



Ordinary Meeting

CC01 SUPPLEMENTARY ATTACHMENT

Crematorium Feasibility Study -
Attachment Considering
Cremation Opportunities for
Griffith City Council

Tuesday, 22 February 2022 at 7:00pm

Griffith City Council Chambers

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**ORDINARY MEETING OF GRIFFITH CITY COUNCIL
TO BE HELD IN GRIFFITH CITY COUNCIL CHAMBERS ON
TUESDAY, 22 FEBRUARY 2022 AT 7:00PM**

MEETING NOTICE

Notice is hereby given that an Ordinary Meeting of Council will be held in the Griffith City Council Chambers on **Tuesday, 22 February 2022**.

In accordance with Griffith City Council's Code of Meeting Practice and as permitted

under the Local Government Act 1993, this meeting is being live streamed and recorded by Council staff for minute taking and webcasting purposes.

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Members of the public may address Council in relation to the items listed in this Agenda by contacting Council on 1300 176 077 by 12.00 pm on the day of the meeting.

Information Reports

CC01	p3	Crematorium Feasibility Study - Attachment Considering Cremation Opportunities for Griffith City Council
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Brett Stonestreet

GENERAL MANAGER

CONSIDERING CREMATION OPPORTUNITIES FOR GRIFFITH CITY COUNCIL



changing
P L A C E S

report prepared for:



October 2021

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Definitions

Ashes	the remains left after a body or part thereof is cremated
Bariatric	very overweight ie morbidly obese
Bier	a moveable platform
Charging	pushing the coffin or casket into the cremator. It may be achieved by manually pushing off a roller topped trolley or automatically by a charging device
Cremated remains	see ashes
Hot box	industry jargon in NSW referring to cremators set up in industrial estates, with minimal facilities and limited public access.
Insertion	see charging
Orthometals	a Dutch company which collects metallic post combustion items from crematoriums worldwide and processes them to extract precious metals and other components
Raking	pulling the ashes forward within the furnace so that they drop into a secondary chamber or collection tray (within the cremator)
Retort	the main furnace chamber within which the cremation occurs
Trolley	see bier
Urn	a container for ashes

Abbreviations

██████████	██
CCANSW	Cemeteries & Crematoria Association of NSW
CCNSW	Cemeteries & Crematoria NSW - a statutory agency supporting and regulating the industry
ICRC	Independent Competition and Regulatory Commission (ACT)

Acknowledgements

In addition to the sources acknowledged in Appendix A, particular thanks for materials and crematorium floor plans is extended to:

██████████	██
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Matters under consideration

Executive summary

The Griffith Council is in a unique situation. Both community members (especially the Sikh's) and the local funeral directors, would like Council to establish a local crematorium. This raises some challenging considerations.

In the absence of private sector equity participation and given the low volume of potential cremation activity, Council will need to cross subsidise not only the crematoriums establishment but also its ongoing operation for many, many years.

Whilst mindful of its community service obligations, Council needs to also consider the competitive environment. It is unreasonable to assume that there will be an influx of cases from adjoining towns. They are likely to go wherever their local funeral director takes them. It appears key local towns have funeral businesses connected to private crematoriums in Wagga Wagga.

[REDACTED]

Regardless of whether the cremator is set up at Griffith or Yenda or the Rifle Range Road cemeteries, it is likely to require an investment of up to a million dollars, possibly more.

As there appear to be a number of facilities in the region able to cater for large funeral gatherings, the funeral directors were more interested in a cremator facility than a new chapel complex. That said, building an integrated chapel cremator facility at Rifle Range Road would be a strategic development move. It would promote use of the site and position the facility as the preferred local option but it would also require millions of additional dollars for infrastructure and buildings.

If part of the Griffith Council's long term strategic vision is to include a chapel facility on any of its cemetery sites, to diminish the grounds for/risk of future debate, it would be prudent to revise the definitions of cemetery and also crematorium, in its LEP. Simply add three words:

*... whether or not it contains an associated building for conducting memorial services **or funeral services**.*

Based on experience in other jurisdictions, even if a chapel is a "long term dream", it would be prudent for that alteration to the LEP to be made as soon as it is practical to do so.

Without a chapel facility, the Griffith Council cremator is in the "direct delivery market" ie its main revenue will be from cremation alone, without additional chapel hire fees. Potentially Council may be able to earn additional revenue from the promotion of ash placement within its cemeteries.

In summary this report arrives at the following conclusions:

- A low volume crematorium cannot reasonably be expected to recover its capital cost quickly, when it is operating in a regional environment, with a competing private operator undercutting the price and providing free pick-up and delivery of ashes.
- There is a real but intangible community benefit associated with establishing a local facility.
- To the extent that bodily disposition demand switches from burial to cremation, the "life" of Council's existing cemeteries is extended.

- Ashes are more likely to be interred (placed) within Council cemeteries if the cremation occurs within the Council crematorium... it becomes a one stop shop.

The real questions relate to the Council's preparedness to undertake a significant capital investment and whether the facility should be on Council land or in a lower profile industrial environment.

Assuming Council's preference is to avoid an industrial estate, establishing its own crematorium facility may cost in the region of \$490,000 for the building (including viewing facilities), access, landscaping and fencing, as well as \$500,000 for the cremator and related equipment. That \$990,000 should eventually be recovered from cremation revenue.

Based on [REDACTED] Council's research, the cost of cremating (excluding capital and establishment costs) is likely to be \$415 per case. If a direct delivery fee of \$900 is charged for same day cremation, after deduction of the \$415, each cremation will contribute \$485 towards recovery of the set up costs.

On that basis 2,041 cremations will need to occur ($\$990,000 / \485) to recover the capital outlay. If demand

- stays at 80 pa (60 flagged by local funeral directors and 20 switching from burial) this will take 25 years.
- grows to average 120 pa the capital will be recovered in 17 years.

Unlike a commercial operator, Council's decision making processes might also factor in its community service obligations. It is that obligation to the local community which may set it apart from a funeral director, whose volume of cremations may not generate a commercial return on the necessary capital costs.

1. Background

In July 2011 when the NSW Cemeteries and Crematoria Association met in Griffith, the Mayor, [REDACTED] addressed delegates. Amongst other things he referred to Council's foresight with the Rifle Range Road site and the local Indian/Sikh community encouraging the Council to provide a crematorium.

Nearly a decade later the Changing Places [REDACTED] Report (March 2020), in relation to community consultation regarding the Rifle range road site, acknowledged that

"The demand for access to a crematorium extends well beyond the local Sikh and Hindu communities. Whilst local funeral directors may be open to a joint venture with Council, their preference was for Council to provide the service..."

