers and pluckers** should be considered in design to ensure worker safety is protected. We have seen examples of this equipment in a metal mesh enclosed lean-to structure outside the area where carcasses are eviscerated and inspected, which helps to reduce some of the noise. Carcass rails should be designed not only with the necessary species-specific clearance from ceiling, floor and walls, but also with sufficient strength to hold several tonnes of weight. In a shipping container conversion (a common choice among micro-abattoirs around the world), a steel frame exoskeleton should be constructed to hold the weight from posts embedded in concrete footings. This eliminates the less desirable internal post and rail system, improving space utilisation with a reduction of the risk of pathogen build up around the base of posts.

Further to decisions about the size of carcass chillers is the requisite height, and consideration of **where, when, and how carcasses will be split and quartered**. For quality reasons, it is desirable not to hot quarter beef carcasses (i.e. divide before chilling), but to leave them whole or in sides, which requires sufficient height in the carcass chiller. One way to reduce the length of beef carcasses without quartering them is to place them into a tenderstretch (hung from the pelvic bone) rather than the Achilles hang more common in Australia, with added benefit of shorter ageing times to achieve the desired tenderness of the striploin in particular.

In addition to the species-specific design recommendations mentioned above, a key constraint for many facilities is **adequate refrigeration space**. Typically, it is best to have at least two walk-in cool rooms for carcasses, one for the initial **chilling down to under 7°C within 24 hours**, and another to serve as the storage chiller. This enables flexibility whether the facility slaughters one, two, or three days per week, as the standards do not allow for warm carcasses to be brought into a chiller containing already cold carcasses due to quality and food safety risks. It also gives flexibility to age beef carcasses for the length of time desired (say one to three weeks) in the storage chiller, while other carcasses (e.g. pigs) may be brought in and back out for further processing. Ultimately, the maximum abattoir throughput will determine the size and number of chillers needed, and that design choice will in turn set a structural limit on throughput. Setting that limit based on the community's social, ecological, and financial needs- and on the needs of the people who will work in

[33] https://agriculture.institute/meat-animals-abattoir-practices/designing-rails-for-efficient-processing/

the facility- rather than continually expanding to meet rising demand and the staffing and infrastructure costs that come with it, creates a stronger, more resilient business model. Increased demand can be met by constructing another facility, better co-located to where the demand emerges, following the same principles of local control by local communities.

Other design considerations centre around **work flow and avoiding cross contamination**. For example, a carcass that has been stunned and stuck should ideally move only in one direction after exsanguination (bleeding out) for skinning and evisceration, and once eviscerated, should move into the 'clean' area of the abattoir. Provision should be made for easy disposal and temporary storage of inedible offal, including skulls, hooves and hides for cattle and sheep, before removal at the end of a processing day to either waste treatment facilities on site or off site (including a tannery for hides where one is available).

Careful consideration must also be given to where to place **hand sinks and knife sterilisers** (containing water that must be kept at 82°C during processing), closest to key work stations such as slaughter, skinning, and evisceration.

Airlocks into the facility are not mandated but are best practice to reduce the risk of fly entry. They also provide a vestibule for boot sanitation in and out of clean and dirty areas, and for apron storage.

2.4 Ownership and Governance

Careful consideration must be given to the ownership and governance structures. This may involve different parties such as farmers, facility management, and potentially external investors, whether private or public. Extensive research into these issues over many years has found that for the operation to be successful there must be farmer support and participation in a robustly designed governance model.

There are some clear challenges inherent in creating an entity to build and operate a community-based micro-abattoir. Such an entity will need to account for the needs of all stakeholders and must strive to enable long-term sustainability of the model. To achieve this, the following issues should be addressed and agreed to:

- The business must generate sufficient funds to support ongoing operation of the facility and its long-term maintenance without external funding. However, it does not need to produce an economic return to 'investors'.
- The business also does not need to generate funds for marketing, advertising or similar activities as these are undertaken directly by producers.
- The business needs, however, to be governed by an entity that can attract external funding from its members, from government, or other sources.
- The business should be run as democratically as possible without the risk of dominance from one or more competing interests.
- The business should be structured to allow non-members to use the facility, perhaps at a higher fee than members pay.
- In terms of the ownership structure, consideration should be given to allowing producers to invest or hold shares once the facility reaches full scale. This would enable those taking on early risk to receive a return—potentially through a discounted processing fee until their investment is repaid.

It is worth noting that in recent history, many abattoirs were government-owned public facilities. This context will be revisited later in the risk-assessment section. The overview below focuses on ownership structures for private entities, followed by case studies illustrating different existing models.

2.4.1 Shareholder Model (Pty Ltd)

This could be a simple private company structure to own and operate the facility. The shares could be owned by farmers or other stakeholders (e.g. butchers). Shareholders could all have the same rights, or alternatively, there could be a two-tiered system. Tiering might be determined according to investment in or involvement with the abattoir, or on the basis of proportion of livelihood dependent on access to slaughter facilities. While proprietary limited companies are not confined to not-for-profit (NFP) businesses, NFP, it is the recommended model to ensure the resilience and ongoing viability of the facility.

2.4.2 Cooperative Model

Australian agriculture has a long history of cooperatives, though there are few remaining. A cooperative is set up to serve its members' interests, and is owned and controlled by its members, who may be farmers, workers, customers, suppliers, local community members or a combination. Research has shown that cooperatives are most successful where the members have relatively homogeneous objectives[34], so this should be considered when determining eligibility for co-op membership. For farmers, membership of the cooperative assures access to the processing facility for a fee, which should ideally be lower for members than non-members. The cooperative can be a distributing or non-distributing, whereby any profits are either allotted to the members, or retained by the facility for a social purpose and/or future upgrades.

2.4.3 Incorporated Association (Inc)

Becoming an incorporated association signifies a collective decision by members to establish a formal legal structure for their organisation. This structure is simpler and easier to establish legally than a cooperative, and it also has lower reporting requirements. It also grants the group the status of a 'legal person,' a distinct legal entity that remains consistent despite changes in its membership. This legal recognition empowers the association to enter into contracts in its own name, which can include borrowing money or purchasing necessary equipment.

Moreover, like Pty Ltd and cooperatives, incorporation serves a protective function for individual members, shielding them from personal legal liabilities that may arise from the association's activities. By formalising their collective identity in this way, members can engage in their mission with a sense of security and accountability, enabling them to focus on the positive impact they seek to achieve in their community.

2.5 Food Hub Linkage

As a key Canberra Region Local Food Strategy implementation activity, the ACT Government commissioned an ACT Food Hub Feasibility Study. Consultation proposed that a local, potential food hub should first provide primary functions such as food processing and cold storage for fruit, vegetable and meat, wash and pack for fruit and vegetables, and a distribution centre. Later on, a hub might consider 'secondary' functions such as an incubator space for emerging producers, an education facility and a food garden. The report also suggested that butchery and meat processing could be included as secondary functions for the food hub, complementing a small-scale abattoir if one was established elsewhere in the ACT or the region. The report is available here.

Linking a potential micro-abattoir in the region with a local food hub could have many benefits, such as:

- Fresh, local produce for local people and visitors
- Ease of access to multiple kinds of produce
- Support for small-scale, local producers

[34] Chloupkova, J. 2004

- Connection, opportunities for collaboration and circular economies
- Climate mitigation through shorter supply chains with sustainability values
- Climate and pandemic adaptation from local processing and distribution

A locally-controlled micro-abattoir designed to service local farmers and communities could have obvious co-benefits with a food hub, given its intrinsic value to livestock farmers that would support their ongoing viability and existence in the face of diminishing access to large, industrial abattoirs. The food hub could provide the shared butchery space, so that it need not be included in the micro-abattoir, or conversely, the boning room could be included in the micro-abattoir development instead of the food hub, streamlining the further processing in one site. A community food hub could simplify distribution of meat processed through the micro-abattoir, thereby improving accessibility to more households in the Canberra region, while maintaining strong provenance values and connectedness to local farmers.

3 Micro-Abattoirs in Australia (operational or in development)

3.1 Meredith, Victoria

Meredith Dairy – a large, vertically-integrated family-owned goat dairy in Victoria – built and licensed a vehicle-based abattoir in early 2024 to bring cull doe and wether slaughter under their control as they faced diminishing access to abattoirs. The abattoir is **privately owned** by the family farm. The facility is built from a converted 40-foot refrigerated shipping container (aka a 'reefer'). An additional 20-foot reefer was added for extra chiller storage, and later also a boning room built from another 40-foot reefer. It is on mains power and tank water, filtered and tested quarterly. It is licensed as a vehicle-based abattoir, so no planning permit was required. The abattoir processes approximately 100 goats per day, two days per week. Meredith offers a limited number of service kills for a fee to locals who have lost access to the nearest abattoirs, with strict biosecurity protocols in keeping with the needs of intensive livestock production.

No feasibility study was undertaken as the farm knew its in-house demand from 30 years of operation, no financing was required, and labour to alter the already-converted container was drawn from the existing staffing resource (which included farmers, engineers, and boilermakers). Although the reefer was already previously converted for lamb slaughter, Meredith made significant alterations to improve work flow and hygiene. Total cost of the project was around $220,000 excluding labour, but $120,000 of that was on the converted reefer. The project manager suggests it was unnecessary to purchase the already-converted container given the level of renovation needed. He estimates the project could have been delivered for $100,000 excluding labour. The boning room and chiller were delivered at approximately another $30,000 excluding labour.

The author has worked in this abattoir as a meat inspector and slaughter person. On any given slaughter day there will be two or three workers. Goats walk up a race to a V-belt conveyor after ante-mortem inspection in the holding pens. They are stunned electrically before being dropped onto a stainless table, where a slaughter person conducts the eyeball test (the eyeball is touched to check for a response, which would indicate an ineffective stun), and then performs a transverse stick – cutting across the entire front of the neck for exsanguination (bleeding out). A captive bolt gun is nearby in case of a failed electrical stun, as per animal welfare standards. The animal is then shackled by a hind leg, and hung from a rail hook while it moves from tonic (still) to clonic (moving) cycling stages – aka 'paddling' (rigidity followed by insensible rhythmic contractions of the animal's muscles). Once paddling ceases, the carcass is skinned and the head and hooves removed. Next, the carcass is eviscerated, the offal inspected by a licensed meat inspector (who is also the slaughter person), and disposed of to be processed via the existing dairy effluent ponds. The carcass is given a final rinse with potable water, passes through the scales for weighing, and then into the chiller to achieve a temperature below 7 °C within 24 hours.

3.2 Grazed & Grown Abattoir, Comboyne, NSW

Grazed & Grown is a small-scale family farm in northern NSW raising chickens, cattle, pigs and sheep on pasture, who, like so many others, had lost access to local abattoirs over the years, and so decided to build an abattoir on their farm. They purchased one already built and operated by Extraordinary Pork when that farm moved from Dubbo to east of the ranges and shifted from pork to beef production. Total cost was $220,000, and it operates as a vehicle-based abattoir, so no planning permit was required. The facility is **privately owned**.

The facility consists of a 40-foot reefer, with an annex constructed of plywood and shade cloth at one end for stunning and bleeding out pigs and sheep, and for the slaughter of poultry. There is a tumbler inside for de-hairing pigs, and the facility is on mains power. In addition to their own small lots of livestock each week, the farmer processes pigs and poultry for a few other local farmers for a fee. The facility is operated by the farmer and one other worker, who is a butcher and certified meat inspector. The facility currently processes about 40-60 pigs per month, with one weekly kill day. The fee (at the time this report was written) for pig slaughter was $85 (30-60kg), $100 (60-80kg), $115 (80-100kg) and $130 for cull sows or other large carcasses. Approximately 100 poultry are slaughtered per month, priced at $7.50 if hot bagged and $10 for iced and vacuum sealed birds.

3.3 Meat Collective @ Jonai Farms, Victoria

Jonai Farms and Meatsmiths have raised pastured pigs and cattle since 2011, and operated a licensed boning room since 2014. Their research into building a local abattoir commenced in 2015, with original interest in a mobile facility, but shifting to a fixed option after visiting one in west Kansas that had been made stationary due to operational costs. In 2017, the author of this report, toured eight facilities in the US that resulted in the *Dead Local Meat* report. While there were several meetings with other local small-scale farmers about a fixed regional abattoir potentially at the site of a mothballed pig abattoir, ultimately, Jonai Farms were the only ones driving the project, the site was not secured (and the lease costs would probably have broken the business model), and they determined to build a micro-abattoir on the farm.

Progress was further delayed by initial enquiries to council that resulted in the need to obtain a permit to farm pigs (which they had done since 2011) before they could apply to develop an abattoir. It was not until November 2022 that Jonai Farms submitted a DA for the abattoir, and seven months later Council passed its decision to grant a permit The decision was subsequently challenged by neighbouring residents whose properties were not used for agricultural purpose. They lodged a claim against council's decision through the Victorian Civil and Administrative Tribunal (VCAT). After months of conferences and hearings, Jonai Farms won their case in March 2024 decisively, with several of the original conditions applied to the permit by council removed by the VCAT. The current permit enables slaughter one day per week, with throughput of six cattle or 30 pigs or 48 sheep, or a mix of these to no more than their equivalent volume.

The Jonai abattoir has been under construction by Stuart Jonas as an owner-builder since March 2024, and is nearing completion. It consists of a 40-foot reefer and a five by five metre slaughter floor with a 4.8m rail and capacity to hoist a one-tonne beef carcass. Total cost of development and construction at the time of publication of this report is $199,422 (excluding labour), which includes $13,000 for design work that was ultimately unsuitable for the micro-facility's requirements, and another $10,000 in planning-related costs. $40,000 was dedicated to the stand-alone solar system. Water is from a bore licensed with Goulburn Murray Water, with a UV filter.

Lairage (the system of holding and forcing pens, race, and knockbox) was designed based on world-leading expert in animal welfare Temple Grandin's designs and with her generous input. There are three holding pens, a circular forcing pen leading into a race with solid walls that curves after 2 metres (to ensure cattle do not baulk) to the knockbox, which is constructed of steel with a stationary slanted shelf in the front of the stun box according to Temple Grandin designs. There is a

glass door beyond the knockbox in front of animals, so that they are looking out to the paddock, to help lead them forward without stress or baulking. (See **Appendix B for drawings**.)

Stunning is with captive bolt for all species, with different gauge cartridges for each. After stunning, animals fall into the abattoir on release of the gate, and after the eyeball test a thoracic stick is performed, the hind leg is shackled, and an electric hoist is used to lift the carcass. Cattle are lowered onto a cradle for skinning, hooves are removed and discarded through a chute to be composted in a rotating composting drum heads are skinned and made available for inspection, and cheek and tongue removed for edible product. Carcasses are hoisted again and brought around to the evisceration platform for gut removal and meat hygiene inspection. Pluck (organs) is retained for edible product, and inedible offal is discarded through a chute for composting. Sheep follow the same process as cattle. Hides exit through a chute to an outdoor tub to be taken to a nearby tannery. There are future plans to build a runner room for cleaning intestines for sausage casings. However, securing a licence is the immediate priority, as Jonai Farms' access to the beef and lamb abattoir they used for 13 years ceased in December 2024, and cattle must now be hauled 3.5 hours to Wangaratta for slaughter. The runner room will therefore be developed at a later stage. Pig slaughter differs as animals are scalded and de-haired manually rather than skinned, and heads are retained on the carcass.

After evisceration and inspection, beef carcasses are split in half lengthways and then lowered into a tenderstretch on a rail leading into the container and into a chiller. The tenderstretch hang makes beef sides short enough to fit into the 2.4m height limitation. Pigs are chilled whole. All carcasses are chilled to under 7°C within 24 hours, and then moved into a second chiller for storage until butchery, while the first carcass chiller is turned off until the next week's slaughter day. This enables beef carcasses to hang for one to three weeks in the storage chiller as most beasts processed are over two years old, typical of quality paddock to plate models.

The abattoir is **privately owned by the Jonai Farms partnership**, and governed by an **incorporated association** – the Meat Collective @ Jonai – comprised of on average 15 farms who use the facility. The Collective employs Tammi and Stuart Jonas to operate the abattoir, and Collective members are encouraged to participate in operations. **See the Meat Collective's Members' Guide in Appendix C** for greater detail on the governance model. Slaughter fees for 2026 were set at $200 for cattle, $65 for pigs, and $32.50 for sheep or goats.

3.4 Alleghany Meats – Virginia, USA

Alleghany Meats was a contract USDA inspected facility, constructed and opened in 2012 by a farmer collective called Alleghany Highlands Agricultural Centre, **a multi-member limited liability company (LLC).** With nearly 100 investors in the project, it was originally shareholder owned, and provided an opportunity for many commodity farmers to develop a direct-marketing business model, while reducing travel to the next nearest abattoir across a mountain range by as much as two hours. The LLC was governed by a board comprised of the farmers who used its services.

The facility (including a boning room) operated five days per week), processing cattle, bison, yak, pigs and sheep. Throughput was six to seven beef equivalent per day. Slaughter fees in 2017 were: beef USD$60, bison / yak USD$100, pigs USD$45, and lambs USD$95 (flat rate that included pack). It operated with two people on the kill floor and up to six in the boning room.

The abattoir was sold in 2020 to Shenandoah Valley Livestock due to the loss of key personnel and difficulty replacing them because of the facility's remote location and small local population, and subsequently re-opened as a non-USDA-inspected facility. According to one of the founding butchers at the facility, Alleghany Meats faced challenges due to inefficiencies in the building design—spaces were larger than necessary, resulting in excessive movements in between—and a business model that may have required a higher staffing level than was sustainable for its relatively small throughput.

4 Risk assessment and social impacts

A community-controlled micro-abattoir offers the potential to deliver significant social, environmental, and economic benefits—enhancing regional food sovereignty, supporting ethical animal husbandry, and contributing to climate resilience. However, its success depends on carefully managed governance, financial viability, community trust, and regulatory compliance. This risk assessment explores these key considerations across several thematic areas.

4.1 Circular Economies for Climate Change Mitigation

4.1.1 Avoided Waste

A small-scale localised abattoir offers enormous potential for avoided waste, as edible offal can be captured for local markets or turned into pet food, and inedible offal can be transformed into fertiliser to be returned to the paddocks.

4.1.2 Nutrient Cycling

One very obvious circular economy benefit offered by a small-scale local abattoir is the ability to cycle nutrients in the local bioregion. A 2019 report by the High Level Panel of Experts on Food Security and Nutrition of the UN Committee on World Food Security, *Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition*[35], recommends:

> adapting support to encourage local food producers, food enterprises and communities to build recycling systems by supporting the reuse of animal waste, crop residue and food processing waste in forms such as animal feed, compost, biogas and mulch. (p.22)

4.1.3 Energy from Waste

Nutrient cycling also offers the potential to create energy from waste, such as via biodigestion, as discussed above.

4.2 Animal Welfare, Social Licence, and Security Considerations

The benefits to animal welfare in a small-scale, local abattoir far outweigh the risks, especially where a new facility is built with lairage to Temple Grandin standards and with animal welfare as a driving principle for its establishment. The rise of community concern for how animals raised for meat are treated in life and death has seen improved standards for the treatment of livestock on farms, in transport, and in abattoirs, however, the industrial system that prioritises yield for profit demands speeds and volume that are not the natural bedfellows of kinder, gentler treatment.

Despite the greater likelihood of small-scale abattoirs to meet high animal welfare and community standards, there remains a risk of loss of social licence. This can arise from unforeseen incidents, media attention toward the climate impacts of animal agriculture, or activist campaigns portraying standard abattoir practices as cruel or inhumane—a trend that has grown in recent years. In regards to the first factor, a strong animal welfare policy, excellent training of everyone who handles live animals from the farm to the knockbox, fair pay and good working conditions, and a culture of careful animal husbandry are the best mitigation to the risk of breaches. In regards to climate concerns, there is ongoing education to be done around the difference in pastured and intensive

[35] https://www.fao.org/3/ca5602en/ca5602en.pdf

livestock production models, the short[36] and long[37] carbon cycles and ways that cattle on pasture contribute to a healthy ecosystem, and openness in discussions about the role of meat in a healthy diet.

The growing amount of footage obtained through trespass and covert installation of cameras in abattoirs (and pig and poultry sheds) has changed the public's relationship to slaughter. People now receive, regular glimpses of what slaughter looks like, whether conducted humanely or inhumanely. In particular, a great deal of footage is shared of the stun and subsequent tonic and clonic cycling that takes place immediately thereafter, which to an untrained eye can look as though animals have regained consciousness. Much of the footage released reflects misunderstandings about standard practices, and this is increasingly being highlighted by animal-rights groups. We believe the most effective way to address misinformation is to provide accurate information with full transparency. Providing an accurate description of what occurs during slaughter can play an important role in educating the public and countering misinformation. It is also advisable to install CCTV for two purposes: First, it provides timestamped footage that can clarify whether material circulated by external groups misrepresents standard, acceptable procedures or, alternatively, document any genuine breaches of animal-welfare standards. Second, it enables the recording of any unlawful entry or trespass.

While CCTV is not (yet) legally mandated in Australia, it is required in order to gain certification under the Australian Animal Welfare Certification System (AAWCS) developed by the Australian Meat Industry Council and other meat processing stakeholders, which has been adopted by 80% of the industry.

4.3 Governance Risk

4.3.1 Scenario One: Government-owned and operated facility

The old Canberra Abattoir was owned by the Federal Government, and operated under the supervision of the Department of Health. However, the Government did not operate the facility directly, but rather hired it out to local butchers, who booked days to bring animals for slaughter and further butchering and sale through their own channels into the Canberra regional market. While operations were not directly under the control of the Government, governance of the facility was.

A Senate Select Committee found in 1969 that the supervision and management of the facility were unsatisfactory, leading to a decline in maintenance of building and hygiene standards over time, up to the point of its sale to Red Hill Meats. The report detailed where the Committee believed the governance arrangements were inadequate:

> The position of Superintendent of the abattoir was a part-time one occupied by a Senior Veterinary Officer of the Department who had other departmental duties to perform. The on-the-job management was the responsibility of the Senior Meat Inspector who was paid a small managerial allowance for the additional duties he per formed. It is no reflection on the Superintendent or Manager to say that the Committee is of the opinion that the employment of a manager experienced in the conduct of abattoirs on a full-time basis would have led to greater efficiency in the maintenance and operation of a valuable public undertaking.

[36] The short carbon cycle refers to the rapid exchange of carbon within ecosystems over minutes to years. This cycle primarily involves the atmosphere, plants, animals, and the ocean's upper layers, focusing on processes like photosynthesis, respiration, and the decomposition of organic matter.

[37] The long carbon cycle refers to the geological process where carbon is stored in fossil fuels for millions of years. Burning these fossil fuels releases this long-stored carbon into the atmosphere, contributing to greenhouse gas emissions and climate change.

Public abattoirs were in fact common from early in the 20th century up until the 1980s across Australia, the UK, and many European countries, largely as a result of Upton Sinclair's 1905 exposé of the public health, animal welfare, and human rights abuses that so many urban-based industrialised abattoirs had become. Governments around the world took control of slaughter out of fear of the steady rise of zoonotic diseases from unhygienic and unsafe facilities. According to a 2011 MLA report on the history of post-mortem inspection:

> The principle that the competitive market does not necessarily guarantee that the public's health will be optimally served underlies the 1906 legislation and remains in force today.[38]

The exit of government from ownership of abattoirs from the 1980s onwards has led to the current situation, in which a diminishing number of companies control the system, and therefore pricing and access are determined by profit rather than public good. A similar dynamic can be seen in the gas sector and other formerly public utilities, where market arrangements have resulted in Australia having to import gas at the same time that multinational operators export significant volumes from local reserves for a sizeable profit. Should any level of Australian government decide to build or purchase an abattoir for use by the local community, it would need to do its due diligence to avoid the governance problems of the old Canberra Abattoir, but also to design a robust business model with costs shared or subsidised in a way that is equitable amongst those who benefit from the facility (farmers, butchers, meat eaters). After confirming interest from producers and butchers, a key early step would be to assess the degree of support for the initiative within the broader community. Another risk is that changes in government or political pressures can impact funding, oversight, and operational stability, so the governance and business model should be designed to withstand such changes.

4.3.2 Scenario Two: Government-funded, community owned and operated facility

A second scenario is one in which the government funds development through grants, but a community organisation owns and governs the project independently. In this scenario, the question of who governs *construction* should be treated as separate from governance of operations. This scenario is much more likely in the current policy climate, and carries lower governance risk for governments due to the arms-length arrangement. It also carries lower governance risk to the community where the facility is on public or shared ownership, governed by a cooperative whose fiduciary duty is to serve the interests of its members.

Ultimately, failure to adequately engage with community members can lead to resistance to the project, and failure to enable stakeholders (farmers, butchers, meat workers) can lead, at worst, to inadequate facilities, as the case study below demonstrates.

Murray Plains Meat Cooperative: A case study

A self-organised community of farmers in need of an abattoir worked with the Murray River Council to secure AUD$2.2 million in state and federal government funding to build a micro-abattoir that, after years of development and construction, was not fit-for-purpose on completion. A series of poor decisions, lack of transparency, and failure to collaborate resulted in tensions between the council and the cooperative board and a facility that was unable to be licensed. It took over a year of retrofitting and rebuilding relationships, plus another half a million dollars, but the facility is now operational and owned and controlled by the Murray Plains Meat Cooperative (MPMC).

Upon securing the government funding – which could only be granted to the Local Government Area (LGA) not a legally-constituted community cooperative – the council appointed its own project manager, who consulted only loosely with the cooperative. From the beginning, according to

[38] Dobrenov, B. & J. Webber. 2011.

members of the cooperative board, the project manager rejected requests to review the tender documents for the abattoir construction contract, so they were unable to give feedback on areas they deemed important. After a contractor was appointed, they were given limited access during the building process, and when they raised concerns about construction defaults (height of the facility for beef, OH&S concerns around the knockboxes and lairage, etc), they were eventually barred from visiting the site.

As a result, the facility is only four metres high and cannot slaughter cattle over 500 kilograms live weight – so nothing above average carcass weight – leaving many of the interested local producers still without slaughter options as they grow animals out past two years of age, resulting in bigger carcasses. In the lairage, the pig race constructed was so narrow it would only fit small grower pigs in the lead up to the knock box, with 90-degree turns instead of curves, meaning large finishers and sows still have to be transported three hours to the nearest abattoir, and smaller pigs would suffer stress and potential injury when confronted with corners. The small boning room was constructed with plaster walls – a porous material not allowed under AS4696:2023. Drains installed were too small for the volume of blood and water on the slaughter floor, and the angle of fall in the concrete insufficient for safe and efficient movement of liquid to the drains. While MPMC obtained its licence for poultry in early 2024, it took more than a year after construction was complete and they had passed a desktop audit to retrofit the facility to meet all the standards and pass animal welfare and food safety audits for red meat. The facility is now fully licensed and operational.

The MPMC story offers a number of insights into potential pitfalls of public-private partnerships, mostly around governance and decision making. If we look to the International Association for Public Participation's Public Participation Spectrum[39] launched in 1998, it would seem that the local council did not even consistently achieve a 'consulting' level of participation of the Meat Coop, let alone 'involve', 'collaborate' or 'empower'. And while it is twenty years since researchers identified the rise of the 'enabling state' – a move by Australian governments to support and enable community-led development –governance cultures remain that too often thwart these projects. In 2004, regional community development researcher Jim Cavaye wrote that:

> *The current focus on community engagement and citizen participation is part of the emergence of an Enabling State. Government is attempting to build a facilitation and partnership role with communities that better "enables" community capacity and adds value to community outcomes.*[40]

Cavaye was building on a body of work in public administration research that observed the changes from the Welfare State of the 1960s and 70s to the Contractual State of the 1980s, which was shifting to the Enabling State by the 2000s.[41] The early research showed that while public administration was shifting discursively towards more participatory democracy, nearly every country was in fact seriously lacking an enabling policy environment. Today, local government authorities across Australia have enabling policy environments, with community engagement and public transparency policies required by local government acts in nearly all states, and governance policies with much clearer accountabilities between elected representatives and council officers. However, government processes can still be affected by an overly cautious culture, limited appetite for risk, and insufficiently open communication—factors that can reduce trust and hinder effective collaboration with communities.

Ineffective governance can lead to poor decision-making, operational inefficiencies, and inability to meet stakeholders' needs. Had the Murray River Council engaged with the MPMC in an open and

[39] https://iap2.org.au/resources/spectrum/
[40] 2004: 6
[41] Pretty 1995

transparent way from the beginning and maintained that openness throughout, it could have drawn on the practical expertise of farmers with a deeper understanding of abattoir operations than council officers. This may have allowed many of the contractor's errors to be identified before construction progressed. A governance structure that gave members of the MPMC decision-making powers would have empowered them to co-manage the development to better serve the members' needs. Of course, government-supported entities such as MPMC, just like the government itself, must maintain transparency to avoid perceptions of mismanagement or corruption, which can undermine public trust.

4.3.3 Scenario Three: Privately owned and operated facility

A third scenario is one in which a private entity constructs, owns, and governs the project independently. This scenario is currently the most common and is reflected in three of the case studies above (Meredith, Grazed and Grown, and Jonai Farms), although with different operational models. The most obvious risk of privately owned facilities built on farms is that the farm may be sold or decides to cease service kills, not unlike the risk of large corporate abattoirs. For example, Castle Estate in Victoria is an abattoir that was built on a farm in 2014 to service the Castle family's own vertically-integrated beef and dairy farm, which also provided service kills to smallholders. However, in 2022, Castle ceased service kills due to problems with the business model according to users of the service. Premier Tablelands Meats is another farm-based abattoir at Canowindra mentioned above, which provided service kills for 12 years until retirement of the owner operators in 2024. Unable to sell the abattoir, they have placed it into maintenance mode in hopes that a buyer will come along and restart operations.

Meredith – one of the case studies above – is a large-scale, mature farm in its third decade that had the capital to invest in constructing the abattoir for its own use, and more recently opened it to service kills in response to other local farmers' loss of access to local slaughter options. As a privately owned and operated debt-free facility nested in a farm with a strong staffing levels, high operational turnover, and strong profitability independent of slaughter and goat meat revenue, and with no reliance on government assistance or engagement, risks to ongoing operation are minimal. However, there is no guarantee of the longevity of service kills as that is not the facility's primary purpose.

Another of the case studies above, Grazed and Grown is a small-scale multi-species farm with many value added products made in house and a direct sales model, but unlike its Victorian parallel, Jonai Farms, it is wholly owned, operated, and *governed* by the farmers and one staff member. Jonai Farms' model aims to reduce the risk to other farms as well as its own ongoing viability by handing governance over to the incorporated association, the Meat Collective @ Jonai. While this model provides greater certainty and democratic participation for the other farmers, Jonai Farms still owns both the land and the infrastructure. This means that if relationships were to break down, or if the farmers would cease operating, there remains a risk that service kills for some or all participating farms could cease.

4.4 Financial Risks

The rise and consolidation of large abattoirs is often justified by economies of scale, in which slaughtering more animals in a single facility lowers the cost per head. This is largely because many of the expenses involved – such as rent, equipment depreciation, bank interest, and wages – stay the same regardless of how many animals are processed. Variable costs – like waste disposal, slaughter levies, and food safety compliance – do rise with throughput, but in large abattoirs those too can be more readily absorbed. These economies of scale have resulted in a system where the smaller operators are increasingly priced out, regional resilience is diminished, and animals are

treated primarily as units within production systems. Rather than replicating the limitations of a large-scale industrial model – characterised by high level of debt and externalising negative impacts such as waste and pollution – a micro-abattoir can offer a different approach, that places more emphasis on the care for land, animals, and community.

To successfully build and operate a micro-abattoir, there are several ways to mitigate financial risk in both capital and operational costs. In capital costs, **debt should be avoided** by obtaining public or private grants, fundraising, and/or self-funding by shareholders, without expectation of extracting surplus value from the business. In the case of an abattoir, the return on investment is the abattoir itself, a crucial piece of infrastructure for livestock farmers and those they feed. In regards to operational costs, avoiding debt will significantly reduce fixed costs. **Labour is typically the other highest expense**, and as discussed above, a micro-abattoir can operate with just two or three people on slaughter days, as can a boning room with sufficiently skilled butchers. Abattoir workers who also have the skills to be a manager and/or meat inspector streamlines staffing needs and provides more consistent employment in a facility that may only slaughter one to three days per week. **By designing a system that can metabolise its own waste (e.g. through composting), waste disposal costs are avoided**. A dedicated service kill facility also has an advantage over the purchase-process-sell model of abattoirs, as their highest cost is purchasing livestock.

4.4.1 Capital costs

Governments across Australia have regularly provided significant amounts of funding to large-scale developments and upgrades of processing facilities to (ostensibly) increase productivity and employment opportunities in regional areas. For example:

- In 2009, the Tasmanian Government issued a $12 million interest-free loan to JBS to save the King Island abattoir, which JBS had acquired in 2008. JBS closed the abattoir in 2012.
- In 2013, the JBS-owned Dinmore abattoir in Queensland received $4.4 million in federal government funding towards a carbon abatement project that improved JBS' bottom line by approximately $1.1 million per annum. Dinmore is the largest meat processing plant in the southern hemisphere.
- In 2015, the Tasmanian Government promised JBS nearly $800,000 in grants to upgrade the Devonport City Abattoir, which JBS had owned since 2008. JBS handed over control of the abattoir to Tasman Quality Meats in 2018, having received $400,000 of the funds.
- In 2016 the Victorian Government provided approximately $2 million to Hardwicks to upgrade facilities and provide another 170 jobs in the region, followed by nearly another $1 million in 2019 to shift to heat pumps in a bid to help the company reduce emissions. In 2021, Hardwicks sold the company to Kilcoy, the multinational corporation that has since ceased small service kill lots and left hundreds of farmers without animal processing options, and, according to local reports, laying off over 100 staff.
- In 2018, the federal government contributed $10 million to construction of a $60 million small-stock abattoir in Bourke, NSW. The facility sat vacant for most of three years after completion, and in 2021, was sold to Australian family-owned Thomas Foods International, which controls 10% of slaughter in Australia, second to JBS' 25%.

Although corporate processors often receive substantial government subsidies, small-scale initiatives frequently remain underfunded.. The Murray Plains example is instructive, in that funds were secured through three separate state and federal grants, which required the LGA to be the applicant. In this case, Murray River Council opted to maintain control of the funds and entire project as described above, rather than working in a shared governance model with the MPMC. It is difficult to imagine the government appointing a project manager to oversee funds granted to a multinational company such as JBS or Cargill. While proponents might cite JBS's extensive experience operating abattoirs as justification for providing funding without close government oversight, the company also has a well-documented history of closing facilities. It is standard practice in assessing grant applications to ensure that applicants have the appropriate expertise,

whether internal or external to the governance and management teams of the organisation. **Where government grants are provided to build processing infrastructure, the successful applicants should able to demonstrate expertise in governance, financial management, food safety, animal welfare and the meat industry more broadly, as well as project management experience for construction.**

The Acroecology & Food Sovereignty Alliance (AFSA) has advocated to state governments to provide the smaller sums needed to fund construction of cooperative micro-abattoirs to ensure food security domestically, suggesting that matched grants of as little as $200,000 could fund an expansion in the number of micro-abattoirs. In fact, small-stock and poultry abattoirs made from converted shipping containers as described above can be delivered for even less. The financial risk to governments can be distributed across several projects, and through matched funding, reduce the financial risk to rural communities at the same time.

4.4.2 Operational Costs

Fluctuations in operational costs (labour, maintenance, utilities) can impact ongoing viability, especially as unexpected expenses can arise, such as compliance with changing health or animal welfare regulations (e.g. the anticipated impending requirement for CCTV). However, as stated above, operational costs in a micro-abattoir can be reduced per animal processed by avoiding debt, employing multi-skilled workers, and embedding the facility in a circular economy that not only cycles nutrient on site (e.g. through composting), but also uses renewable energy.

Seasonal fluctuations in livestock supply and demand can lead to cash flow issues if staffing remains constant, making it difficult to cover operational expenses and retain staff. However, as discussed previously, this could be mitigated by a facility designed for local paddock-to-plate service kills, as farmers who sell meat directly typically slaughter consistently year round. Providing slaughter for all species also mitigates the risk of seasonal finishing of local livestock.

4.5 Legal Risks

Abattoirs must adhere to stringent health, safety, animal welfare, and environmental regulations regardless of their scale. Non-compliance can lead to fines, legal action, or closure, with associated reputational damage and loss of social licence. Establishing a culture of care for animals, workers, and the surrounding environment is critical to mitigate the risk of non-compliance with animal welfare, OH&S, or food safety regulation. As seen in the desktop review and case studies above, most micro-abattoir projects are largely driven by farmers who already hold strong values around these concerns, putting animal welfare and environmental concerns before profit.

There is also a risk of legal claims from injured employees or food safety violations, which can lead to costly litigation and insurance liabilities. While a robust food safety program, appropriate and thorough training and personal protective equipment (PPE), and a well-embedded culture of care can strongly mitigate these risks, accidents can still happen, and all facilities must carry the appropriate WorkCover and public liability insurance. They may also choose to carry product liability and other business insurances and policies. Once again, a multi-skilled workforce can mitigate the risk of a specialist being ill or injured if other workers are also qualified to perform their work. Having a pool of workers for relief substitution also mitigates this risk, for example by encouraging more farmer members and abattoir workers to gain their meat inspector certifications.

Engaging with farmers and butchers requires clear communication, and for new farmers, education to ensure compliance with traceability requirements such as Livestock Production Assurance (LPA) accreditation and procedures around the National Vendor Declaration (NVD) and PigPass (mandatory identification systems for livestock). An induction process for new farmers should be included in the Food Safety Program, including at least information about their responsibilities around traceability, biosecurity, health and suitability of livestock brought to the facility, as well as scheduling requirements , and what they can expect to receive with the carcass (offal, hides, fat,

trim, etc). We consider it best practice to invite all farmers to tour the facility on a slaughter day so that they fully understand the process. In many small facilities built on farms, the farmers constitute some or all of the workers. Misunderstandings or disputes can result in legal issues, though in a small-scale facility grounded in strong local relationships, this risk should be lower. (For example, one of the more common disputes farmers have with larger abattoirs is the certainty or suspicion that they have received the wrong carcass, which is much less likely in a micro-abattoir that only kills five or 10 cattle in a day.)