The capital outlay is significant (probably at least \$500,000 for a basic facility) and demand initially limited, until cremation becomes the norm in the region (as it is elsewhere in NSW).

Understandably at this stage, cremation memorialisation is a minor source of cemetery revenue. It has significant potential upside if Council or a funeral director installs a local crematorium. Really it is inevitable that a crematorium will be installed in the region at some stage in the future."

The Council is now seeking guidance into the likely costs associated with establishing a crematorium, the related financial implications and associated risks.

2. The context for decisions

The Council is in quite a unique situation. Community members (especially the Sikh's) and [REDACTED] would like Council to establish a local crematorium.

The funeral directors have

- indicated repeatedly, that they do not see an acceptable return on the necessary capital investment
- not recently exhibited any enthusiasm towards joint venturing with each other (or Council).

Council might adopt the approach that a cremator is another enterprise that it wants operating in the region. In the absence of private sector participation, Council may be prepared to cross subsidise it from rate revenue.

Whilst mindful of its community service obligations, Council needs to also consider the prospective competitive environment.

a) Competitive neutrality

The Independent Competition and Regulatory Commission (ICRC) undertook a major investigation of public crematorium services and the ACT situation, last year. Its Public Crematorium Services: Competitive Neutrality (March 2020) Draft Report, dealt at length with the associated pricing principles for public entities.

Whilst it was an ACT report, the principles are just as applicable in NSW.

"Competitive neutrality requires that government business activities should not enjoy net competitive advantages over their private sector competitors simply by virtue of their public sector ownership."

Initially competitive neutrality concerns may be perceived as being less relevant to Griffith as private enterprise is not as yet operating a Griffith cremator but there are private suppliers servicing the region.

b) Competitive disadvantage

In its submission to the ICRC study, the Cemeteries & Crematoria Association of NSW (CCANSW) highlighted the competitive disadvantage that the application of competitive neutrality principles can create:

“A Melbourne based funeral director charges a very competitive cremation fee, transfers bodies to its Moama NSW crematorium and collects from other funeral directors along the way. Similarly a Wagga Wagga vertically integrated operation travels to Griffith to collect deceased from local funeral directors. Utilising its established cremation facility, from an economic perspective the cremation fee charged on the Griffith cases need only cover at least related variable costs for travel and the cremation... not the fixed costs...”

If the public crematorium is required to include components in its cremation fee that are not actually costs related to the cremation and the furnace facility, then, everything else being equal, the ICRC (Independent Competition and Regulatory Commission in ACT) is creating a competitive disadvantage for the public crematorium.”

The risk from private competition is real.

c) Private v public competition

Years ago, before funeral businesses were commercially structured as they are now, a number of Councils created crematoriums, often with a chapel facility available. In their initial years, business was good but the competitive environment changed.

In part this was because initially Council fees were set without the need to compete. The Councils were insulated by geography from the metropolitan cremators and the capital costs of establishment were high. Over the last two decades the market place evolved significantly.

For the most part, Council operators have been less than agile in the market. Their fees are fixed annually and are published. Some indicate that local government governance constraints limit their ability to attract business or volumes of business, with variable fee structures.

Table One... NSW cemeteries and crematoria by operator 2019-20

Sector	Cemeteries (operational)		Crematoria (operational & closed)		No. of operators		
	No.	%	No.	%	Cem.	Crem.	Both cem. & crem.
Local Govt.	687	67%	5	9%	112	5	5
Crown	13	1%	4	7%	11	3	3
Church	275	27%	0	0%	197	0	0
<i>Sub total</i>	975	95%	9	16%	320	8	8
Private	31	3%	49	84%	21	33	16
Community	12	1%	0	0%	17	0	0
<i>Total</i>	1018	100%	58	100%	358	41	24

Source... CCNSW Activity Report

Unlike councils, funeral directors have become more commercial in their approach. Some operate multiple funeral homes. Others have also established cremators, often in lower cost industrial estates. The number of suppliers of cremation equipment has increased. Consequently, market forces and supplier competition have made equipment easier to access.

By June 2020 (see **Table One**) 84% of cremations in NSW were undertaken by vertically integrated funeral businesses. Of those 49 private crematoria operators, only 16 also were also cemetery operators. Just where the other 33 locate their cremators is not clear from the CCNSW report.

Councils have found it hard to compete in the market place.

-

What history and industry experience demonstrate is that:

- funeral directors tend to cremate where they can obtain the most competitive fee or service. Rather than incur the cost of transferring cases to Wagga themselves or paying a higher fee [REDACTED] crematorium, Griffith funeral directors often access [REDACTED] pickup door to door service.
- usually when a death occurs, families initially contact the funeral director. Unless the client family has a specific reason to insist on using a council facility, the funeral director is able to offer alternatives.
- where the funeral director has funeral offices/homes in various towns, for economies of scale, wherever possible they are likely to channel cremations to their own cremator.
- where a council operates a crematorium unless it adopts an agile commercial approach to management and fees [REDACTED], it will be at a significant competitive disadvantage.

With this awareness of history and understanding of the evolving marketplace, Council is better positioned to evaluate the pros and cons associated with establishing a Council crematorium.

3. Cremation processes overview

[REDACTED]

A professional cremator operator would promote public interest in the process, inspection of the facility by community groups etc. Being proactive diminishes myths and helps answer the most frequently asked questions:

Q1 Do you burn two at once?

Q2 How do we know we get the right ashes?

It is paramount that all processes retain a focus on ensuring the integrity of the cremated remains ie no intermixing or random labelling of containers etc.

4. Anticipating demand

When a funeral business considers establishing a cremator, it is in a different position to Council. As the funeral business becomes vertically integrated, it has associated benefits. A Contributions towards its set up cost are derived from a number of sources:

- It now incurs only the variable cost of cremation eg gas, labour, electricity, rather than paying a full cremation fee to another operator (which included that operators mark up).
- It is able to charge an equivalent fee to that of the competitor, and any dollars above variable costs contribute towards the set up.
- Savings are made on the staff time and vehicle operating costs associated with transferring cases from its funeral home or the local church etc to the other crematorium.
- It derives a competitive advantage over opposition firms that do not have their own cremator. It is able to market itself as a “one stop shop”.

In turn it has the advantage, compared to Council, that it controls its own supply chain ie it is not reliant upon other funeral directors to bring in cases.

a) Local demand

Representatives of local Griffith funeral businesses were both constructive and helpful with their input. It was noted that they need to follow the expressed wishes of client families. That said, it was likely families would prefer a local alternative, provided it was at the right fee.

[REDACTED]

All agreed that the burial rate in Griffith is much higher than in many other parts of NSW. This situation reflects historic practices, in a region where a local crematorium was not readily available.

b) Growth potential

The experience in other places, is that if cremation becomes available locally, the proportion of cremations increases significantly. Cremation is now a far more acceptable form of bodily disposition than it was decades ago. Families recognise that if they choose cremation

- the cremation fee is significantly less than the cost of the Burial Right (grave) and the burial (digging) fee

- they do not need to incur the significant expense that may be associated with headstones and monuments.

The percentage of cremations in the Riverina Murray planning region (see **Table Two**) is 76%. That is a higher rate than the NSW average of 69%. Currently there are, on average, 170 bodily interments in Council cemeteries per annum. It is reasonable to assume that in addition to the 60 current cremations the local funeral directors may redirect from Wagga Wagga, there will be a reduction in local burial rates ie some current burial demand will transfer to cremation.

The actual number and the rate of change is anyone's guess. Being conservative, it is suggested we assume that an extra 20 cases will switch in the first full year of operation.

Table Two... Whole of NSW, burials and cremations by planning region 2019/20

Planning Region	Operational cemeteries	No. of burials	Crematoria	Number cremated	Crem. rate %	No. of services (burial & crem.)	% of NSW services
Riverina-Murray	120	1,505	8	4,670	75.60%	6,175	10.70%
NSW	1,026	17,841	60	40,081	65%	57,922	100%

Source... CCNSW Activity Report June 2020

It is unreasonable to assume that there will be an influx of cases from adjoining towns. They are likely to go wherever their local funeral director takes them.

c) Growth caveats

It would be optimistic to proceed, relying on a significant influx of case numbers from surrounding areas:

1. [REDACTED]
 2. [REDACTED]
 3. [REDACTED]
 4. [REDACTED]
 5. [REDACTED]

- _____

Council will be competing with private firms that

- are likely to be satisfied with charging a fee that marginally covers the variable costs, rather than also seeking to recover capital costs. Their own funeral business and their own cremations combine to recover capital over time.
- may see dominating cremation supply as a way of further discouraging other funeral directors from setting up ie protecting their turf.
- are not necessarily discouraged by distance. [REDACTED] transfers cases from Melbourne to Moama, approximately three hours each way. This appears to be cost effective compared to paying crematorium operators in Melbourne an \$835 (before 11am weekdays) direct delivery fee.

This understanding of the competitive environment should inform Council's approach to setting and varying its cremation fees.

5. Implications for fees

Within the industry, the terms No Service Attendance (NSA) and direct delivery mean similar things. The client family does not attend the crematorium. A service is held somewhere else and the funeral directors transfer the coffin directly to the crematorium.

Provided the crematorium has a refrigerated holding room, it can store the case for up to 48 hours. This enables it to hold back cremations until it has a few to do consecutively.

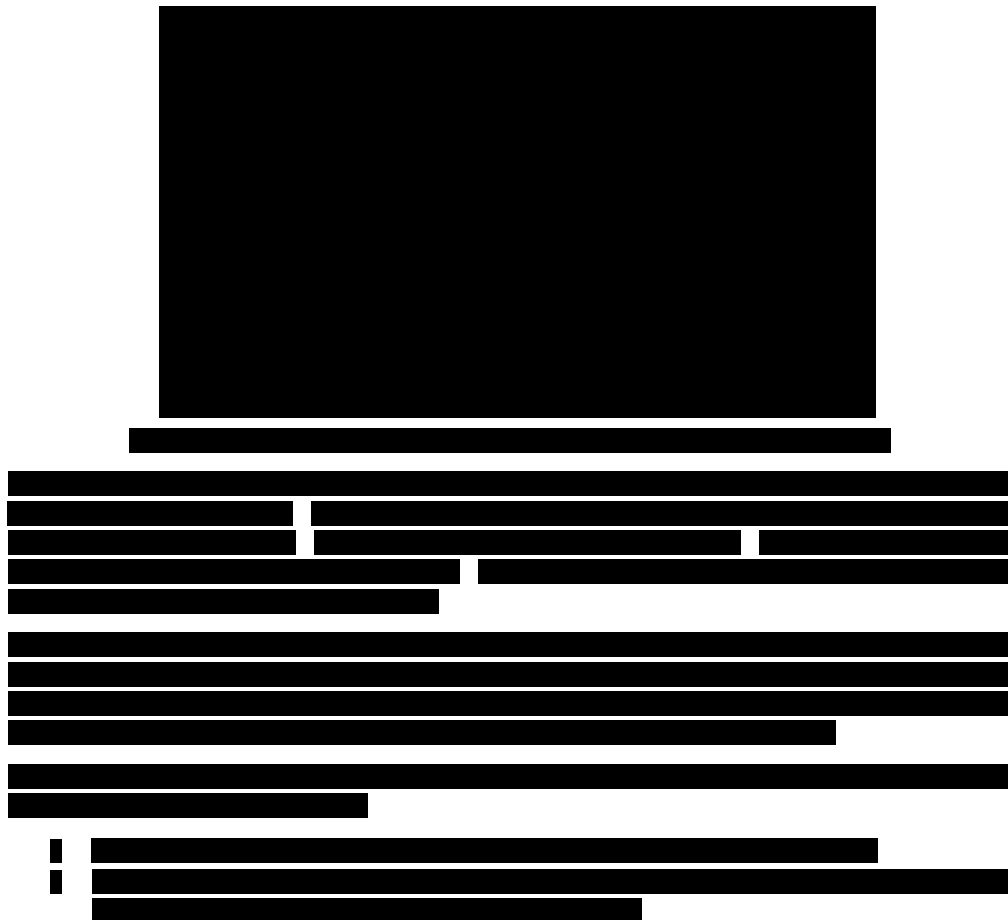
Facilities without holding rooms often encourage delivery early in the day to reduce overtime payments. Unlike private operators, council facilities tend to require staff to stay on site until a cremation is complete. Private operators are more likely to charge the cremator (insert the coffin), ensure the initial burn is on track, then monitor progress remotely ie by lap top.

The approach taken at the end of day can significantly impact costs, especially if it is an operators policy not to have staff in facilities by themselves.

[REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]

Table Three... Cremation fees

Crematorium operators	Direct	With Chapel
<div> <div></div> <div></div> <div></div> <div></div> </div>		
Lismore City Council	\$1,070.00	\$1,187.00
Lismore 40+ cases a year	\$839.00	
Shoalhaven Memorial Gardens & Lawn Cemetery		\$1,070.00
Shoalhaven - Mon. to Thur. before noon	\$825.00	
Tweed Shire Council -Tweed Valley Crem.	\$605.00	\$806.00
Wagga Wagga City Council	\$1,255.00	\$1,645.00



For the purposes of this study, \$900 has been adopted as the direct delivery fee.