Conclusion

A prospective micro-abattoir located on a farm or public land in the ACT is potentially viable under existing planning frameworks, particularly if classified as an ancillary use on non-urban zoned land. The regulatory environment, while complex, offers pathways for approval through strategic interpretation, detailed planning, and adoption of best-practice environmental, biosecurity, and welfare standards. Precedents from Victoria and South Australia provide useful guidance, and with appropriate design and governance, such a facility can support ACT and regional food sovereignty, sustainability, and animal welfare.

This report provides a blueprint for establishing a community-scale, farmer-led micro-abattoir. With appropriate infrastructure, skilled and resilient workforce, and strong governance arrangements, such a facility can meet regional food system needs while modelling sustainable and ethical animal processing. Integration with a local food hub could further enhance its impact, ensuring local control, access, and adaptability in an evolving agricultural landscape.

With appropriate planning, cooperative governance, and transparent operation, a community micro-abattoir can serve as critical food infrastructure, fostering economic resilience, humane slaughter, and circular, climate-mitigating and adaptive systems. The risks are real—but with lessons from past projects and clear policy support, they are manageable and outweighed by the transformative potential of the model.

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Appendices

Appendix A: Desktop Review of Nine Reports into Need and Feasibility of Abattoirs

Wattle Range Council (SA) Service Kill Abattoir Review by Hood Sweeney (2019)

Wattle Range Council in SA commissioned the report to review two feasibility studies in excess of 15 years old, and to consider a smaller-scale facility for the Limestone Coast region. The report notes that consolidation in the industry has been due to several factors, including vertical integration and multinational ownership, but also highly volatile availability of livestock due to drought and unfavourable export markets. For large-scale facilities, the report asserts the importance of maintaining throughput to remain viable, while noting that a smaller facility with lower fixed costs can have greater flexibility to absorb variability.

The report also documents the site selection needs based on zoning, power and water access, and the infrastructure requirements for waste management. Various ownership and funding models are also summarised the report stated that Australian Micro Abattoirs (AMA) could provide a modular solution for small or large stock, at approximately $400,000 and $950,000 respectively, with a weekly capacity of 107 head for beef, 142 head for pigs and 213 for sheep. However, the AMA has since ceased operations.. No abattoir has yet been built in the Wattle Range region.

Economic Analysis of Meat Processing Options on Kangaroo Island (2019)[42]

In 2018, Primary Industries and Regions South Australia (PIRSA) released a discussion paper, *Artisan On-Farm Meat Processing on Kangaroo Island (KI)*, in response to interest from farmers and others on KI. PIRSA subsequently commissioned a high level feasibility study by BDO EconSearch. The scope included a small- to medium-scale facility either privately owned or in shared cooperative ownership, a mobile facility, or construction of further processing facilities (butchering) only on KI in a business-as-usual scenario, in which farmers would continue to ship live animals to the mainland to the diminishing number of service kill abattoirs.

The report includes details about the existing livestock numbers on KI and what proportion would be likely to be processed on KI were a facility built. Local hospitality providers were surveyed and some interviewed to gauge interest in KI-branded meat, finding a high level of interest. Benefits beyond paddock-to-plate branding were identified, including improved animal welfare (as well as better tourism outcomes with less animals on shared ferries), improved meat quality, and local employment opportunities. The mobile option was discounted by most surveyed as too expensive to be viable and not a priority, with preference established early on for a central fixed facility.

The report found that a small facility would present the most resilient model, processing up to 10,000 sheep, 500 pigs, and 200 cattle per annum, with an estimated construction cost of $1.58 million. A larger facility would also be feasible, though with greater risks if throughput is not achieved, capable of processing up to 25,000 sheep, 2,500 pigs and 1,000 cattle, at a build cost of $3.7 million. To date, no abattoir has been built.

The Feasibility of Establishing Further Meat Processing Capacity In Tasmania (2019)[43]

The closure of the abattoir at Devonport by JBS in 2018 led the Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE) to establish the Tasmanian Meat Industry Working Group. The Government subsequently engaged Meridian Agriculture, a long-standing agricultural consultancy serving governments and large-scale agricultural enterprises. The terms of reference were to assess the state of the meat processing sector in Tasmania, survey producers and

[42] https://pir.sa.gov.au/__data/assets/pdf_file/0004/346873/Economic_Analysis_of_Meat_Processing_Options_on_Kangaroo_Island_-_Prepared_by_BDO_EconSearch.pdf

[43] https://nre.tas.gov.au/Documents/Meat%20Processing%20Feasibility%20Study.pdf

other stakeholders, analyse the factors influencing the viability of further meat processing capacity (economic, market & technical), and assess the feasibility of increasing processing in Tasmania via upgrades, expansion or greenfield construction.

The report cites national and international data, pointing out that Australian prices and access are largely determined by the global market for meat. It also refers to the 2018 Australian Meat Processing Corporation's findings that the cost of processing in Australia is significantly higher than in other export oriented countries such as the US, Brazil and Argentina, partially due to the higher regulatory costs (which are twice what they are in the US and Argentina, and three times those in Brazil).

Meridian asserts that the impact of lost service kills falls mostly on 'niche producers' and 'specialty butchers', and found that pig production has been declining for many years along with access to abattoirs. Note that in 2021 (two years after the Meridian report), Scottsdale Pork – a medium-scale outdoor-bred pig farm in northern Tasmania – built its own on-farm abattoir, which offers service kills for other local farmers. However, in the south of the island there are no options left after the Cradoc abattoir shut down in 2024, leaving farmers no choice but to drive 4-5 hours each way for slaughter. There is now an organisation representing smallholders – the Southern Tasmania Association of Meat Processors (STAMP) – advocating for government support for micro-facilities.

Meridian's analysis concluded that Tasmania has sufficient slaughter capacity for current demand, without addressing the distances travelled by small-scale farmers and their animals. The report referenced JBS' sheep processing capacity in Victoria and South Australia—2.8 million lambs annually, with the potential to increase to 4 million through additional shifts at two named facilities—as evidence that no further infrastructure is required.. This assessment did not consider that the two JBS abattoirs do not offer service kills, nor did it examine the implications of transporting live animals across the Tasman Sea. The report ultimately recommended that there be no government intervention to avoid market distortions, despite concerns about JBS' market influence in Tasmania and on the mainland.

Murray Plains Meat Coop Farming Together Feasibility Study (2018)

The loss of abattoirs in the Murray Plains region led to farmers driving over three hours to the next nearest option at Benalla, and required them to purchase a refrigerated truck due to limited cold chain logistics between the two regions. The community, led by a pastured pig farmer severely impacted by two local abattoir closures over the preceding years, came together to commission a feasibility study funded by a Commonwealth Farming Together grant. The report canvassed the usual concerns around rural zoning and Designated Development application requirements, siting in relation to power, water, and the extensive local flood zone on the Murray, as well as briefly summarised ownership and governance models. Costs for a small stock facility built by the company were estimated at $350,000 and for large stock at $650,000, and the report recommends seeking government grant funding, possibly supplemented by crowdfunding.

A facility was constructed by a different contractor under the local council's supervision – not the Murray Plains Meat Coop that formed after the study. There were many issues surrounding governance of that project, resulting in a building not fit-for-purpose (no cattle over 500kg live weight, lairage built not according to the Temple Grandin plan and unable to pass animal welfare audits, inadequate drainage, porous cladding on the boning room walls, and cheap equipment). After extensive retro-fitting of the new facility over 2024, the abattoir was finally licensed for red meat in early 2025 (having obtained a poultry licence in 2024). Total cost was over $2.7 million.

Liverpool Plains Meat Processing Project: Securing Local Control over Beef & Lamb Production on the Liverpool Plains (2017)

Small- to medium-scale producers who needed to shift from commodity production into direct markets formed the Liverpool Group, and in 2017 they obtained a Farming Together grant from the

Commonwealth to investigate options for local, farmer-controlled red meat processing facilities. They were motivated by a loss of access to local processing facilities, the desire to improve animal welfare and meat quality, and to sell direct to consumers to increase profitability by 'shortening the chain'. This report is preliminary scoping for a feasibility study, which did not receive funding to go ahead. No abattoir has been built in the Liverpool Plains to date.

Micro-Abattoir for Great Barrier Island, NZ (2017)[44]

With no abattoir on Great Barrier Island (GBI; Aotearoa/NZ), and diminishing access to the highly consolidated industry on the main islands (the study reports that 75-85% of livestock in NZ go through four chains of abattoirs, who export 96-97% of what they process), the AoteaOra Community Trust – an organisation with aims to improve sustainability practices on GBI – commissioned this feasibility study in 2017. The study identified demand for about 10 cattle per week, with an annual throughput of 460 head, and estimated the capital cost to construct a modular micro-abattoir from 4-5 20-foot refrigerated containers at $650,000, inclusive of all approvals and engaging a project manager for the duration of the project.

The study found that farmers' concerns included: ownership, operational structure, capital and operational expenses, the need to improve local farming practices to finish cattle at a higher quality, marketing, sales and branding, the need for meat processing skills locally, purchase and pricing support, and support from the local community. It stressed the importance of producer buy in and majority in the governance of a facility.

Citing concerns that 'Previous evidence suggests that an abattoir model which purchases small quantities of local livestock and trades meat has a low level of feasibility due to low throughput and high operational and regulatory costs,' the study still found that as long as construction is fully financed through a mix of government and philanthropic grants, with scope for shareholder buy in, a commercial business with social objectives could prove a viable option for GBI. It recommends ownership initially by the Trust, later be handed over to the GBI's social enterprise company, and ultimately transitioned into a Community Development Company controlled by the farmers.

The report also notes the Ministry for Primary Industry's increasing interest in supporting agriculture and related industries that are focused on domestic consumption. There is no evidence for an abattoir having been built on Great Barrier Island.

Felix Domus Pty Ltd – King Island Abattoir Feasibility Study (2013)[45]

When JBS closed the King Island abattoir in 2012, farmers were left with no option but to transport livestock to Tasmania or Victoria for processing. This resulted in longer transport times, poorer animal-welfare outcomes, occasional reductions in meat quality, and an additional cost to producers of $112 per head. As a result, the Tasmanian Department of Economic Development, Tourism and the Arts (DEDTA) funded a feasibility study into the construction of a new abattoir on King Island. The study found that it would cost approximately $30 million to build an abattoir capable of processing up to 40,000 head per annum, which would cost approximately $14 million annually to operate. The high costs involved to service a small industry led to recommendations to focus as much on King Island's reputation and the marketing potential for premium prices as much as on the processing, ultimately suggesting that viability would be reliant on collaborative marketing of the King Island brand.

While the report canvassed several options for raising capital and operational models, it stressed the importance of 'protecting' any new facility via producer engagement in governance to support the

[44] https://www.aucklandcouncil.govt.nz/about-auckland-council/how-auckland-council-works/local-boards/all-local-boards/great-barrier-local-board/docsfeasibilitystudies/micro-abattoir-feasibility-study.pdf
[45] https://australianabattoirs.com/wp-content/uploads/2013/06/kiafsg-final-report-17-jun.pdf

King Island beef industry. As such, it also advocates ensuring strong producer buy in from commencing any development work. No abattoir has been built on King Island to date.

Preliminary study for micro abattoir in Skye & Lochalsh, Scotland (2013)[46]

This study was commissioned by the Scottish Crofting Federation, whose members were interested in local slaughter options as they had not had an abattoir since the last one closed in the mid-1990s. Previous studies had shown that an abattoir that purchases and processes livestock to sell the meat is not viable in this low density population region due to the low throughput. However, the report found that a micro-abattoir that could process up to five cattle, 20 sheep, or 10 pigs per day could return a modest profit if the capital cost of construction was entirely funded by a grant or similar. The report states that:

> The simplest scenario to allow the abattoir to operate at a slight profit is for 100% funding of the capital cost. Repayment of a loan is the second largest cost after wages, and a burden that does not change with throughput.

Capital costs have gone up in recent decades as the hygiene standards were harmonised across the EU, requiring micro facilities to meet the same standards as a large-scale export abattoir. However, the Scottish Government is committed to ensuring animals are slaughtered as close as possible to where they are reared, so there is hope that a government grant could be obtained for construction of a facility designed to be 24 by 12 metres, inclusive of chillers and all equipment bar waste disposal. Options for waste, water and energy are all canvassed in the report, as are ownership models, with a preference towards cooperative producer governance. Staffing is expected to be sustainable with two slaughter persons and one part-time admin role. The report states that the facility cannot be built for under £586,000.

Feasibility of Establishing a Northern Western Australian Beef Abattoir (2010)[47]

In 2010, in collaboration with the WA Government, the Australian Government's Rural Industries Research and Development Corporation (RIRDC) jointly funded a feasibility study into establishing a beef abattoir in the northwest of WA, with a view to diversify markets in a region heavily dependent on live export. While the study found that an abattoir could be of great benefit to the region's beef producers, it would not be commercially viable without government and industry support, including through the development of a backgrounding and agistment sector, noting a facility could not survive on 'live export discards'. Given the seasonality of supply, distances to travel, lack of labour available, and other variables, the estimated $33.8 million needed to construct an abattoir was deemed a risk, and recommendations to ensure producers were engaged in governance and/or ownership were proposed.

In 2016, an abattoir was constructed and operated until going into voluntary administration in early 2024 over millions of dollars of unpaid debts. The facility was purchased in late 2024 by a Canadian super fund manager, with plans to re-open in 2025. Previous to its closure, the facility was reported to have a production capacity of 220 head per processing day, while the 2010 feasibility study predicted the need to process 400 per day to achieve minimum viability.

[46] https://www.crofting.org/papers/skye-and-lochalsh-abattoir-viability-report/
[47] https://agrifutures.com.au/product/feasibility-of-establishing-a-northern-western-australian-beef-abattoir/

Summary table of abattoirs assessed for feasibility

Key: small-scale service kill, large-scale purchase-process-sell

Report	Estimated cost to build	Proposed throughput / week	Proposed throughput / annum
Wattle Range (SA) 2019	$950,000	107 cattle 142 pigs 213 sheep	5,000 cattle 6,500 pigs 10,000 sheep
Kangaroo Island (SA) 2019	$1.58 million	4 cattle 10 pigs 217 sheep	200 cattle 500 pigs 10,000 sheep
Murray Plains (NSW) 2018 Actual in 2025	$650,000 Actual cost > $2.7m	2 cattle 80 pigs 17 sheep Permitted for 29 cattle or equivalent pigs & sheep	94 cattle 3,700 pigs 770 sheep Permitted for 1,374 cattle or equivalent pigs & sheep (750 tonnes live weight)
Great Barrier Island (NZ) 2017	$650,000	10 cattle	460 cattle
King Island (TAS) 2013	$30 million	870 cattle	40,000 cattle
Scotland 2013	£586,000 (=AUD$938k in 2013)	5 cattle 10 pigs 20 sheep	Not forecast
NW (WA) 2010	$33.8 million	1,100 cattle	50,600 cattle

Appendix B: Meat Collective @ Jonai design and elevations (attached)

Appendix C: Meat Collective @ Jonai Members' Guide (attached)

GENERAL

PREAMBLE

1. Check site dimensions before commencing work and report discrepancies to the Superintendent for direction before proceeding.
2. Do not scale from these drawings.
3. Refer to specifications for further requirements.

OCCUPATIONAL HEALTH & SAFETY REPORT

1. The design complies with the Building Code of Australia and all relevant Australian or International Standards and, to the extent reasonably practicable, will not result in persons being exposed to unusual hazards as a result of the end product of the construction work; and,
2. To the extent reasonably practicable: (a) The structural design requirements are clearly described in the drawings and specifications; and,
   (b) The Consultant is not aware of the existence of any exceptional hazards or hazards to which a person at the construction site is likely to be exposed that a competent builder would not be aware of.
3. The Consultant's design, drawings and pecification address design of the structure to withstand all in-service loads as required by Australian Standards.
4. The Contractor's responsibility shall include but not be limited to design associated with the following activities:
   (a) Shop drawings, manufacture and delivery; and,
   (b) Appointment of a suitably qualified person(s) to specify lifting, handling and erection requirements for the entire structure including;
   - the sequence of erection of the entire structure,
   - assessing the effect of construction loads on any part of the structure.
   - the provision of all temporary works except those specifically detailed on the Consultants drawings.
   - the provision of temporary stability & the sequence of removal of temporary stabilising elements.
5. Submittals:
   Submit the name and details of the person(s) appointed to design and specify the lifting, handling and erection requirements.

DESIGN LOADS

1. Works shown in these drawings have been designed with due reference to the Building Code of Australia and to loads in accordance with Australian Standards as given below.
2. Non-structural and proprietary items that do not appear on these drawings must be designed and certified by others for these loads.

Building Code of Australia

Design Life	add
Importance Level	add

Imposed Actions

Roof	add
Floors	add

Wind Loads

Region	add
Terrain Category	add
Sheilding Multiplier	add
Topographic Multiplier	add

Seismic Loads

Importants Level	add
Hazard Factor	add
Site Subsoil Level	add

FOUNDATIONS & FOOTINGS

ASSUMED SITE CONDITIONS

1. Materials to comply with the following table:
   In the event founding soils are not as assumed report discrepencies to the Superintendent before proceeding.

Class to AS 2870	add
Ultimate Bearing Capacity	add
Founding Soils	add

FOUNDATIONS PREPERATION

1. Fill Materials - Use Only clean, well graded sand fill material with no more than 5% passing a 75 micron sieve.
2. Compaction - Compact foundation beneath footings, slabs and pavements as given in the following table:

Foundation	Depth	Density
Fill Material	Full Depth	70% Density Index (1)
Natural Granular Subgrade	750mm	
Natural Non-granular (cohesive) Subgrade	Min 300mm	95%Standard Density Ratio

CONCRETE

ASSUMED SITE CONDITIONS

1. All material to comply with AS / NZS 4671 and as given in The following table:

Type	Grade	Designation	Min. Lap
Plain Round Bars	230R	R	50 Dia.
High Strength Deformed Bars	D500N	N	40 Dia.
Ribbed Wire	500RW	RW	50 Dia.
Hard Drawn Wire	450W	W	50 Dia.
Welded Wire Fabric	D500L	L	300mm

CONCRETE

1. Concrete is to be premixed and comply with AS 1397.
2. Concrete Grade and Reinforcement Cover throughout (unless otherwise noted on drawings) as given in the following table:

Element	Grade	Cover
Footings	N25	75

WORKMANSHIP

1. Ground Slab Underlays - 200 Micron polythylene film to AS 1326.
2. Curing - Cure all concrete by keeping wet continuously for at least 7 days.
3. Placing - Compact concrete with immersion vibrators to remove all air pockets.