6. Cost Composition

Crematorium **capital costs** basically fall into two groups:

- **start-up** capital costs basically comprising building and equipment costs. For a new crematorium, the major equipment cost will be the installation of the new furnace(s).
 - crematorium building, including viewing room, administration space, covered delivery space
 - the capitalised value of one-off project management, contract management and procurement costs associated with the construction of the crematorium facility.
- **refurbishment** costs associated with the furnaces: re-hearthing ie replacement of the furnace floor), a full rebrick (including the internal walls of the furnace) and full replacement. These costs reflect the wear and tear that occurs during normal operation. Their timing will vary according to case volume, the quality of the cremator itself and the care taken during charging (inserting the coffin).

Operating expenses include

- **variable** costs directly associated with cremation eg gas and electricity.
- **fixed** costs ie those that don't necessarily vary directly with case volume. Once the crematorium is operating "full time" the staff wages and on costs are unlikely to

vary in line with case volume (apart from overtime). There should also be allocated overheads such as cleaning, auditing, administration costs, management costs, general site or cemetery maintenance and repairs (such as to access roads and surrounds).

Where the crematorium is located within cemetery grounds, there is **potential to share costs**. Potential for capital cost sharing may arise with lawn and garden maintenance equipment, land costs, refurbishment costs - roads, car parks, paths, and fences.

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

a) Variable costs

Attempts to derive comparable cost figures from private operators were frustrated not by their reluctance to share but by their apparent macro view of their operations i.e., a focus on cremation sales revenue less aggregate expenses (rather than micro examination of expense components)

One firm that does extensive “free” collections of cases for cremation from other towns did not highlight vehicle related costs, as those vehicles were already available when not used for funerals etc.

Another large volume NSW private operator indicated that its variable cost per cremation for gas plus the cremated remains container/packaging, was \$82. [REDACTED] gas cost averages \$89 per case. Usually gas consumption is significantly impacted by how many cases are completed consecutively

An interstate private operator indicated that on a busy day, with six consecutive cases the gas cost averaged \$50. Interestingly it noted that the most significant ongoing (not variable cost) was the interest on the establishment loan.

The most detailed available information for variable and fixed costs, was provided by [REDACTED]. In 2018 a costing study was undertaken for its cemetery crematorium operation at [REDACTED].

Based on its last 712 cremation cases, costs were totalled and allocated between:

Consumables/gas/electricity	\$134,106
Administration and collection	\$ 88,662
Labour	\$ 64,934
Total	\$287,702 or \$404 per cremation (in 2018)

Allowing for inflation that figure might now be approximately \$415.

The [REDACTED], using [REDACTED] equipment, has been that there are only marginal savings achieved when consecutive cases are cremated.

Equipment costs

In its March 2020 draft report on Public Crematorium Services, the ICRC identified the capital costs directly related to the crematorium as being

- cremator unit(s) (or furnaces)
- a processor (for reducing remains into ash)
- scissor trollies for moving coffins
- pans for collection
- cool room for storage of corpses
- drying machine e.g. for ashes that have been placed for display purposes in a temporary memorial

Costs of even the cremator itself can vary significantly depending on a variety of factors such as:

- a. the quality of equipment, which in turn impacts the servicing costs. Generally speaking, the less you pay up front the less efficient the operation may be in terms of fuel, combustion time and wear and tear eg the life of the hearth and lining internal chamber walls.
- b. its capacity in terms of
 - i. how wide the furnace opening is... smaller ones won't cater as well for the larger coffins used for bariatric cases.
 - ii. how many cremations can be done daily i.e. time it takes to cremate one case can vary from 70 minutes to two hours
- c. whether its running on natural or bottled gas.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

All three suppliers have multiple installations within Australia. The actual charges from each will vary according to the specifications of the equipment being quoted upon eg width of furnace door, estimated hearth and lining life, whether remote control is available, whether the charging bier is automated (or do you push the coffin into the furnace, off a trolley, by hand) etc.

Indicative basic equipment costs, provided by [REDACTED] (exclu GST), were:

- Ash processor \$15,000
- Auto loader \$40,000
- Civils - guess \$30,000
- Cool room & racking \$25,000
- Cremator \$250,000 (may include mechanical installation, commissioning, training)
- Electricity connection- say \$10,000
- Gas connection - say \$15,000
- Mobile trolley \$15,000

Total \$400,000 (exclu. GST)

The more detailed product explanations and indicative charges provided by [REDACTED] are included as attachments to this report. As their equipment has different specifications to the basics referenced by [REDACTED], their costs will vary in line with the options selected. For the purposes of this report an indicative figure of \$500,000 will be used.

b) Building costs

A variety of factors will influence the building costs of a cremator facility. These will include but not be limited to whether it is

- a. integrated with a chapel facility or a standalone facility (like [REDACTED], [REDACTED] and the [REDACTED]).
- b. being set up to also provide suitable facilities for the public to witness the charging of the cremator eg Hindu and Sikh preferences
- c. required to be built as an up market facility or whether a basic steel structure (like the three case studies in the next section of this report) is acceptable.

A major capital cost is the cost of the building to house the cremator. Most cremators are located in purpose-built structures which may also include a chapel and associated rooms. At this point in time, Council is considering a stand-alone cremator building.

Whilst this engagement brief did not include production of a building design brief, it is helpful to consider three different existing floor plans in the context of the anticipated low volume and also the specific needs of the Sikh community ie for some family members to view the charging of the coffin into the cremator.