STEELWORK

MATERIALS

1. Materials to comply with the following table

Item	Standard	GRADE
UB,UC,PFC,TFB, EA,UA and merchant Bar	AS/NZS 3679.1	300
Hot rollded plates, floor plate and slabs	AS/NZS 3678	250
Weather resistant plates	AS/NZS 3678	WR350
Stainless steel flat bar and strip	AS/NZS 1449	AISI 316
Hollow sections	AS/NZS 1163	350
Cold formed sections, purlins and girts	AS/NZS 1397	G450 Z275
Wall studs	AS/NZS 1397	250 Z200
High stregth bolts, nuts, and washers	AS/NZS 1252	8.8
Commercial mild steel bolts	AS/NZS 1111	4.6
Mild steel nuts	AS/NZS 1112	4.6
Mild steel washers	AS 1237	-
Shear studs	AS 1554.2	-

FABRICATION

1. Fabrication to comply with AS 4100 - Section 14.
2. Provide additional fitments, holing and connections for attachments as necessary.
3. Fully seal all hollow sections with 5mm cap plates.
4. Align member centre of gravity lines at intersections.
5. Welding: All welds to comply with AS 1554
   Welds to be category SP (U.O.N)
   Minimum weld to be 5mm Continuous Fillet (U.O.N)
   Full penetration butt welds to member splices

PROTECTIVE TREATMENT

1. Coatings to be applied in accordance with manufacturer's recommendations.
2. Unless otherwise specified, light gauge steel sections fabricated from pre-galvanised material require no further treatment.
3. Treatments to be in accordance with Systems as given in AS 2312 and the following table:

Location	System Designation
Refer to client	

ERECTION

1. Erection to comply with AS 4100 - Section 15
2. Grout under baseplates with stiff 2 : 1 - sand: cement mix, rammed into place. Do not load structure until grout has been completed 7 days.

BOLTING/ FIXING REQUIREMENTS

1. All bolting / fixing (unless otherwise noted on drawings) as given in the following table:

Location	Size	Grade
Generally	M20	8.8/s

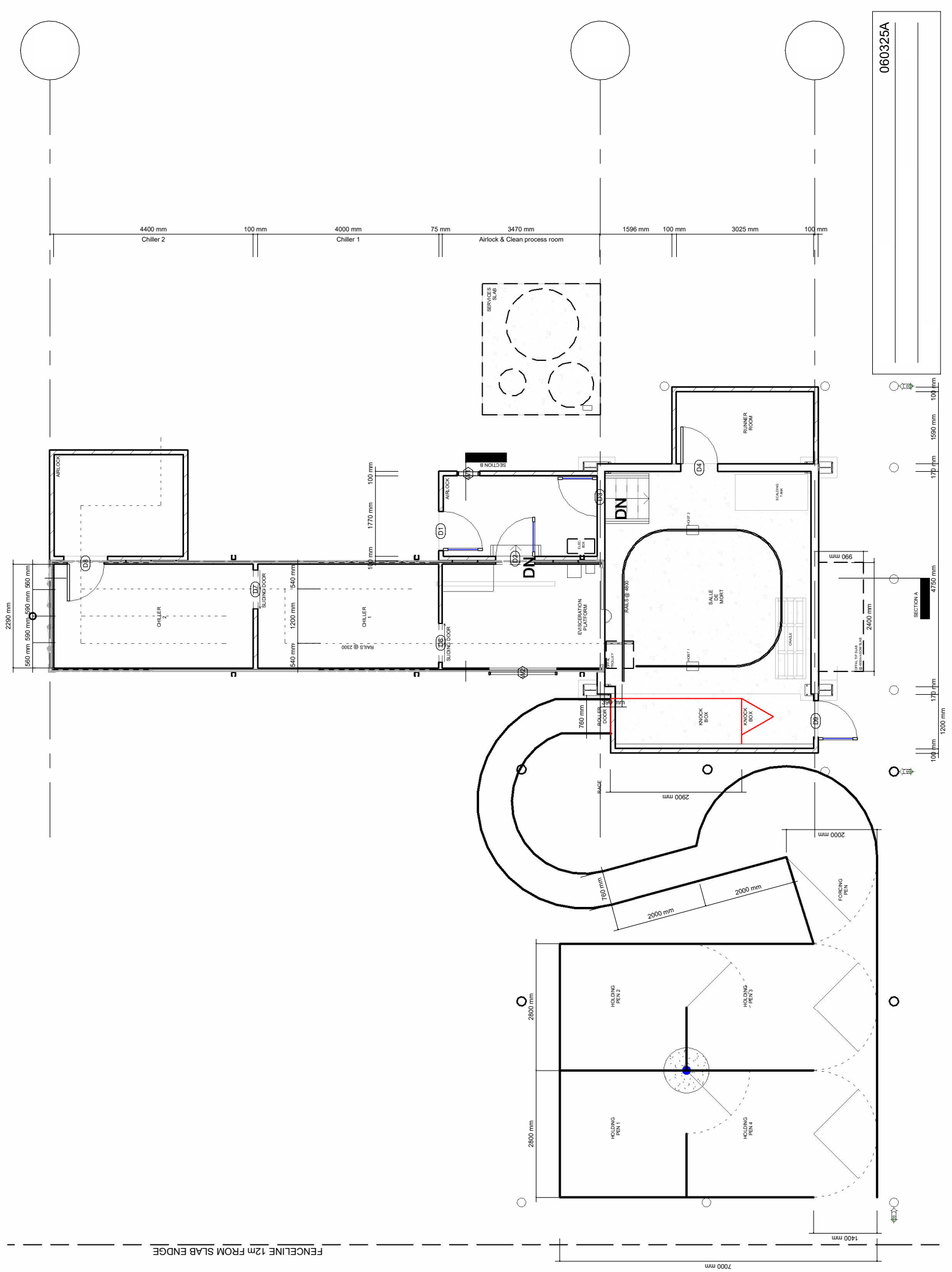
STEELWORK

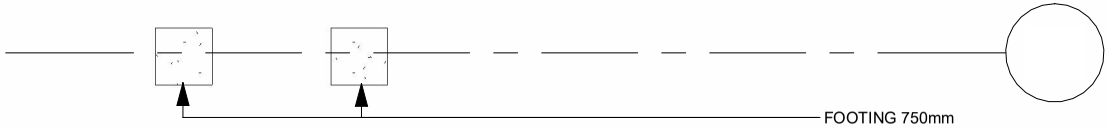
MINIMUM BOLTING REQUIREMENTS

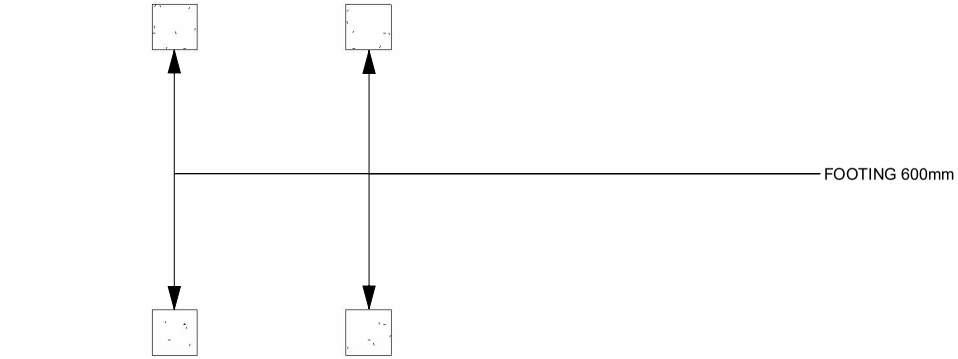
1. Unless otherwise shown connections to be as given in the following table:

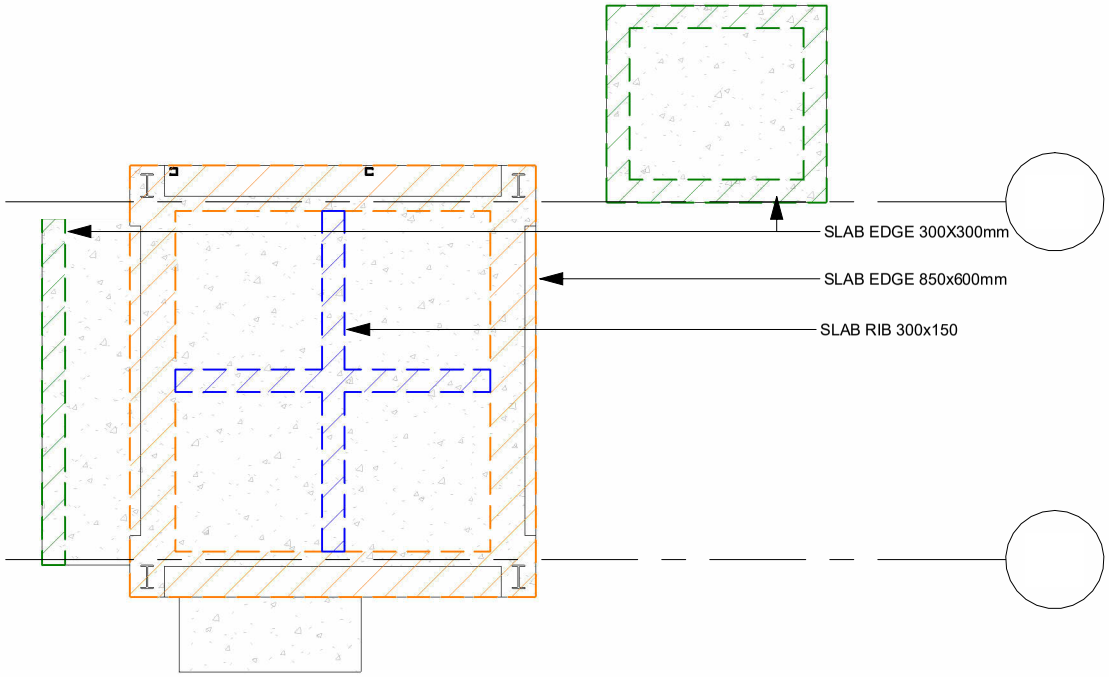
Location	Cleat	Bolts
Throughout	10PL	2 M20

JONAI FARMS ABATTOIR
GENERAL NOTES
060325A

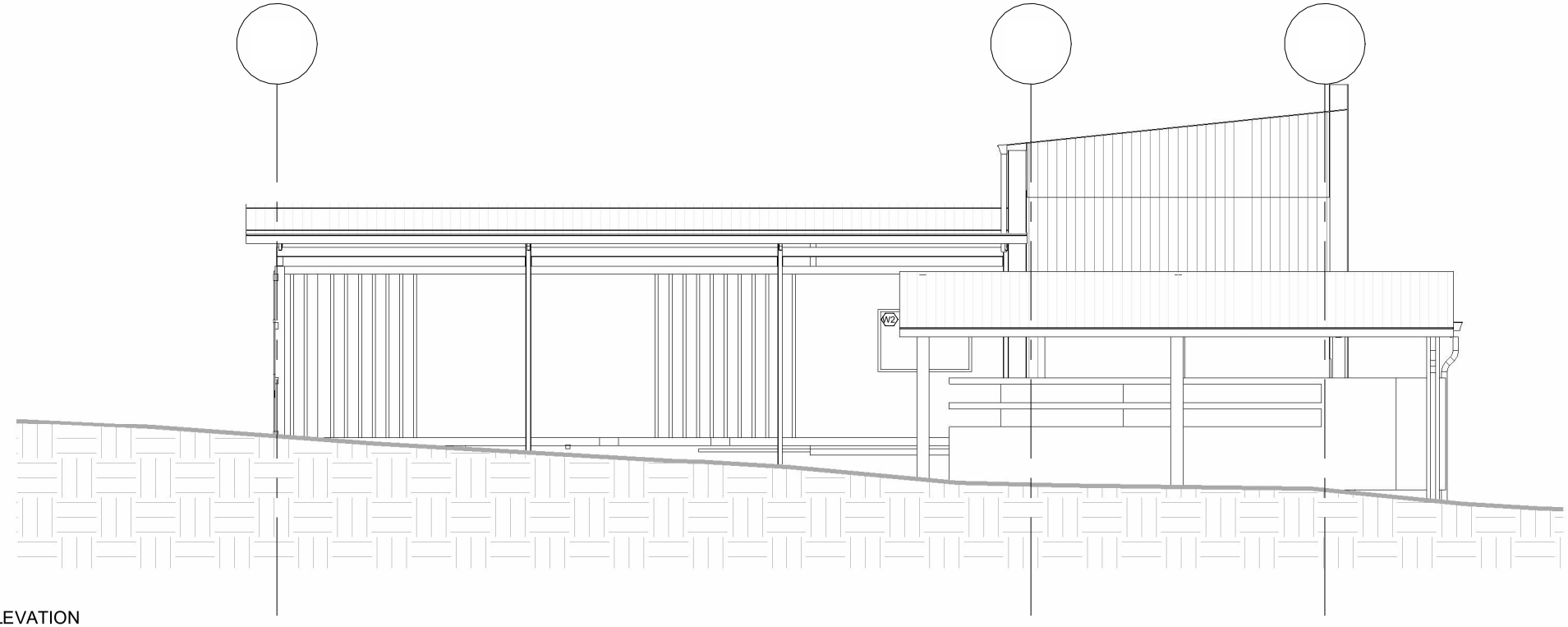

060325A
4400 mm
Chiller 2
100 mm
4000 mm
Chiller 1
75 mm
3470 mm
Airlock & Clean process room
1596 mm
100 mm
3025 mm
100 mm
SERVICES SLAB
SECTION B
AIRLOCK
D1
D2
D3
D4
D5
D6
D7
D8
DN
RUNNER ROOM
SCALDING TANK
CHUTE 2
CHUTE 1
SALLE DE MORT
RAILS @ 4000
EVISCERATION PLATFORM
RAILS @ 2300
CHILLER 2
CHILLER 1
SLIDING DOOR
KNOCK BOX
ROLLER DOOR
RAGE
SECTION A
990 mm
2400 mm
4750 mm
2290 mm
560 mm
590 mm
590 mm
560 mm
1770 mm
100 mm
100 mm
540 mm
1200 mm
540 mm
760 mm
2900 mm
2000 mm
160 mm
2000 mm
2000 mm
FORDING PEN
HOLDING PEN 1
HOLDING PEN 2
HOLDING PEN 3
HOLDING PEN 4
2800 mm
2800 mm
1590 mm
170 mm
170 mm
1200 mm
100 mm
100 mm
1400 mm
7000 mm
FENCELINE 12m FROM SLAB ENDGE



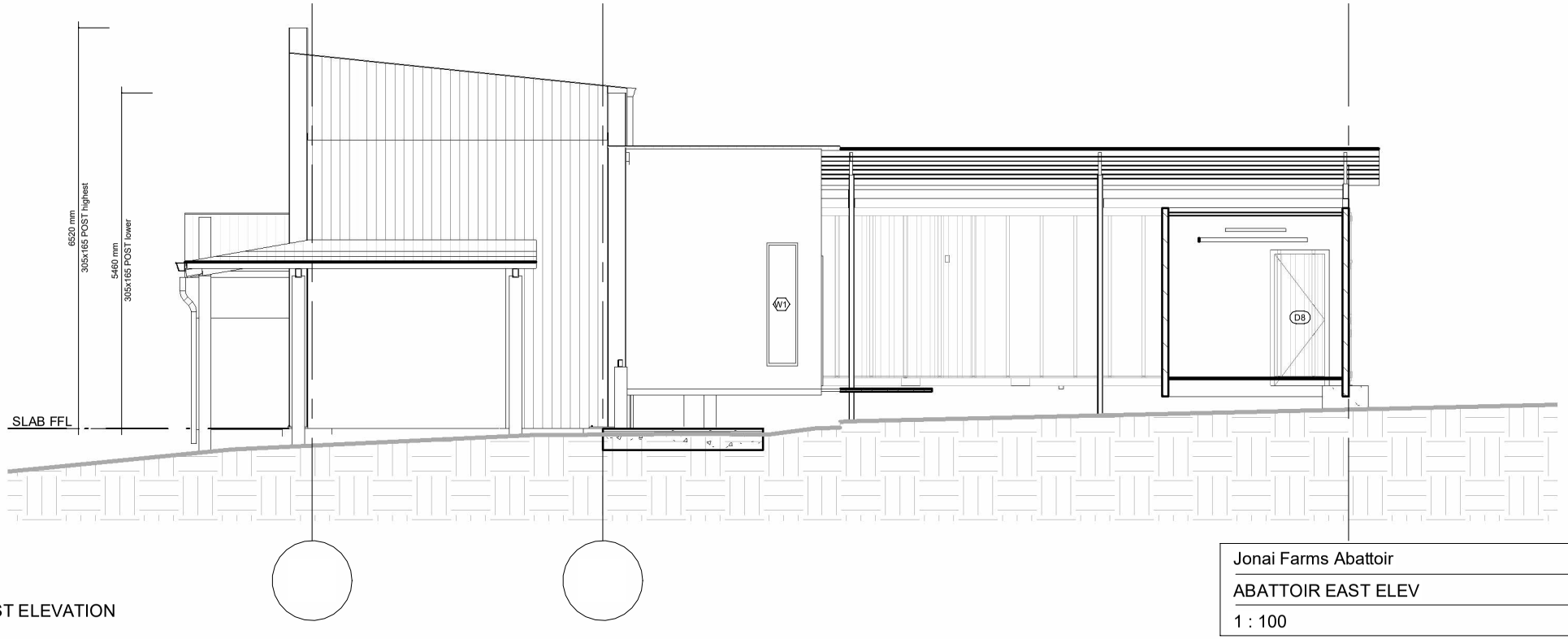




Jonai Farms Abattoir	060325A
SLAB DETAIL	C1A.2
1 : 100	

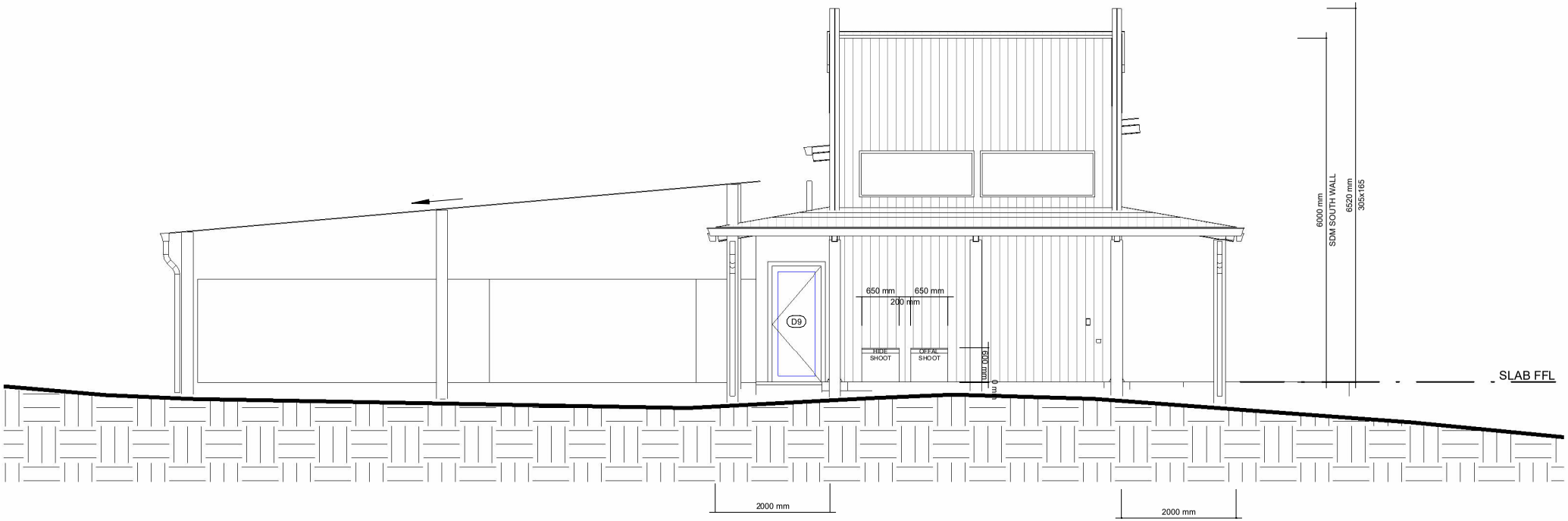


WEST ELEVATION

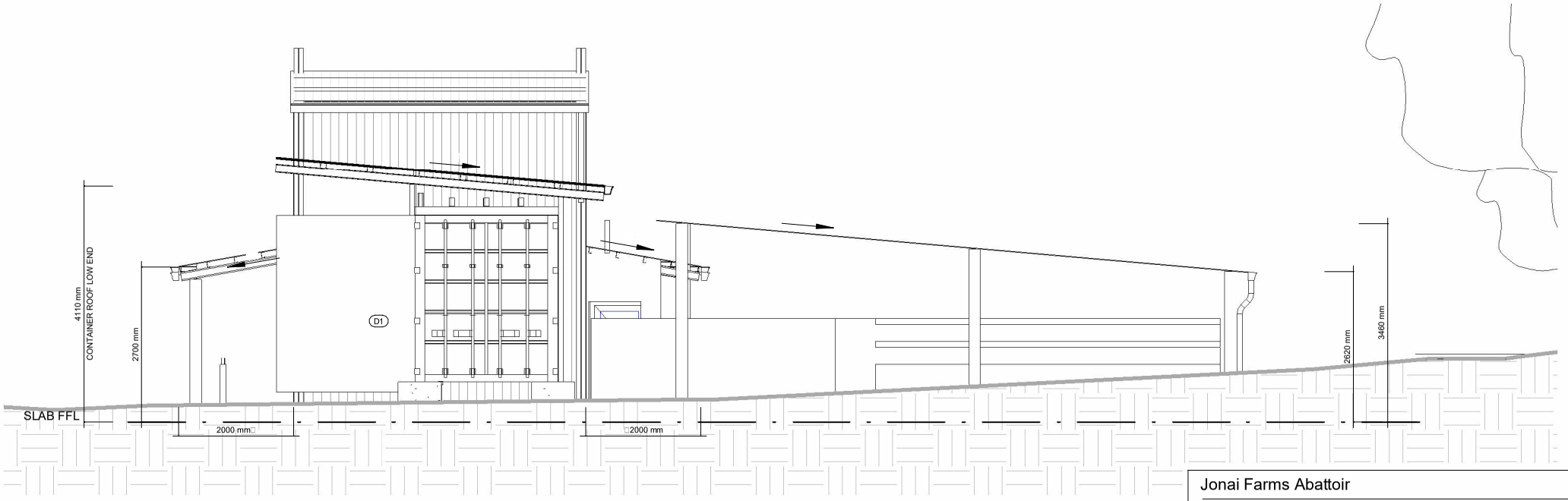


EAST ELEVATION

Jonai Farms Abattoir	060325A
ABATTOIR EAST ELEV	C1B.1
1 : 100	

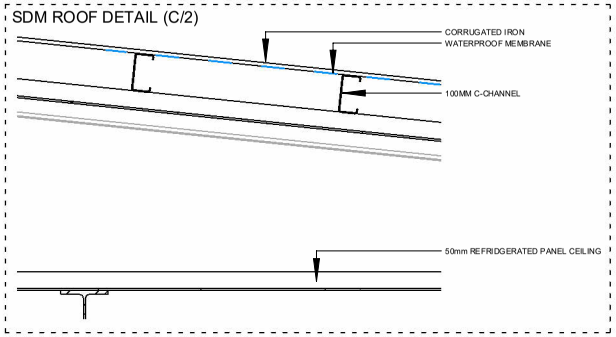


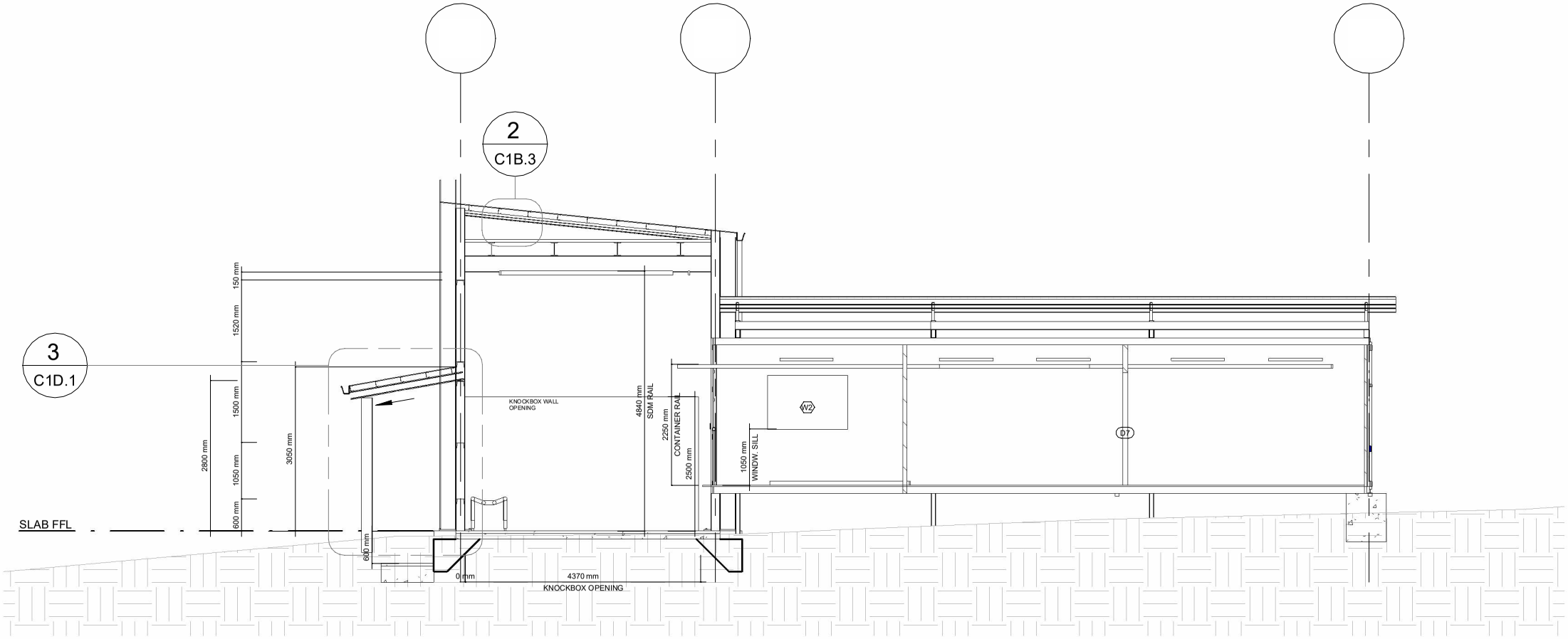
SOUTH ELEVATION



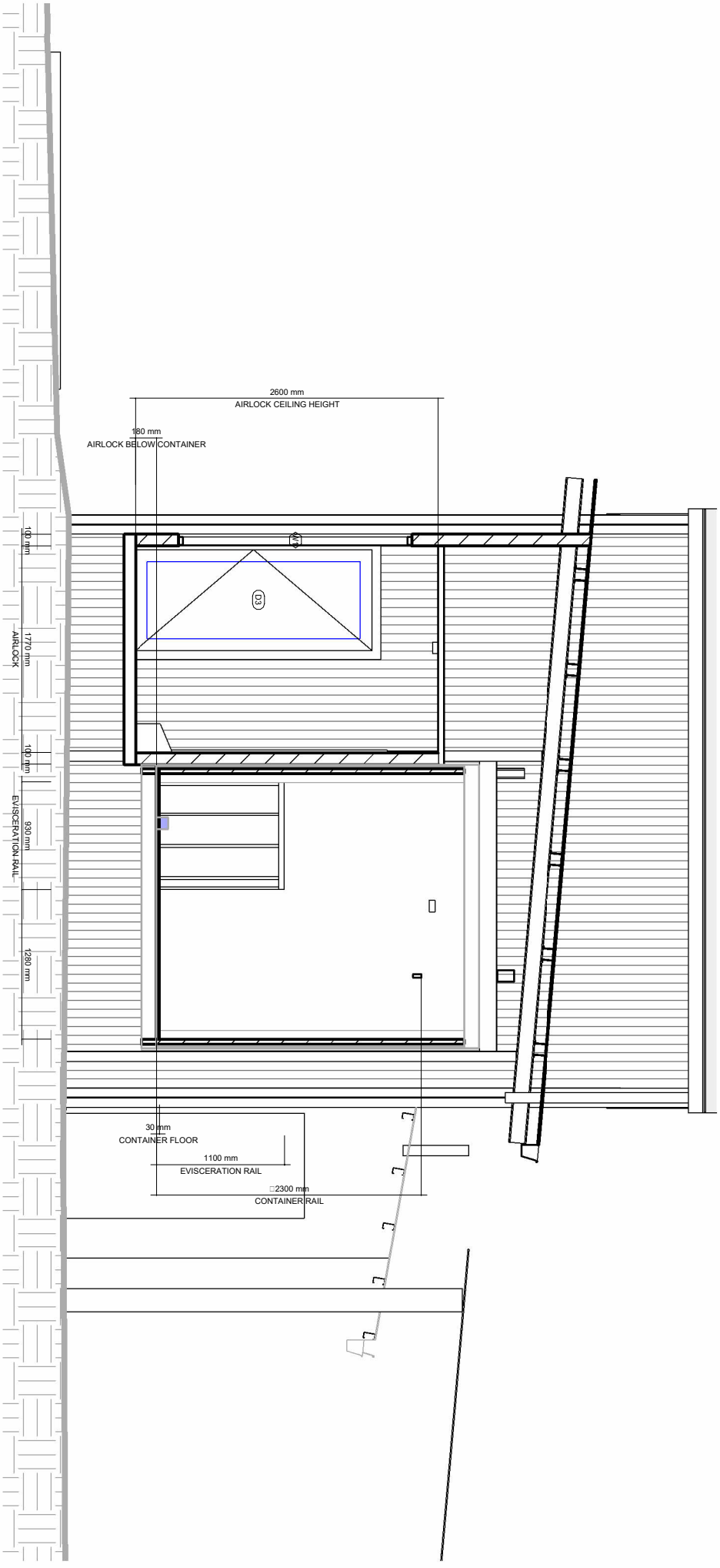
NORTH ELEVATION

Jonai Farms Abattoir	060325A
ABATTOIR N&S ELEV	C1B.2
1 : 100	

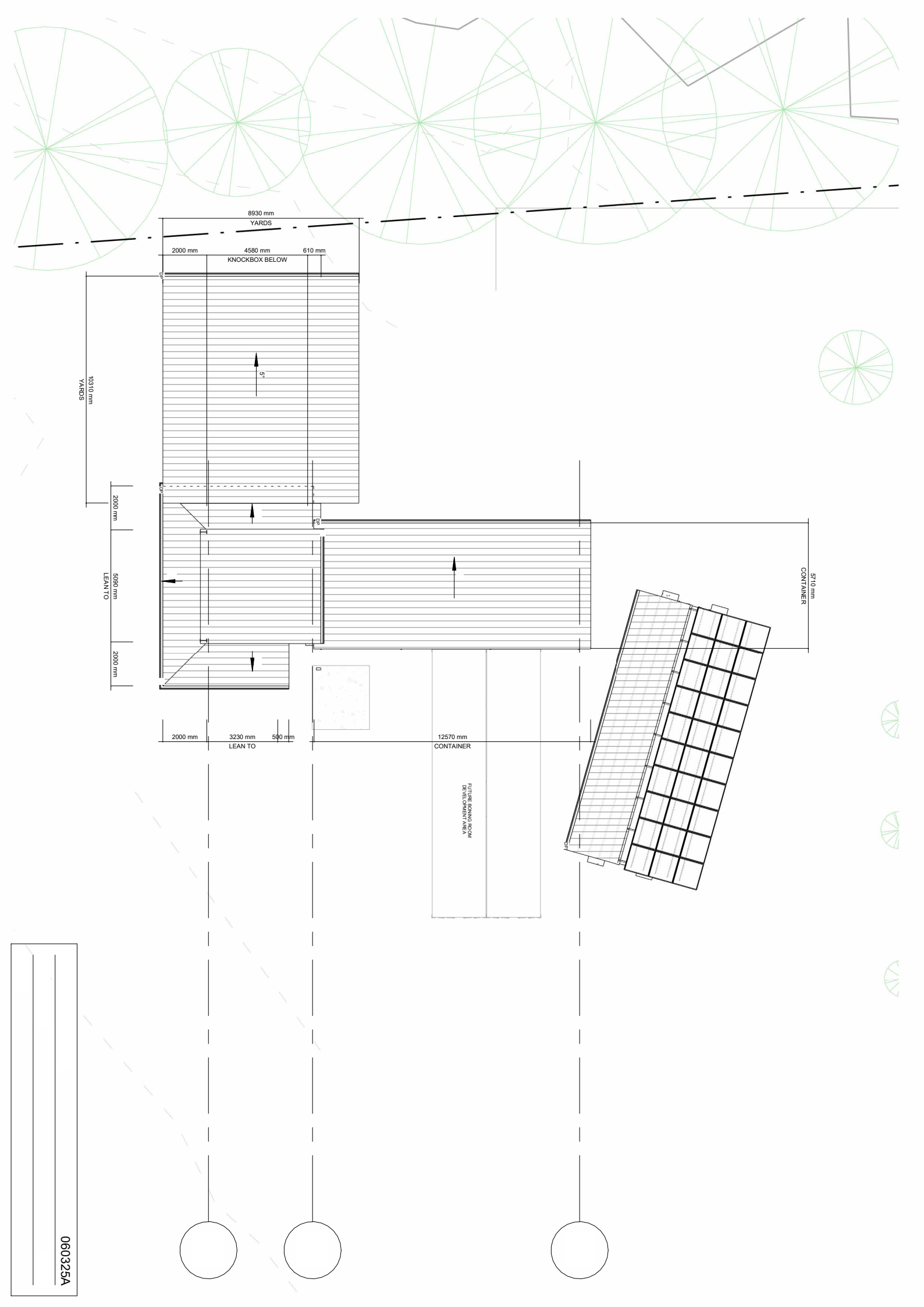




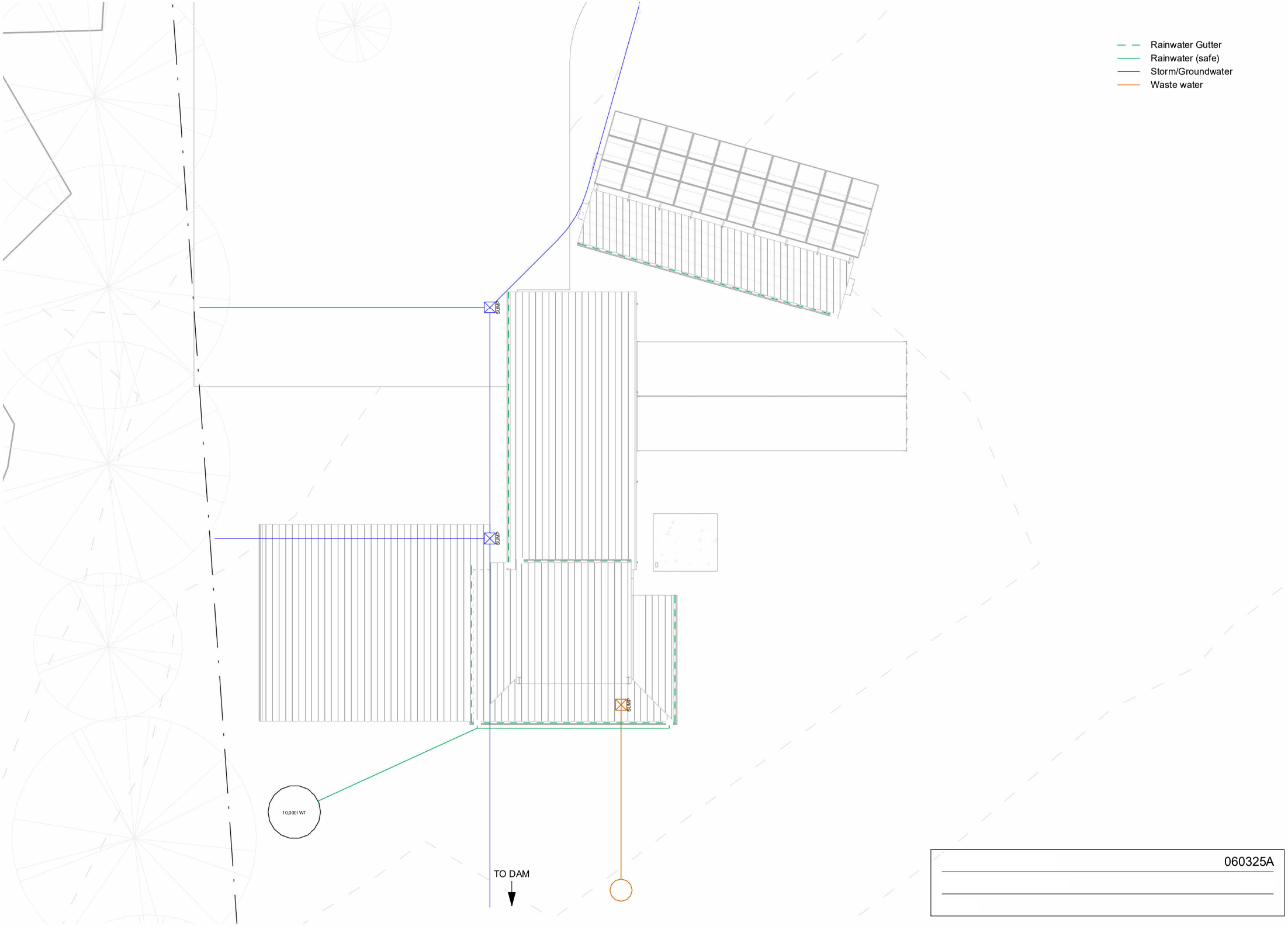
Jonai Farms Abattoir	060325A
ABATTOIR SECTION A	C1B.3
As indicated	


2600 mm
AIRLOCK CEILING HEIGHT
180 mm
AIRLOCK BELOW CONTAINER
100 mm
AIRLOCK
1770 mm
100 mm
EVISCERATION RAIL
930 mm
1280 mm
D3
30 mm
CONTAINER FLOOR
1100 mm
EVISCERATION RAIL
2300 mm
CONTAINER RAIL