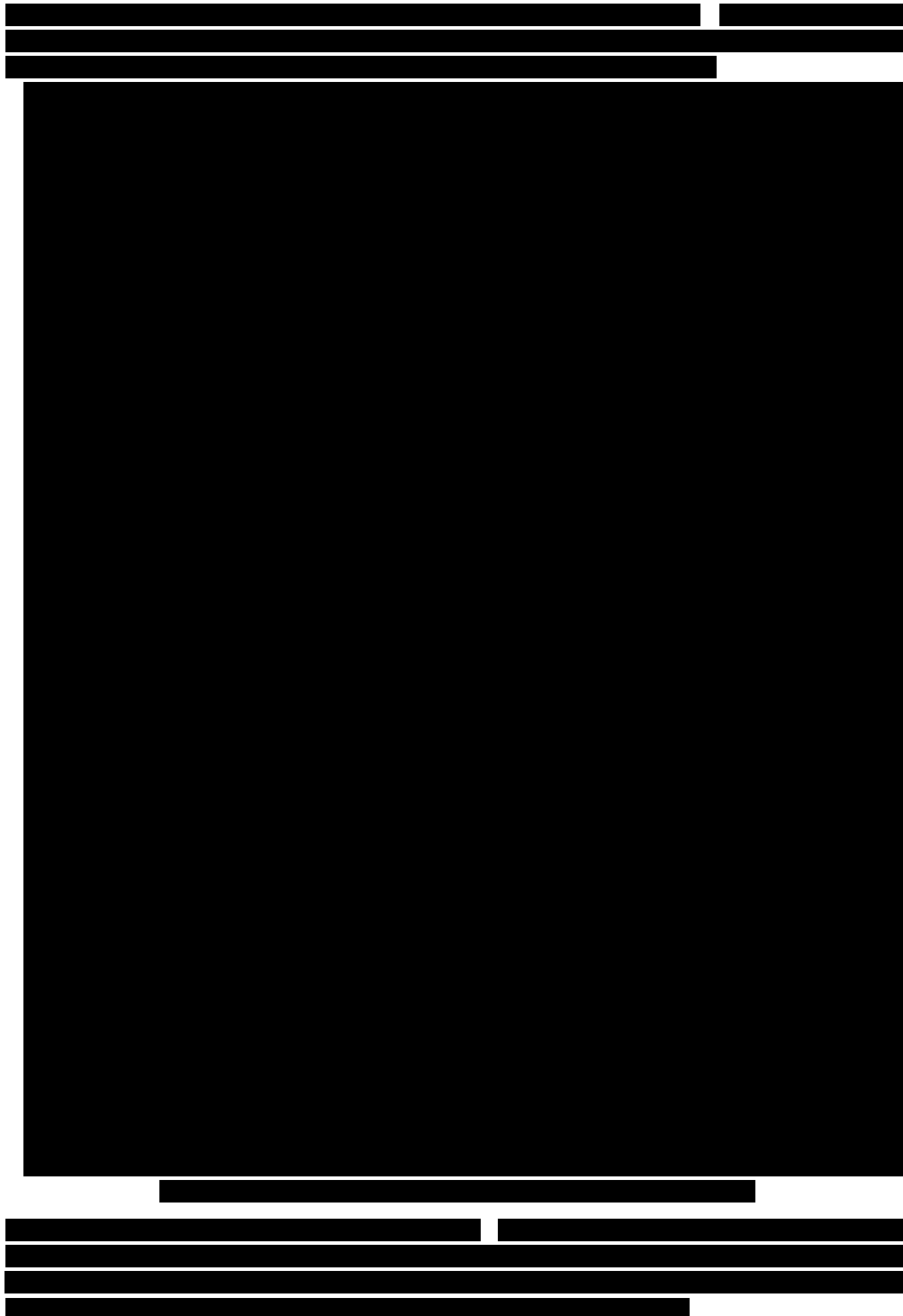
In addition to the furnace, trolleys, ash processing equipment and the viewing room, the building requirements include significant equipment such as air conditioning, security systems, technology connectivity to administration systems, exhaust flu monitoring and air outtakes. The building also needs to provide for secure storage of bodies overnight, ashes and related containers/memorialisation products etc.

Whilst a cool room is technically optional, from a practical perspective it is necessary. Without one, each case would need to be cremated when its delivered. With a suitable cool room cases can be held for 48 hours. Being able to do so enables the operator to reduce the overtime associated with late in the day deliveries and the Council to be more flexible with its fee structures.

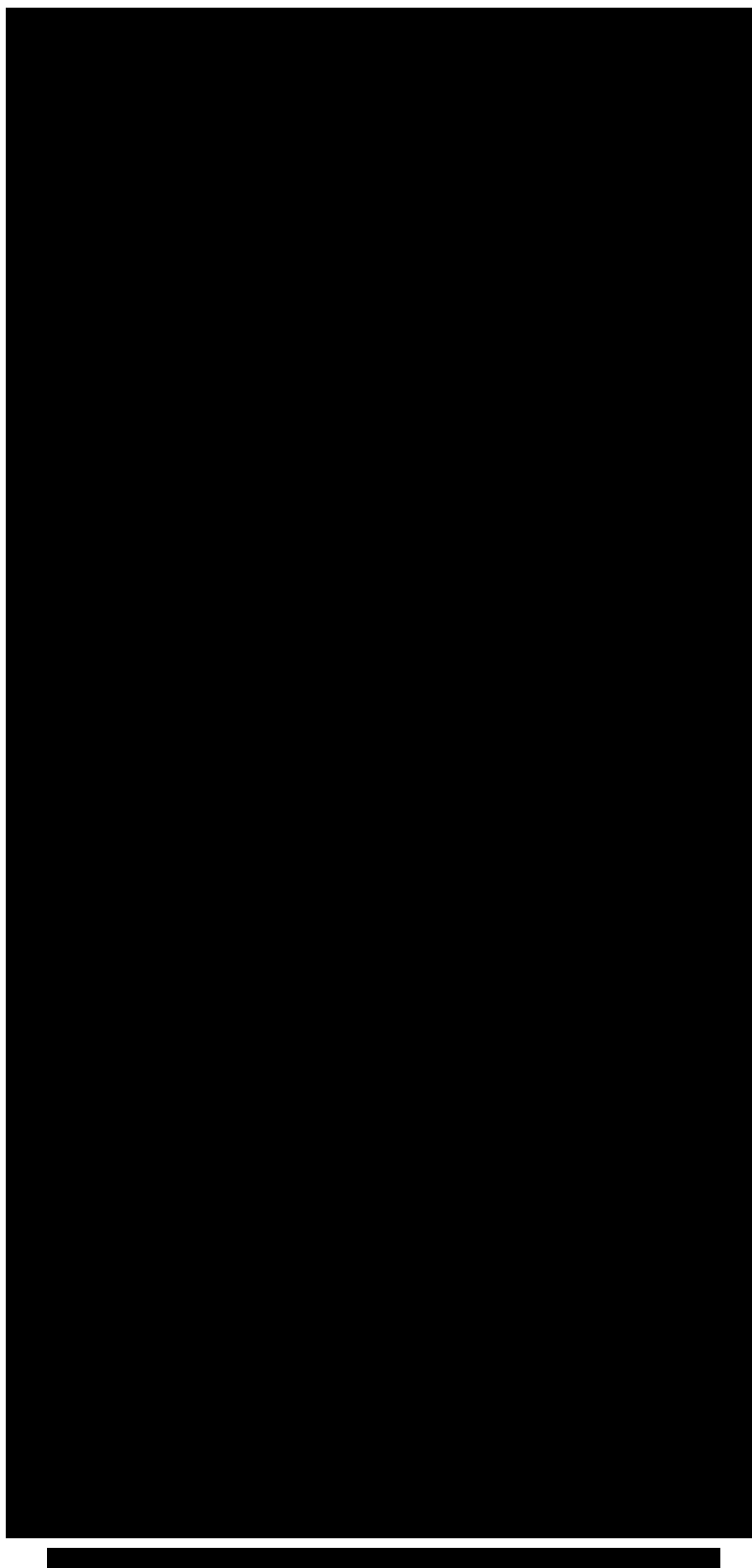
For budget purposes, \$490,000 has been used as an indicative figure, including the building shell, access, landscaping and fencing.



[illegible][illegible]



[illegible]



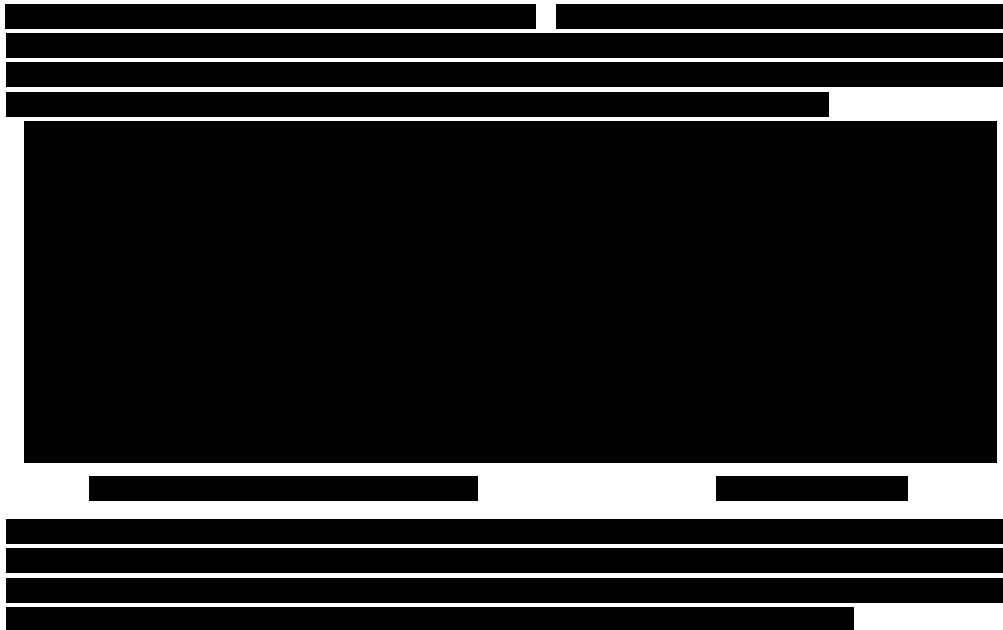
[REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

■ [REDACTED]
 ■ [REDACTED]
 ■ [REDACTED]



8. Risk v return

Unlike a commercial operator, Council's decisions making processes also factor in what might be regarded as a community service obligation. It is that obligation to the local community which sets it apart from a funeral director, whose volume of cremations may not generate a commercial return on the necessary capital costs.

Estimates by their nature require assumptions to be made and "reasonable" guesses to occur. With that in mind, to assist Council deliberations a simple cost/revenue calculation (rather than a complex actuarial one) can be made.

Assumptions:

- Council is self-financing the development and is not seeking an interest repayment
- Council wants to create a public crematorium and is not interested in being an operator, popped away in an out of sight position within an industrial estate (on a long term lease).
- there will initially be on average 80 cremations per annum in the initial years, made up of
 - 60 cases that funeral businesses indicated could be redirected from Wagga (subject to cost competitiveness)
 - another 20 as clients switch preferences from earth burial.
- a fee for direct delivery of \$900 will be charged for same day cremation
- the variable cost of cremation is \$415
- no fee will initially be charged for viewing by up to 10 family members
- a cremation furnace, related processing equipment, particulate monitors and an automated charge bier cost \$500,000
- a 324sqm building, including basic access, landscaping, security systems and fencing may cost in the vicinity of \$490,000.

On that basis

- the capital costs of start up will be \$500,000 + \$490,000 = \$ 990,000.
- each cremation will generate a contribution to capital cost recovery contribution of \$485 ie \$900 fee less variable cost of \$415.
- 2,041 cremations will need to occur (\$990,000 / \$485) to recover the capital. If demand
 - stays at 80 pa this will take 25 years
 - grows to average 120 pa the capital will be recovered in 17 years.
- if the direct delivery fee was set at \$990 then the capital cost recovery contribution moves to \$575 per case and 1,722 cremations will need to occur. Based on an annual case volume of
 - 80 cremations - capital cost recovery takes 21.5 years
 - 120 cremations - capital cost recovery takes 14.3 years

In addition to the aforementioned capital costs, it is likely that there will be additional expenses associated with

- planning and development applications, and possibly even Land Court appearances
- prospective site variations in relation to existing infrastructure for sewer, water, gas and roads

Raising the fees to diminish capital cost recovery time is not a competitive market option. The key for Griffith is increasing the cremation case volume and decreasing relative demand for burials. Additional revenue to contribute towards capital cost recovery is likely to be generated if the Council proactively

- broadens its range of ash placement (interment) options and the related urn and plaque merchandise range
- promotes a more commercial approach by staff
- promotes the cremation opportunity and the ash placement opportunities within its cemeteries
- encourages local families to prepurchase cremation deeds. This is no different to allowing prepurchase of Burial Rights.
- incentivises local funeral directors based on volume (including both at need and preneed cremation activity).

Council could pay for an in depth actuarial projection of related statistics and receive a report based upon various assumptions, projections and the probability of outcomes. Doing so would inevitably produce similar conclusions:

- A low volume crematorium cannot reasonably be expected to recover its capital cost quickly, when its operating in a regional environment, with a competing private operator undercutting the price and providing free pick up and delivery of ashes.
- There is a real but intangible community benefit associated with establishing a local facility.
- To the extent that bodily disposition demand switches from burial to cremation, the "life" of Council's existing cemeteries is extended.
- Ashes are more likely to be interred within Council cemeteries if the cremation occurs within the Council crematorium... it becomes a one stop shop.

The real questions relate to the Council's preparedness to undertake a significant capital investment and whether the facility should be on Council land or in a lower profile industrial environment.

9. Considering locations

Council may consider opting for a position within the Griffith or Yenda operating cemeteries or the greenfield Rifle Range Road Cemetery site or somewhere else eg within leased industrial space.

a) Planning restrictions

Selecting an appropriately zoned site should simplify the Development Application discussions. That said, even if the site is appropriately zoned there may still be public objections to the development from neighbours or other persons whose property may overlook the proposed site.