060325A

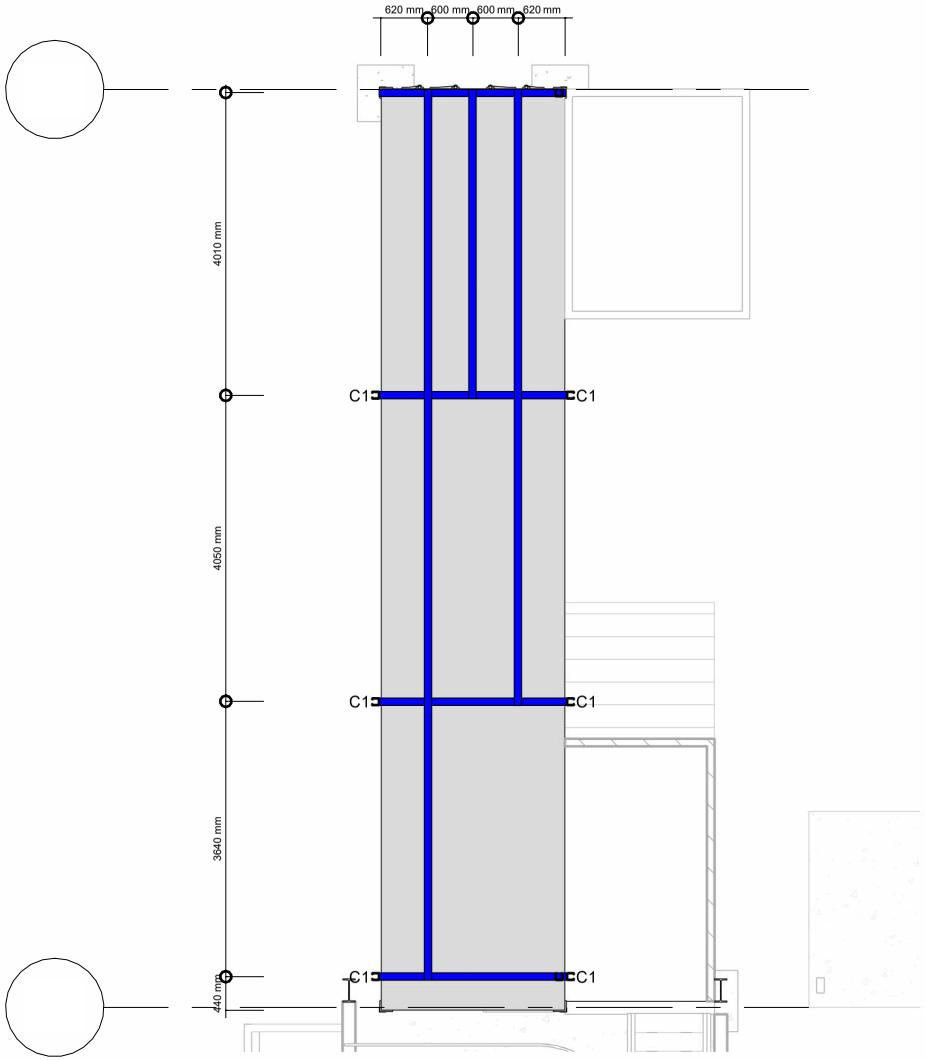

8930 mm
YARDS
2000 mm
4580 mm
KNOCKBOX BELOW
610 mm
10310 mm
YARDS
5°
2000 mm
5090 mm
LEAN TO
2000 mm
5710 mm
CONTAINER
2000 mm
3230 mm
LEAN TO
500 mm
12570 mm
CONTAINER
FUTURE BONING ROOM
DEVELOPMENT AREA

060325A

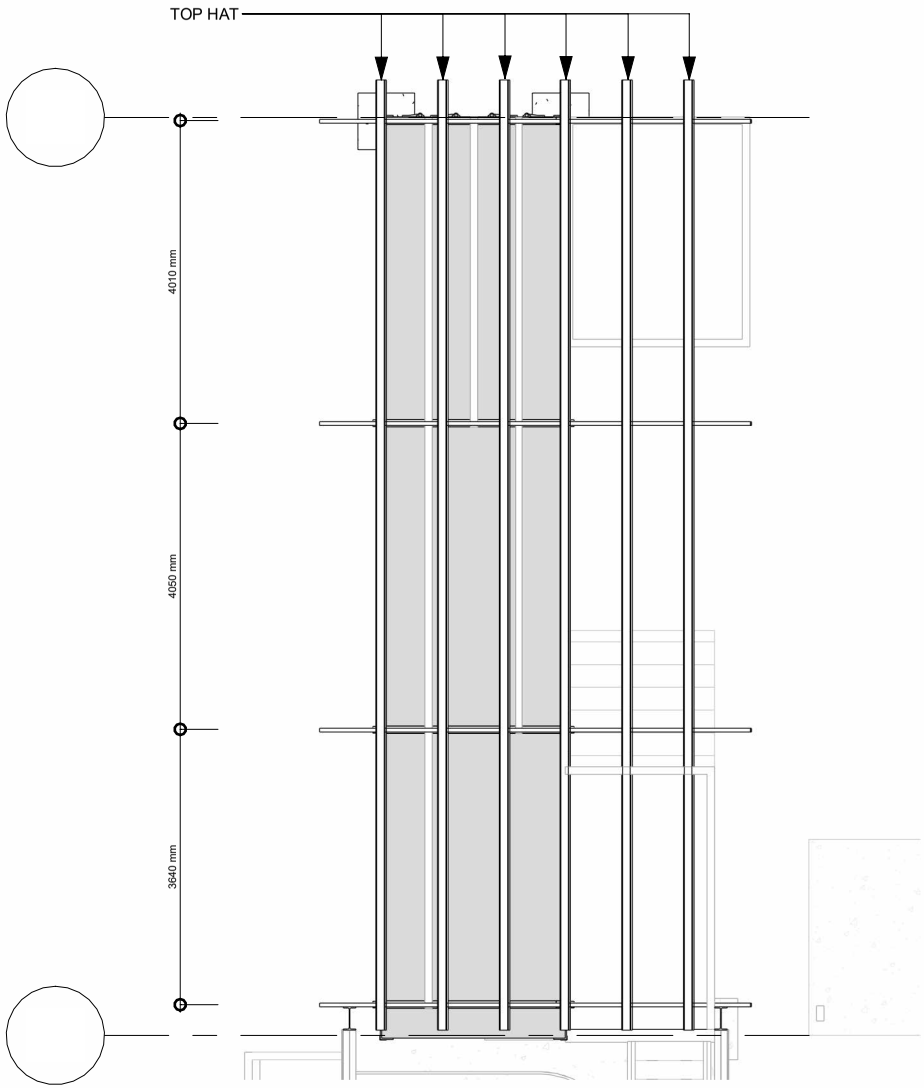

Rainwater Gutter
Rainwater (safe)
Storm/Groundwater
Waste water
SUMP
SUMP
SUMP
10,000l WT
TO DAM

060325A

RAIL SUPPORT PLAN

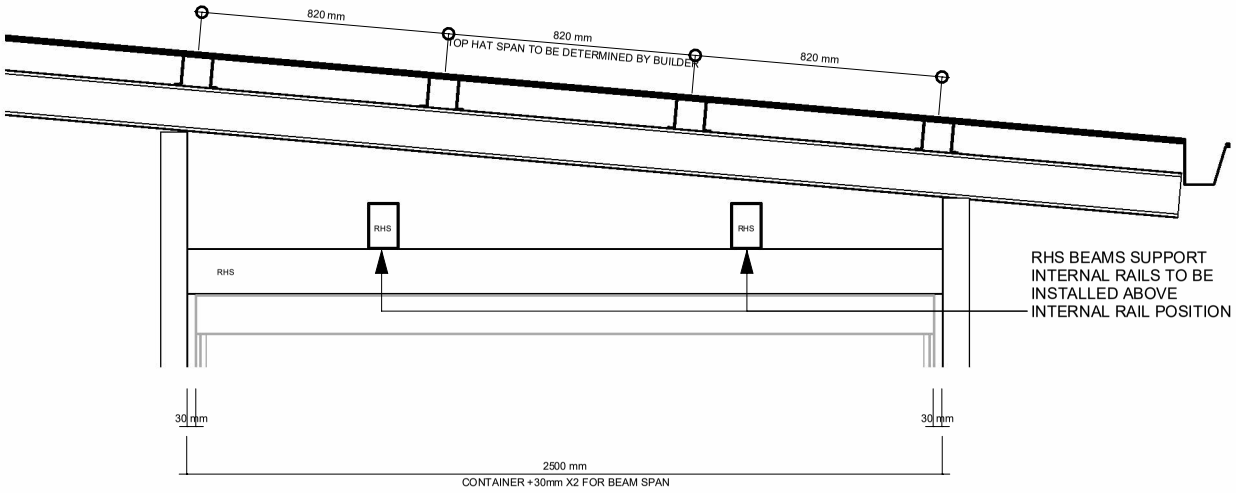


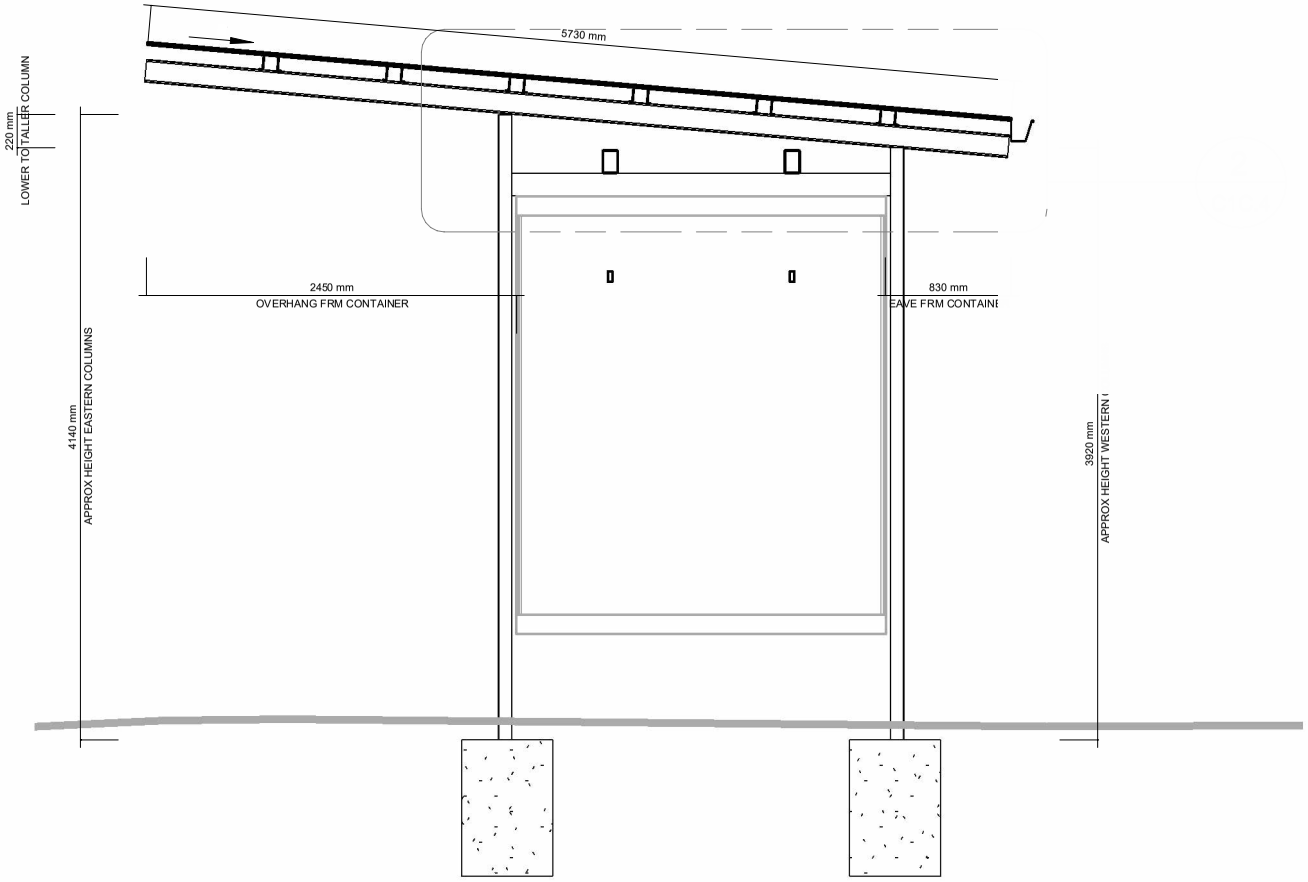
ROOF SUPPORT PLAN



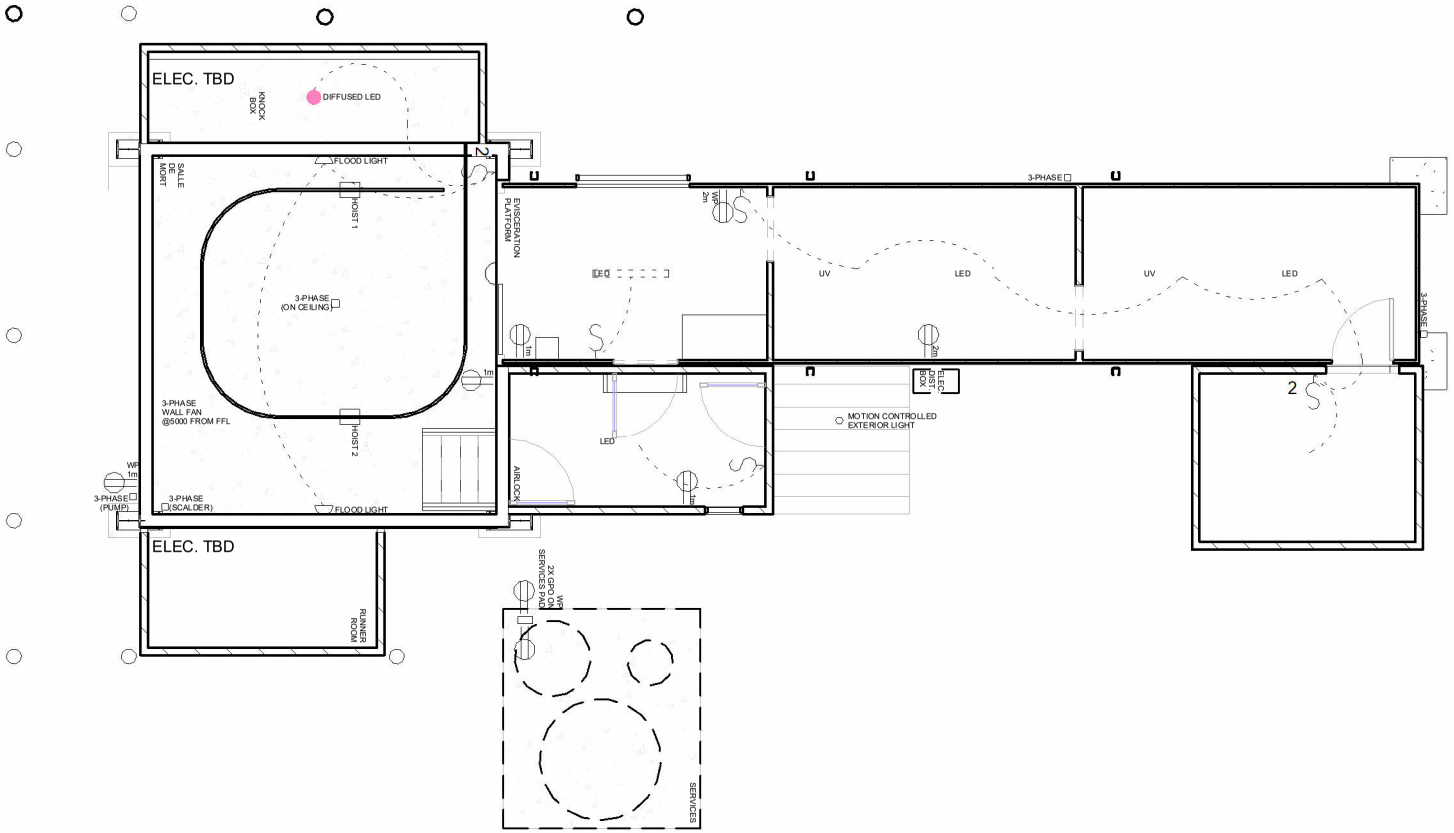
LEGEND	
C1	89x89x6
RHS	160x100x5

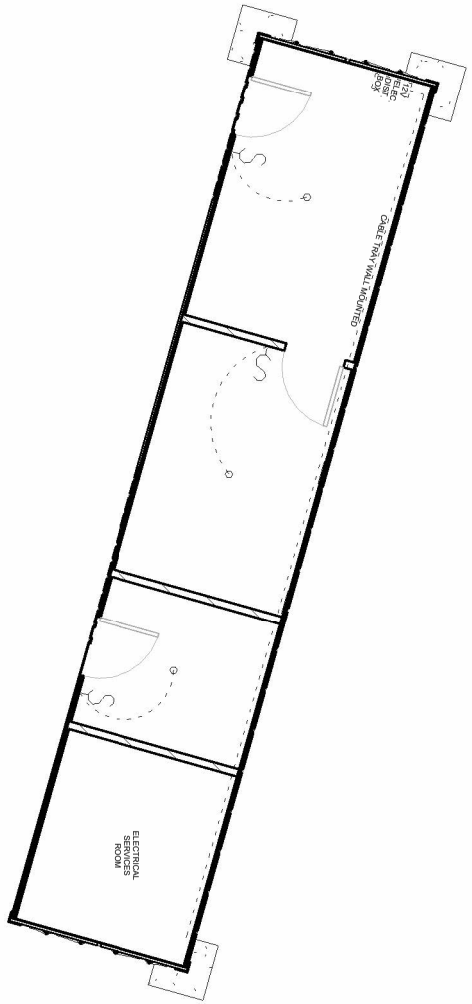
060325A


820 mm
820 mm
820 mm
TOP HAT SPAN TO BE DETERMINED BY BUILDER
RHS
RHS
RHS
RHS BEAMS SUPPORT
INTERNAL RAILS TO BE
INSTALLED ABOVE
INTERNAL RAIL POSITION
30 mm
30 mm
2500 mm
CONTAINER +30mm X2 FOR BEAM SPAN


5730 mm
220 mm
LOWER TO TALLER COLUMN
2450 mm
OVERHANG FRM CONTAINER
830 mm
4140 mm
APPROX HEIGHT EASTERN COLUMNS
3920 mm