Martin Sewell from CCNSW confirmed that

"In NSW Crematorium are not listed in the legislation as premises requiring licensing from the Environmental Protection Authority.

Through considering a development application, the development consent authority needs to consider the potential impact of the development proposal on air pollution by considering the Environmental Impact Statement attached to the development application. As a consequence the consent authority may impose conditions limiting emissions and / or refer the development proposal to the environment protection authority for concurrence.

The proponent is best consulting with the development consent authority for the proposal. The planning team for the respective council would be able to advise whether the consent authority is council itself, Sydney or Regional Planning Panel or the planning part of the Department of Planning Industry and Environment."

It appears that Griffith City Council will be the consent authority. A Development application (DA) will be required and it will need to be supported by an air quality assessment.

The **Griffith Local Environmental Plan 2014** (LEP: current version for 14 July 2021) provides insight into the Zones within which cemetery and crematorium development may be allowable (with or without consent).

- A number of the Zones specifically preclude "Any development not specified in ...".
- Cemeteries are permitted with consent in Zone RU1-Primary Production
- Crematoria are specifically prohibited in Zone RU5-Village, Zone IN1-General Industrial and Zone IN3-Heavy Industrial
- Cemeteries and Crematoria are specifically prohibited in Zone B2-Local Centre and Zone B7-Business Park
- Crematoria and funeral homes are specifically prohibited in Zone R1-General Residential

Regrettably the definitions within the Griffith LEP appear to follow an historic template:

cemetery means a building or place used primarily for the interment of deceased persons or pets or their ashes, whether or not it contains an associated building for conducting memorial services.

crematorium means a building in which deceased persons or pets are cremated, whether or not it contains an associated building for conducting memorial services.

***funeral home** means premises that are used to arrange, conduct and cater for funerals and memorial services, whether or not the premises include facilities for the short-term storage, dressing and viewing of bodies of deceased persons.*

The fact that the existing definitions make a distinction between funeral and memorial services in the funeral home definition has implications for a potential chapel development. **Council cannot assume that the acceptability of a cemetery or a crematorium in a particular zone will automatically mean a chapel can be built. On the contrary.**

Recent NSW Land Court precedent exists, making a clear distinction between the nature of funeral and memorial services. It was determined in *Al-Mabarat Benevolent Society Limited v Goulburn Mulwaree Council* [2018] NSWLEC 1261.

The initial rejection by [REDACTED], of an application by the [REDACTED] to establish a Muslim cemetery and service hall was in September 2014. The application was then modified and again rejected by Council. The Society's appeal was ultimately rejected by the Land Court in 2018.

A similar case is now underway. [REDACTED] approved an application by a local funeral home to establish a cemetery – crematorium - chapel complex on a private property (41.79 hectares in area) in 2020. A group of local objectors are currently appealing the decision in the Land Court. One of the points of discussion again is the difference between a funeral and a memorial service.

The Wollondilly Shire Council Local Environmental Plan 2011 has some slightly different definitions.

***cemetery** means a building or place for the interment of deceased persons or their ashes.*

***crematorium** means a building in which deceased persons or pets are cremated, and includes a funeral chapel.*

In this case it may be argued that a chapel is allowable only if it is part of the crematorium building ie not a standalone chapel.

If part of the Griffith Council's strategic vision is to include a chapel facility on any of its cemetery sites, to diminish the grounds for/risk of future debate, it would be prudent to revise the definitions of cemetery and also crematorium, in its LEP. Simply add three words:

*... whether or not it contains an associated building for conducting memorial services **or funeral services**.*

Such an alteration should be considered as soon as it is practical to do so.

b) Cemetery sites

Regardless of the zoning and definitions, when alternative sites are considered there are a number of common criteria to consider:

- What is the distance from nearby residential housing to the cremator building? Is vision of the facility obstructed eg by trees or other buildings or embankments?
- What site infrastructure/facilities are readily accessible eg electricity, water, sewer, road access?
- Are there available spaces that could readily accommodate a 324sqm building (using the [REDACTED] for illustrative purposes -12.6m x 27m)?

Some discussion has already occurred in relation to whether one of the three existing cemetery sites may be suitable as a crematorium location.

i. Griffith Cemetery

Within this cemetery, there are some potential building sites. Each would need to be the subject of research re past burials or ash placements.

Site 1 is 70 metres from an adjoining residence. Site 2 is 80 metres. Site 3 is 200 metres from residences, 150 metres from an industrial zone and 120 metres from a community facility. On that basis site 3 would be the better option.

Quite possibly some families with existing graves nearby might object to the development.



Figure Six... Aerial view of Griffith Cemetery

In addition to its readily available infrastructure (**Table Four**), if a suitable space is available this site has two additional advantages.

Firstly staff are usually on site. Even if they are not cremator operators, they already assist with coffins for burials. They should be able to place the coffin within the cool store holding room.

Secondly ash interments are already occurring on site and could be further promoted.

ii. Rifle Range Rd

This greenfield site reflects Council's long term strategic vision. Philosophically a case could be made that it is where the crematorium should go. It fits the long term plan.

The down side is that compared to the other sites, it will require greater expenditure for the provision of necessary services (see **Table Four**).

Staff would also need to be coordinated to meet the funeral directors on site when coffins are to be delivered.

In the recent [REDACTED] draft masterplan the suggested location for the crematorium was on the left hand side of the plan (brown rectangle 15). During community consultation concerns were raised about the proximity of that site to a nearby residence (60 metres). Taking that input on board [REDACTED] has suggested an alternative site on the other side of the development. The blue rectangle is 900 metres from the nearest residence.



Figure Seven... Rifle Range Road masterplan

In an ideal world if Council had sufficient funds it could develop an integrated chapel and crematorium complex and set about delivering the first steps in the long term vision.

iii. Yenda Cemetery

Whilst this site has more facilities already in place than Rifle Range Road (see **Table Four**), it has no staff on site and is 16 km out of town. Staff would need to be scheduled to attend to meet the funeral directors deliveries and to initiate the cremations.

In consultation funeral directors also noted that the community might see Yenda as being "way out of town" and undesirable for memorialisation. Unless there was a significant reason to do otherwise, possibly the funeral directors would find it easier to just continue using the Wagga Wagga cremation collection service.

There appears to be a potential site, 150 metres from the nearest residence.



Figure Eight... Aerial view of Yenda Cemetery

iv. Comparative attributes

Each of the three existing cemetery holdings have different attributes and more detailed site investigations are needed before a definitive conclusion can be drawn.

Table Four summarises the comparative attributes of three of the potential sites.