060325A



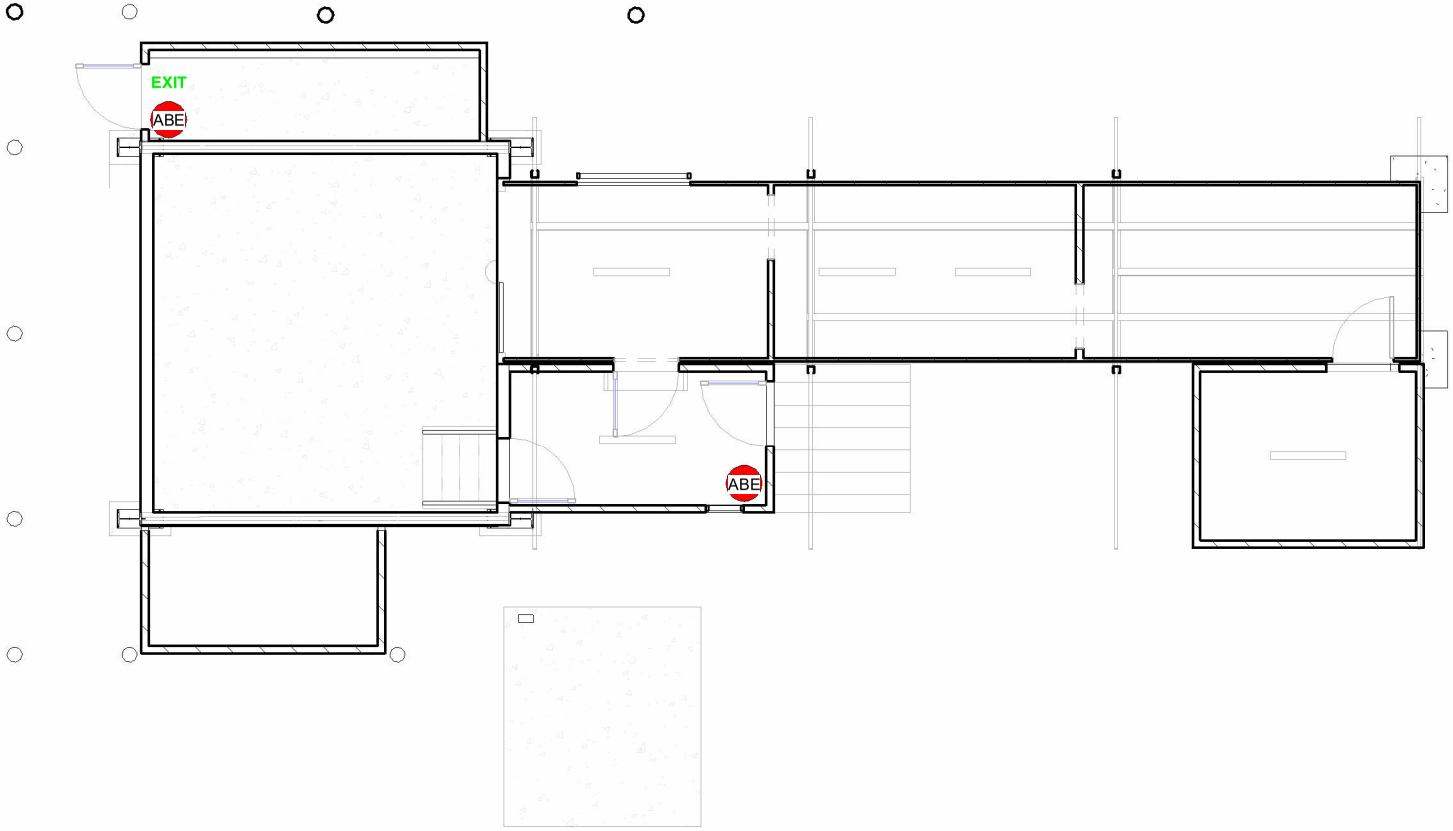


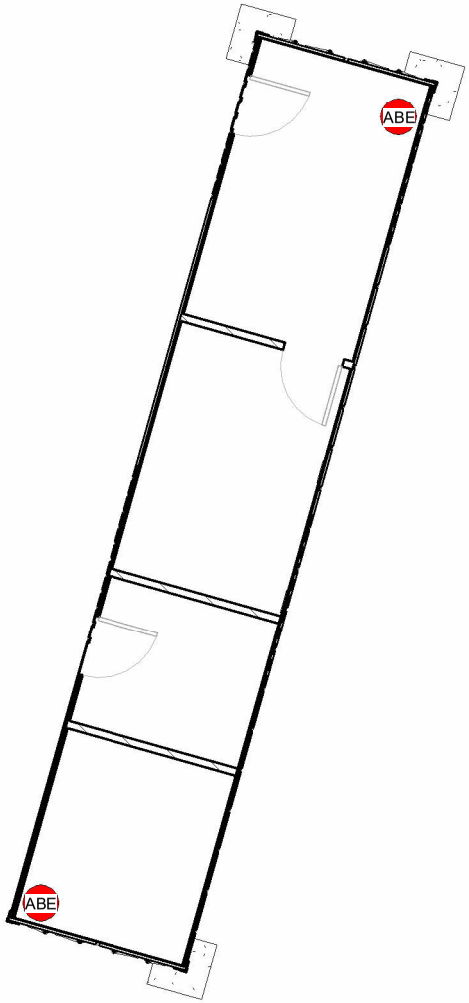
LEGEND	
UV LIGHT	UV
LED LIGHT	LED
DIFFUSED LED	
IP65 FLOOD LIGHT	
SINGLE SWITCH	
DOUBLE SWITCH	2
3-PHASE OUTLET	
GPO	

NOTES

ALL CONDUIT IS EXTERNAL
LIGHT FIXTURES WILL BE WALL MOUNTED @ 2300mm FROM FFL UNLE
WALL TO BE PENETRATED BEHIND FIXTURES FOR CONNECTION
ALL LIGHT SWITCHES @1200mm FROM FFL UNLESS STATED
3-PHASE @ _____ UNLESS STATED
"WP" INDICATES WATERPROOF

Jonai Farms Abattoir	060325A
ELECTRICAL SERVICES PLAN	C1C.5
1 : 100	





LEGEND

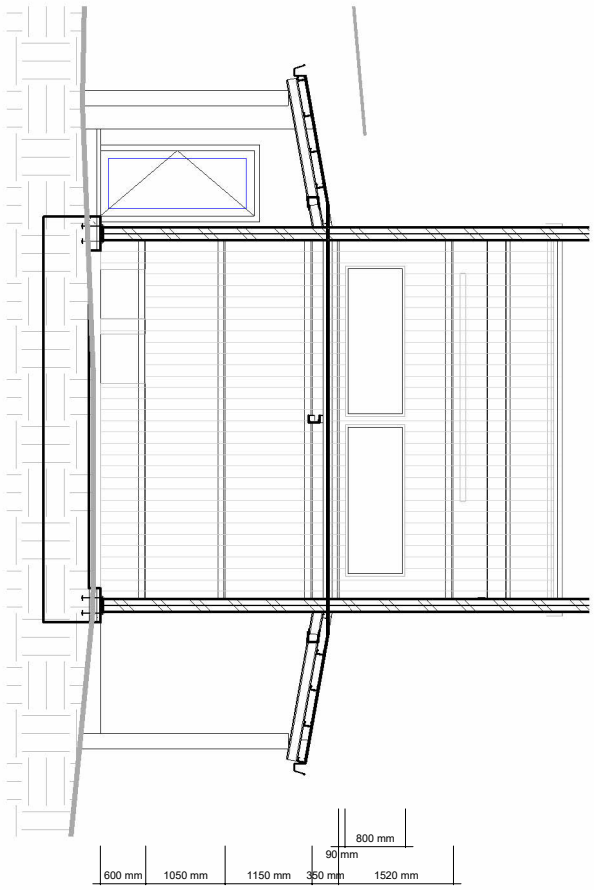
4.5kg ABE Powder Extinguisher	ABE
Fire Exit	EXIT

Jonai Farms Abattoir 060325A

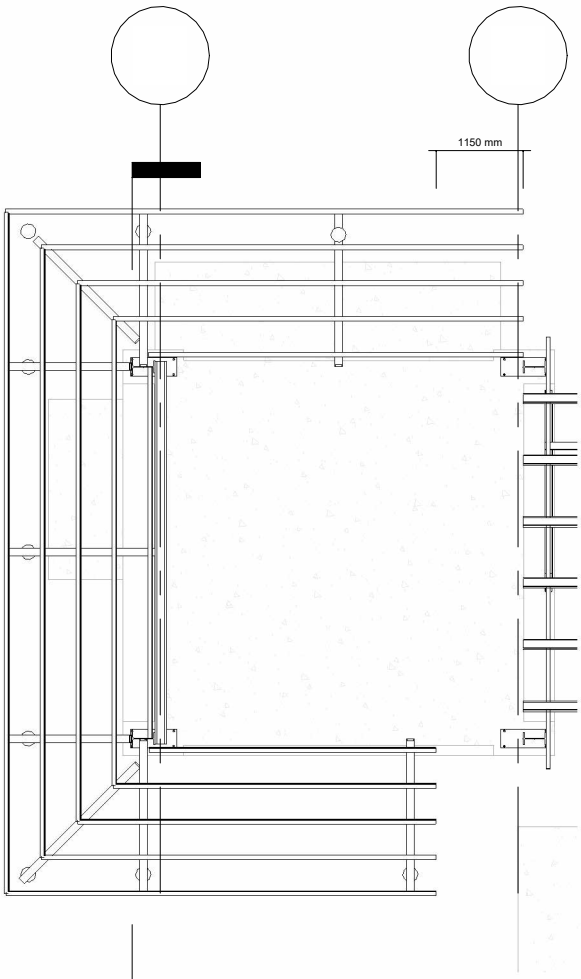
EMERGENCY PLAN

1 : 100

STRUCTURE SOUTH ELEV
1:100

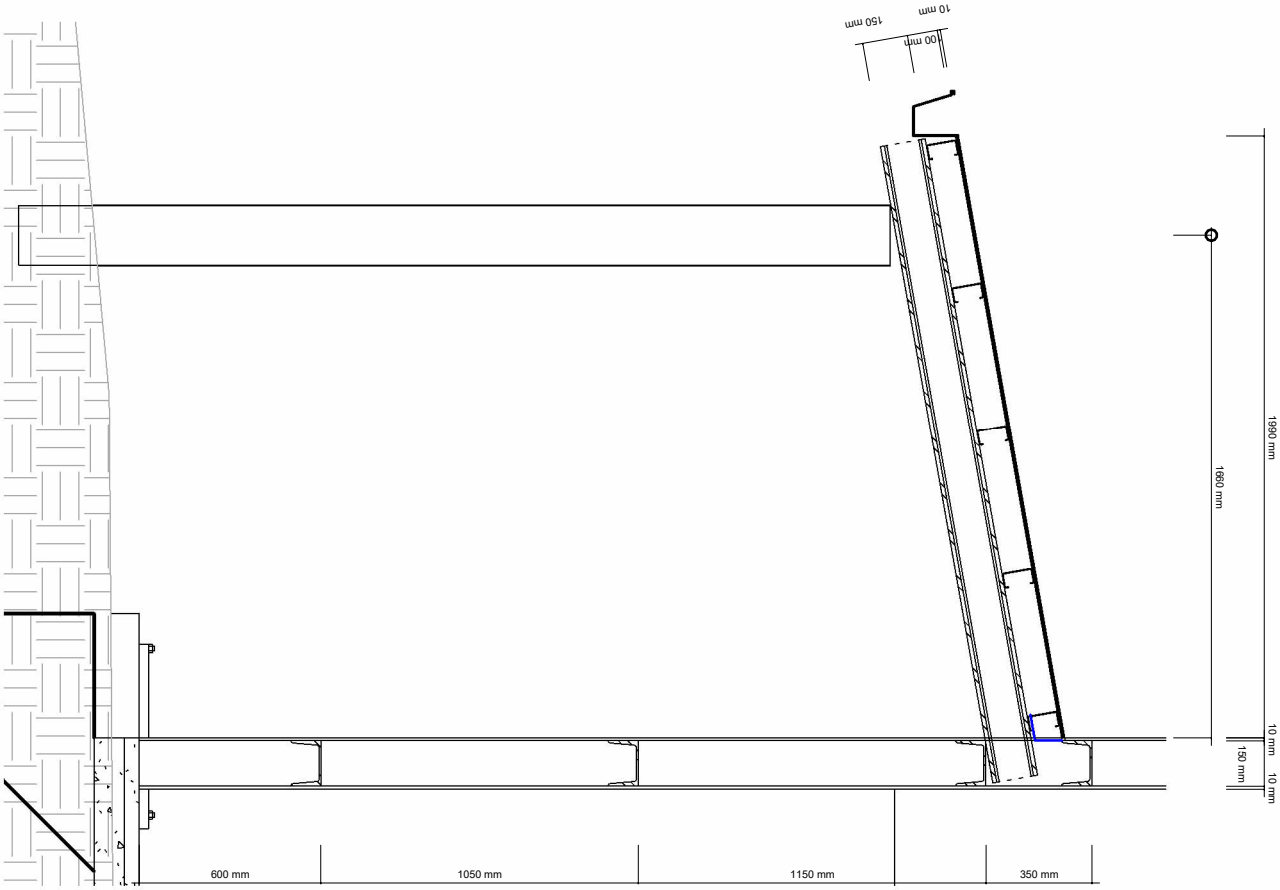


STRUCTURE PLAN
1:100



2
C1D.1

SECTION A CALLOUT 3
1:25



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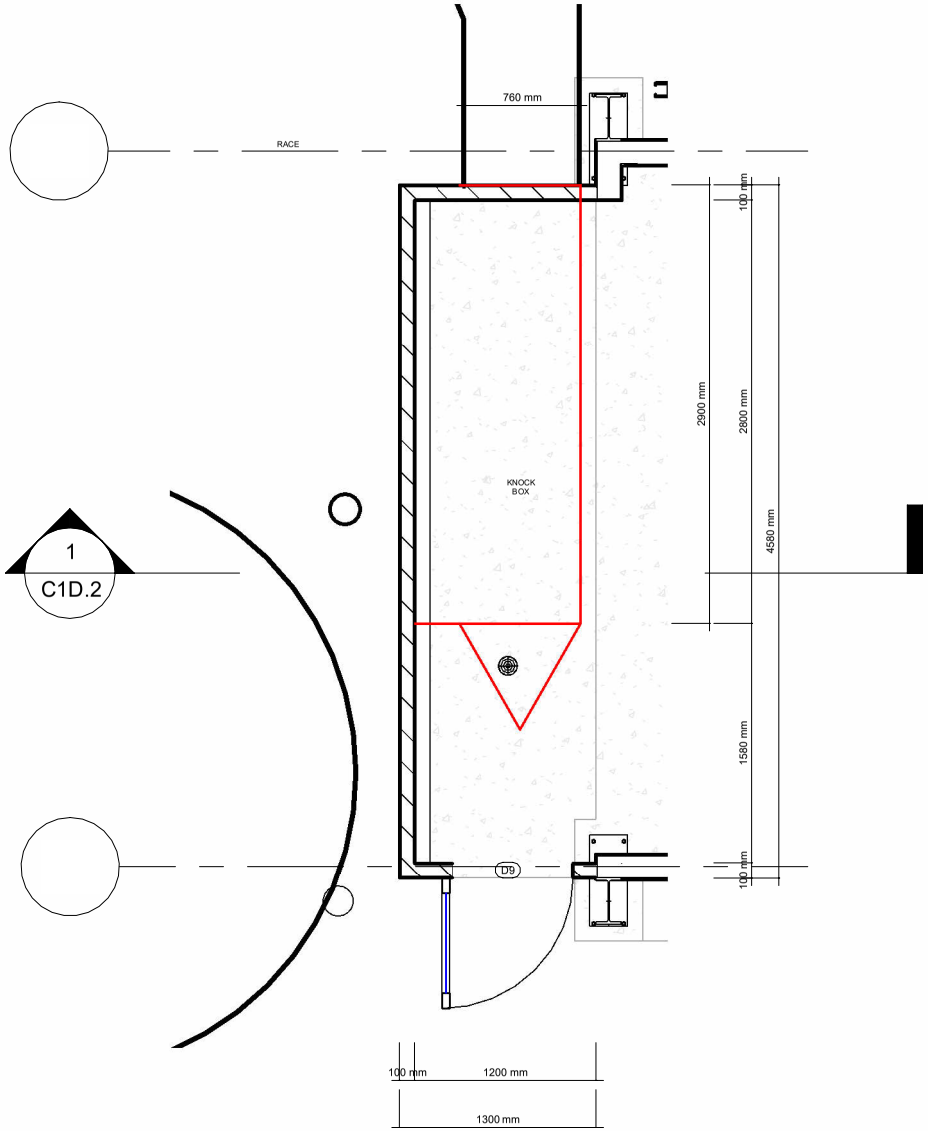
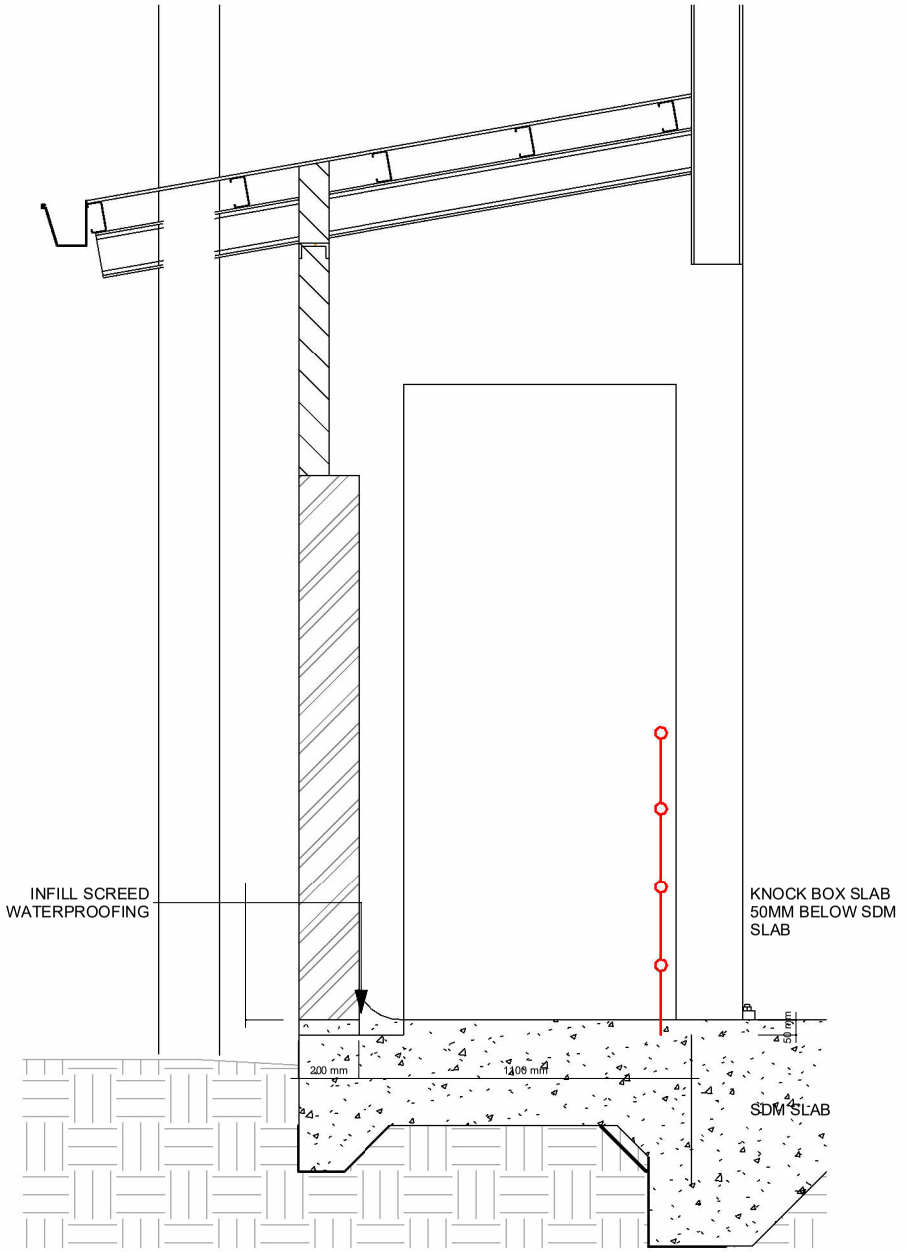
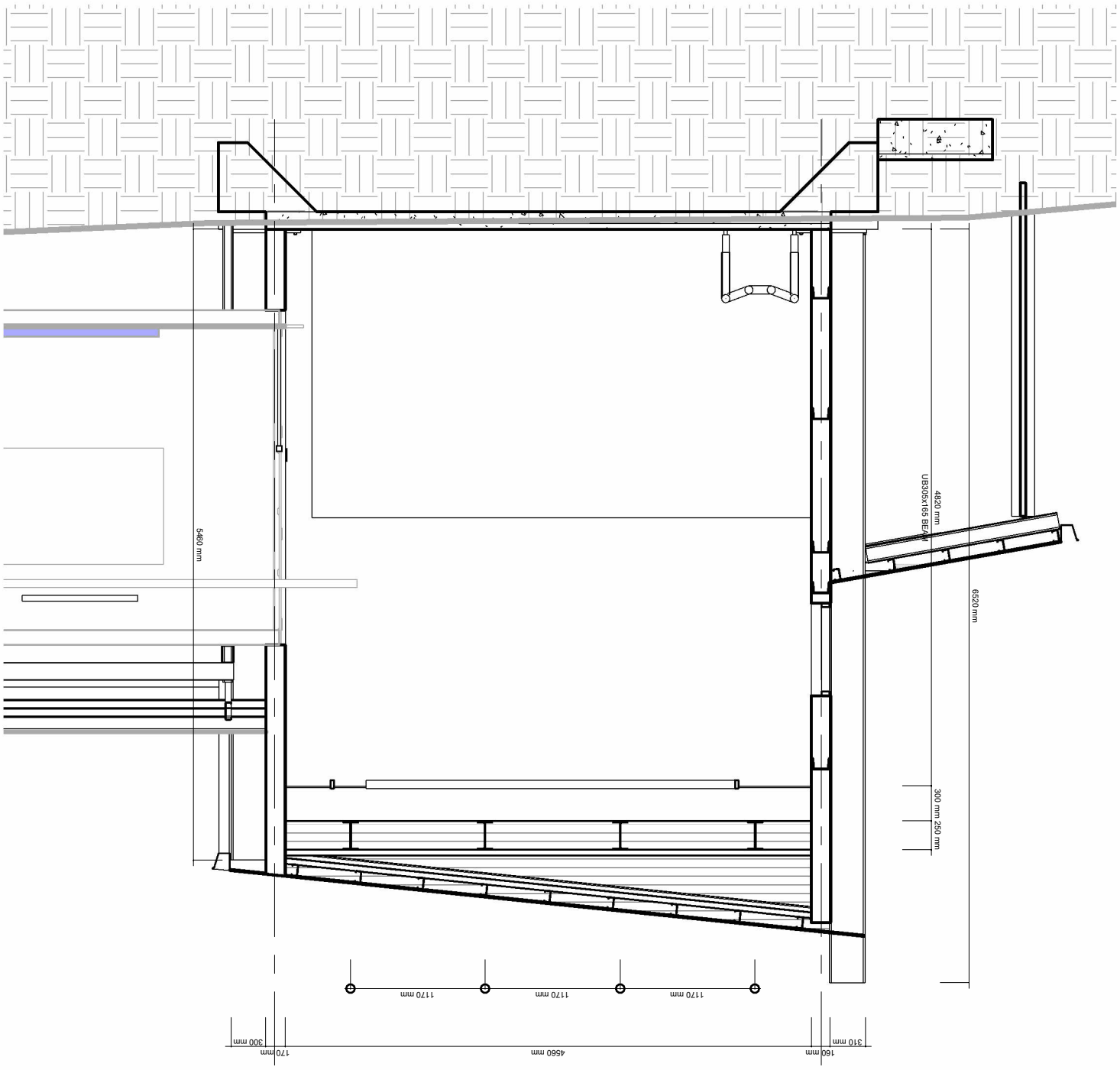


KNOCK BOX PLAN
1:50



SECTION
1:25

060325A


5460 mm
4820 mm
UB305x165 BEAM
6520mm
300 mm 250 mm
1170 mm
1170 mm
1170 mm
300 mm
170 mm
4560 mm
160 mm
310 mm

060325A

APPENDIX E

Meat Collective @ Jonai

Member Guide
2025

Contents

Meat Collective @ Jonai

The Meat Collective @ Jonai ('the Collective') operates a micro-abattoir on land owned by Jonai Farms, functioning as 'community-supported slaughter' (CSS) in a similar way to 'community-supported agriculture' (CSA). Farmers sign up as members of the Collective and pay a percentage of their anticipated slaughter fees for the year ahead up front. This secures them a year of regular slaughter, and participation in decision making processes around facility management, scheduling, animal welfare, pricing, and other matters of collective concern. The Collective employs staff who coordinate scheduling and manage logistics and communications with members, and there are regular opportunities for farmers to collectively discuss their needs and negotiate schedules that will accommodate all members fairly and efficiently.

Each year, members are encouraged to attend an Annual General Meeting (AGM), where a Profit & Loss (P&L) and Budget are presented, enabling members to democratically set pricing for slaughter to ensure: a viable and resilient meat processing facility, the highest standards of animal welfare, financially sustainable slaughter for members, and fair wages for all staff.

The Collective complements Jonai Farms' existing value-add activities on farm (boning, slicing, & distribution) to include slaughtering of animals on farm, while providing access to slaughter to a collective of local farmers. This eliminates unnecessary stress on animals associated with transport, and also reduces the stress on animals associated with long pre-slaughter wait times and unfamiliar surroundings. The localised processing generates benefits beyond animal welfare; less stress results in a reduction in cortisol and adrenalin production, thus preventing glycogen depletion and the potential for dark cutting meat, and therefore contributes to higher meat quality. It also reduces greenhouse gas emissions by eradicating transport of Jonai Farms' animals and dramatically reducing distances for the other local farmers processing as members of the Collective, and creates a circular bioeconomy as surplus biological yield is composted and utilised on farm. The Collective's energy needs are met entirely with renewables (solar and waste vegie oil), creating further ecological benefits.

Membership

The Meat Collective @ Jonai has both voting and non-voting farming members. To become a member of the Collective, farmers must align with the principles of agroecology and be willing to enter into meaningful relations with the community and the unceded Djaara lands where the facility is sited. We value relations over transactions, and we do not seek to extract surplus value from the system or each other, contributing and receiving value each commensurate with our capacity and needs to sustain a viable livelihood for all.

To be a voting member of the Collective, you must be a pastured livestock farmer who sells meat directly into your community and is reliant on meat sales for your livelihood. Others farming livestock who are not reliant on the income from meat sales may join as non-voting members.

Upon joining, members are expected to work/observe at least one day in the abattoir when your animals are being slaughtered to gain a deeper understanding and appreciation for the skills, labour, and resources that go into this intrinsic part of transforming live animals into food.

Members are encouraged to work regularly in the abattoir, and those who gain the skills and choose to regularly participate will, in exchange, enjoy a 'mutual aid' reduced slaughter fee, to be determined by the Collective.

Members are also encouraged to obtain their meat inspector licence by undertaking a Cert IV in Meat Processing to increase our pool of available meat inspectors while deepening the community's knowledge of animal health and disease.

Non-members pay a 10% service fee on top of standard slaughter fees.

Membership is secured by advance payment of 10% of projected annual slaughter fees. The 10% is then applied as a credit to the year's regular slaughter fees. At the end of each year, actual kill fees are calculated and adjusted by remittance or credit for the next year.

Annual General Meeting

Each year, the Collective will hold an Annual General Meeting (AGM) to which all members are welcome and encouraged to attend. The AGM will include:

- Review of operations (logistics, equipment, maintenance, scheduling, staffing, and communications)
- Review of Profit & Loss
- Determination of fee schedule & next year's budget
- Future projects or upgrades
- Election of office bearers (president, treasurer, secretary)

Description of operations

The Facilities: Micro-abattoir, boning room & farm gate shop

The facility encompasses slaughter and a reconfigured boning room with commercial kitchen and a larger farm gate shop, constructed, managed and operated under PrimeSafe approvals and licensing, which requires all abattoirs to comply with relevant Australian and Victorian standards and guidelines, including:

- Australian Standard for the Hygienic Production and Transportation of Meat and Meat Products for Human Consumption (AS 4696:2007)
- A Guide to the Implementation and Auditing of HACCP
- Microbiological Testing for Process Monitoring in the Meat Industry Guidelines

The facility has capacity to accommodate the needs of 10-15 farms who are members of the Collective, with limited capacity for a small number of non-member service kills. The facility operates one kill day per week, alternating cattle (up to 6/day) and pigs (up to 30/day) and sheep or goats (up to 48/day).

The boning room houses separate refrigeration for raw and ready-to-eat (RTE) products with capacity as above. There is also a curing room for our range of salumi – Spanish-style jamón, capocollo, pancetta, guanciale, and bresaola. The kitchen has space, equipment, and cross-contamination management for making pâté de tête, bone broths, and fat rendering for soap making, smoking bacon and ham, and dehydrating pet treats from trotters, ears, tails, and offal.

Infrastructure and access

The lairage provides sufficient pens within yards to hold:

- Selected stock for the day's processing shift.
- Any stock rejected at ante mortem inspection

All pens have watering points.

Lairage has been designed according to Temple Grandin's world-renowned high animal welfare designs. Effluent is washed into a holding tank, to be collected and processed through Audrey (a rotating composting drum), in line with EPA Publication IWRG641.1 Farm waste management.

Co-product and surplus yield management

The abattoir has provision to save cattle hides and edible offal for member farms. In time, we will be able to process intestines for sausage casings, and blood will be collected in a hygienic manner for human consumption. This significantly reduces the volume of liquid and solid surplus nutrient for composting on site.

An Environmental Management Plan (EMP) is used in conjunction with our Food Safety Plan HACCP system to manage quality, biosecurity, and environmental compliance requirements across the operational aspects of our on-farm processing at Jonai Farms & Meatsmiths. The EMP provides effective and compliant management processes for the biological by-products generated from our operations, detailing how we avoid potential negative externalities. These documented processes adhere to and exceed leading industry environmental practice and will provide a positive environmental outcome from the Collective's operations.

Nutrient Management Detail: A Circular Bioeconomy

Solid waste material - ROTATING DRUM COMPOSTER (Audrey)

All waste from the abattoir is combined with locally sourced carbon material (wood chips/sawdust and soiled cardboard). The capacity of the composting drum is defined as the maximum amount of organic material that can be processed into compost within optimum time limits and with highest possible consistency. The Jonai composting unit – Audrey - is 1.5m in diameter and 6.0m in length. It has a Weekly Average Capacity of 1000kg and an Annual Average Capacity of 35,000kg.

The composted material is stored in Intermediate Bulk Containers (IBCs) to mature for later spreading on pasture and garden beds.

Liquid waste material

Daily estimated liquid waste produced:

- Abattoir operating days – 1,500L/day
- Boning room operating days – 500L/day

Maximum weekly liquid waste produced 3,500L/week

Waste management practices in the facility to minimize nutrient loads and BOD of wastewater include:

- Dry composting collection facilities on-site
- Clean-up operations of both the kill floor and boning room will incorporate a dry sweep prior to washdown.

Grey water drains to:

1. sediment trap.
2. 1,000L holding / pump tank
3. Audrey

Power

A 15kw solar array and 30kw of battery provide stable power to the facility. To reduce the electrical load, a hot water boiler (fired from waste vegie oil) and associated hot water storage tank are incorporated into services design. A backup generator fueled with waste vegie oil is used for periods of low solar capacity.

Risk and compliance/insurance requirements

- The abattoir is licensed with Primesafe.
- Jonai Farms carries $20 million in Public Liability Insurance, as well as Business Insurance, Product Liability, and WorkCover insurances. Amendments will be made to the existing policies to reflect the new and changed facilities, but the Collective will manage its own payroll and WorkCover.
- A Planning Permit has been granted as an abattoir is a Schedule 2 ‘permitted use’ within the Farming Zone.

Budget

The total budget for construction is $150,000, exclusive of Stuart’s labour.

About Jonai Farms & Meatsmiths

Since 2011, we have raised heritage-breed Large Black pigs and Speckleline cattle on pasture, and hard-necked purple garlic on the lands of the Dja Dja Wurrung in the central highlands of Victoria. For 13 years, animals were transported to local abattoirs and carcasses are returned to the farm and transformed into a range of fresh cuts, smallgoods, charcuterie and salumi in an on-farm butcher’s shop (operating as a Section 1 use in the

Farming Zone Clause 35.07) licensed by Primesafe. The site operates as an approved low density mobile outdoor pig farm.

We have now closed the loop entirely and achieved full control of our value chain by constructing a micro-abattoir on the farm for our own use, and as a collectively-governed facility for other small-scale pastured livestock farmers in our immediate region.

As an agroecology-oriented farm, we aim to protect environment and amenity for our own and neighbouring land, believing that sustainability is dealing justly with future generations. We are listening to Country and learning from Indigenous knowledges and working to enact a custodial ethic towards the Land and all on it. We seek constant improvement in all practices in order to meet our responsibility to heal and nurture the unceded lands of the Djaara.

Our cattle are moved daily in a holistic planned grazing model around paddocks throughout which we have planted thousands of native and exotic trees for shade, fodder, carbon sequestration, and beauty. The pigs are moved regularly as well through a series of paddocks with mobile housing and feed troughs to spread their impact, as we seek to maintain at least 90% groundcover throughout the year. Livestock are primarily fed so-called 'waste' – surplus, damaged, or unwanted produce from other food and agriculture systems in Victoria, creating a net ecological benefit by diverting many tonnes of organic waste from landfill, and exiting the fossil-fuel-intensive model of segregating feed production from livestock farming. Water is pumped around the farm using old piston pumps converted to solar with salvaged materials from the local transfer station.

Jonai Farms is a paddock to paddock CSA (community-supported agriculture), with surplus bones from the boning room processed into bonechar or compost and returned to the soil to produce a small commercial crop of garlic. 95% of produce is sold to 80 household CSA members in Melbourne and the region, with the remainder selling via our farm gate shop. We have regular visitors not only to buy produce, but also to tour the paddocks and learn about agroecology and food sovereignty. Additionally, we run regular workshops to teach butchery and meat literacy, salami days for a broad demographic, and agroecology dialogues for emerging, new, or transitioning farmers.

The pig aspect of the farm operates as a farrow-to-finish, low density mobile outdoor system. Pigs are slaughtered at six to eight months for fresh cuts and smallgoods, 12-18 months for salumi, and breeding stock are slaughtered at approximately five years old and used for smallgoods and salumi. Carcasses range from 40kg to as much as 200kg. We slaughter an average of 10 pigs per month, with up to 30 in November for Christmas hams and extra holiday sales.

Cattle are bought in typically as weaners from local breeders and finished on grass for up to 12 months before slaughter. They can range from two to seven years in age, with carcass sizes from 200 to 300kg. We slaughter an average of one steer per month.

We currently employ four people including ourselves across the farming and butchery aspects of the operation, and provide residential agroecology experiences ranging from one

to three months long. Some of our former residents are now collaborators and now members of the Meat Collective @ Jonai, and Tumpinyeri Growers operate a market garden in a rent-free land sharing agreement here on the farm.

In 2020, we moved to eradicate plastic from the boning room, enabled by the newly available compostable cryovac bags to package meat. The only plastic bags still in use are for bone-in cuts as the compostable variety do not support this use. In 2021, we installed a 15kW solar system and battery, moving us closer to ending our reliance on fossil fuels. We have been striving for years towards carbon neutrality, and our ultimate ambition is to be a drawdown farm, demonstrating how an agroecosystem with livestock and abundant biodiversity at the genetic, species and ecosystem levels can express a healthy carbon cycle.

Jonai Farms & Meatsmiths' approach is based on the following 13 principles of agroecology:

1. **Participation** – Aimed at encouraging others to get involved, this principle of agroecology supports food producers to give their input on how agricultural and food systems are currently managed.
2. **Land & Resources Governance** – This principle of agroecology is focused on protecting family farmers and sustainable managers who seek to preserve natural resources found in specific regions.
3. **Connectivity** – As an effort to facilitate the relationship and trust between farmers and eaters, this principle works to rectify distribution networks by re-instilling food systems back into their respective, local economies.
4. **Co-Creation of Knowledge** – Two heads are always better than one. This principle of agroecology encourages participants to share their knowledge regarding farming tactics or scientific discoveries for the collective benefit.
5. **Social Values & Diets** – Intrinsic motivation is essential to achieving any goal with success in the long-run. Therefore, it's important to create food systems that work simultaneously with the region's traditions and societal norms while still preparing a wide variety of healthy and culturally-determined foods.
6. **Fairness** – Sustainability is often aligned with justice one way or another. This principle of agroecology aims to support anyone who contributes to modifying the current food system under agroecology.
7. **Economic Diversification** – It's important for all actors in agroecology to be rewarded for their efforts. This principle allows small farmers to gain financial independence in order to implement the other principles of agroecology more efficiently and effectively.
8. **Biodiversity** – Seeking to maintain a wide variety of species, both plants and animals, can help to improve sustainable food production.
9. **Animal Health** – All animals should be safeguarded throughout the process of implementing other principles of agroecology.

10. **Soil Health** – Healthy soil is vital for optimized food production and plant growth, meaning without prioritizing this principle of agroecology – the rest would be more difficult to achieve.
11. **Synergies** – It is imperative to create an atmosphere where all plants, animals, trees, water, and soil are working in conjunction with one another.
12. **Recycling** – Under agroecology, it's always best to use renewable resources to prevent excessive waste production.
13. **Input Reduction** – Farmers or other actors in rectifying food production systems should make an effort to reduce their dependence on inputs, such as materials purchased from suppliers, hiring additional workers for labour, or outsourcing knowledge to paid consultants.

Jonai Farms Values and Objectives

Values

- We value Nature, from which we are not exceptional
- We value holistic decision making
- We value an aromatically & aesthetically pleasing farm
- We value relationships with our human and other-than-human communities
- We value collaboration & eschew competition
- We value degrowth: frugal abundance & radical sufficiency for all
- We value surplus materials and nutrient for re-use &/or feed on the farm
- We value labour over capital & strive to do things for ourselves within our means and resources
- We value patience – nature takes time, & patience tastes delicious

Objectives

- To raise animals, plants, and microbes ethically, ecologically, justly, & economically to feed ourselves and our community
- To control the means of production, processing & distribution
- To sell directly via: farm gate & households (CSA)
- To enact and be a voice for agroecology, food sovereignty, & degrowth