Table Four... Comparing site attributes

	Griffith Cemetery	Rifle Range Road	Yenda Cemetery
Electricity	Y	N	Y
Gas	Y	N	N
Sewer	Y	N	Y
Road	Y	Y (external)	Y (unsealed)
Space	TBD	N	Y
Staff based there	Y	N	N
Zoning	SP2 (Infrastructure)	SP2 (Infrastructure)	SP2 (Infrastructure)

From a long term strategic perspective, utilising Rifle Range Road would be the way to go. That site would also be less likely to create significant planning objections.

In reverse it is probably seen to be initially less expensive and more convenient to establish at Griffith. That said, there is significant potential for the DA to be held up by local objectors eg neighbours and families who believe the crematorium impacts the amenity of the area near their graves. Even if Council approves the DA, there is potential for a direct land Court Appeal.

c) Industrial alternatives

Rather than incur the capital cost of constructing a cremator building Council might consider leasing an existing building, in a suitably zoned area and installing the cremator there. This would significantly lower the establishment cost. [REDACTED]

Often industrial cremator sites are not well identified and not readily apparent to passers-by. They are unlikely to be promoted for viewing.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

If Council is interested in that sort of development the challenge is to find a suitable available building and to win support from the community and the funeral directors.

At the end of the day Council is not a funeral director. It is not initially entrusted, first hand with the care of the deceased and is not as well positioned as a funeral directing cremator operator to “pitch” the suitability of the facility to a client family.

[illegible]

15. Limitation of our Work

General use restriction

This report is prepared solely for the internal use of the Griffith Shire Council. This report is not intended to and should not be used or relied upon by anyone else and we accept no duty of care to any other person or entity.

In conducting our work we have relied on the information provided to us by Council and representations made by the Council and management. We have not performed an audit or verification of the information that we have been provided.

The image shows a document where all text has been redacted with black bars. The redactions are organized into two main columns. The left column contains approximately 15 lines of redacted text, while the right column contains approximately 20 lines. Some lines in the right column are significantly longer than others, suggesting a list or a series of detailed entries. The redaction is complete, with no legible text visible.

Appendix B... Cremation processes

The funeral director

1. obtains necessary approvals and paperwork to allow cremation to occur.
2. prepares the deceased for cremation eg removes pacemakers and other medical devices that may explode when combustion occurs, from the body before delivery.
3. contacts Council to book the delivery time for cremation and indicates whether the cremation must occur that day or may be held over (to take advantage of a lower fee).
4. indicates whether it will be the client funeral director or the client family who will collect the cremated remains and when the remains are required to be available.

The crematorium operator

1. completes booking procedures, including ascertaining whether it is a bariatric case (as that will influence the sequencing of the work).
2. allocates an administrative record case number that can be attributed to the case throughout the cremation process.
3. prepares the labels that will affix to the ash container itself and also the outer cardboard box (similar size to a shoe box) into which the ash container will be placed.
4. checks the paperwork when the case is delivered, ensuring the name on the coffin name plate exactly matches the authorisation paperwork.
5. assists the funeral director to remove the case from the hearse or transfer van and places it onto the trolley or bier.
6. ascertains whether the case is to be placed in the cool store or cremated today.
7. attaches an identifying number to the coffin - usually a metallic number tag (**Figure A**) when the coffin is taken from the cool room or the vehicle for cremation. That identifier is different to the administrative record number. The identifier is an in house crematorium process control mechanism.
8. updates case administrative record/paperwork to note the identification number.
9. removes any metal handles and fittings from the coffin just prior to cremation and places them in the Orthometals recycling bin. The handles are not recycled for sale by funeral directors.
10. places the bier in front of the furnace door (**Figure B**), removing the metal identifying tag from the coffin and attaching it next to the furnace chamber door.
11. opens the furnace door when the furnace reaches an appropriate temperature, and charges the furnace ie inserts the coffin, and closes the door. Just how automated the charging, door opening and closing is will depend upon the specifications and quality of the purchased equipment (**Figure C**).
12. monitors the progress of cremation - visually through an inspection hatch or via a lap top (potentially even remote monitoring).
13. partially opens the furnace door once the cremation is complete and uses a metal raking tool to pull the bone fragments, ash and other remnants eg metallic medical implants, forward within the chamber (**Figure D**).
14. moves the metallic identifier from its position adjacent to the furnace chamber, down to a position next to the collection tray door but distinctly separate from the upper chamber/retort. The lower section collection tray door is clearly apparent below the main furnace chamber in **Figure D**.



Figure One... Cremation processes

15. rakes everything forward, towards a specially designed gap in the furnace hearth (floor). Everything drops through that gap into the collection tray below the main chamber.
16. allows the remnants to cool in that tray
17. removes the tray from the cooling chamber, then removes the metallic identifier from its position and places it with in the tray (**Figure E**).
18. takes the tray to the cool store or processing area – depending upon whether processing will occur immediately or later in the day.
19. commences processing at a suitable time, by passing a magnetic wand over the tray of bodily remains (bone fragments and ash) to remove small metallic materials. Despite the furnace heat, it is normal for such residual matter to remain e.g. screws and nails from the coffin, some metallic name plates and metallic bodily implants. Larger non skeletal items not picked up by the magnet are removed by hand.
20. places the removed items into a recycling bin (Orthometals).
21. places the human remains into a granulator/processing machine. That process causes larger bone fragments to break into smaller pieces. That processing area should also have dust extraction adjacent to the work space, pulling minute dust particles away from the staff members face (**Figure F**).
22. engraves the plastic ash container with the case number assigned in the crematorium administration booking records (as distinct from the reusable metal identifier number)
23. empties the granulated material from the processor into a container (visible on the bench in **Figure F**) and ensures the label matches the case paperwork and double checks the engraved container number with the administrative record.
24. updates all paperwork to indicate the time the cremation started, finished, ashes were contained, any unusual occurrences etc
25. returns the metallic identifier to “stock” to be used again (**Figure A**).
26. places the container of remains in secure storage awaiting collection.
27. ensures the funeral director signs the paperwork, when they collect the ashes, to confirm they have taken possession of the cremated remains.
28. if the funeral director is not collecting the ashes the cemetery operator or administrator should contact the family to arrange a time for them to visit the cemetery or offices to select an urn or arrange for placement of the ashes within the cemetery.

This last step is critical as it will increase the likelihood of cremated remains being placed (interred) within the cemeteries and additional revenue being generated. From experience it is apparent that even when a family plans to take remains away from the cemetery and even if they are scattering, they are likely to want a more substantial container than the usual plastic box. They will purchase urns.

Throughout the entire process it is paramount to ensure the sanctity of the remains ie mitigate the real or apparent risk of intermingling.

See following pages for:

[Appendix C... Facultatieve Technologies Ltd](#)

[Appendix D... Major Engineering Group](#)