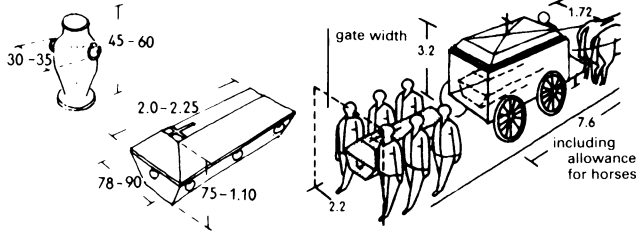
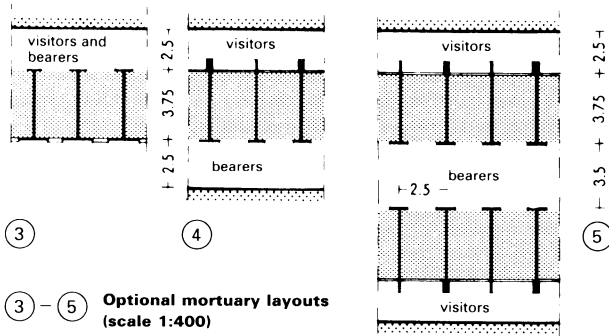


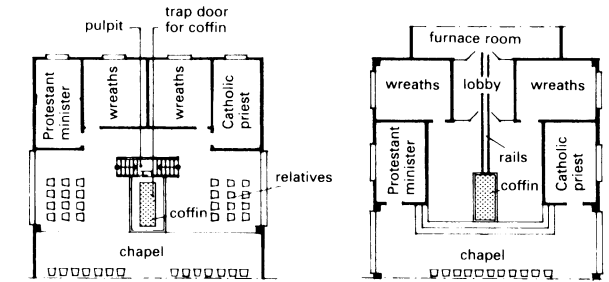
CEMETERIES AND CREMATORIA



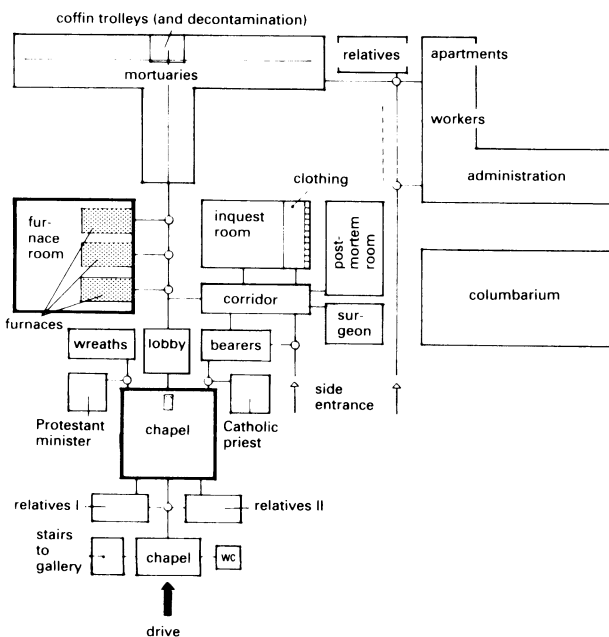
① **Urn and coffin: usual dimensions**
 ② **Transporting the coffin: dimensions of hearse and min width required by bearers**



③ - ⑤ **Optional mortuary layouts (scale 1:400)**



⑥ **Layout with furnace room beneath the chapel**
 ⑦ **Furnace room behind the chapel, separated by a lobby**



⑧ **Spatial relationship in a mortuary with crematorium and ancillary rooms for a large cemetery**

Corpses are initially laid out in cubicles in a mortuary. These cubicles are separated by partitions to ensure privacy for mourning relatives, who can view the body through airtight glass panes up until the funeral. The linking gangway is generally for use by both the mourners and the bearers although in larger mortuaries separate gangways may be used → ③ - ⑤. Usual dimensions of cubicles are 2.20 × 3.50, 2.50 × 3.75 and 3.00 × 3.50 m.

The temperature in the mortuary should be maintained between 2° to 12°C and it must not be allowed to fall below the minimum figure because freezing would result in expansion of the internal moisture, possibly causing the corpses to burst. This temperature range must be maintained by central heating and cooling and constant ventilation, particularly in summer. Floors must be impervious, smooth and easy to clean; walls are best lime-washed and should be re-coated frequently.

Larger mortuaries also need a room for attendants and bearers (roughly 15-20 m² in size, including toilets and washing facilities) and space for the coffin trolleys should also be provided. Coffin sizes are variable, depending on the size of the corpse → ①, but the trolleys are generally 2.20 × 1.08 to 3.00 × 1.10 m in size. In city mortuaries a special room may be set aside for unidentified bodies, with storage for their clothing and an adjacent post-mortem room and doctor's surgery → ⑧.

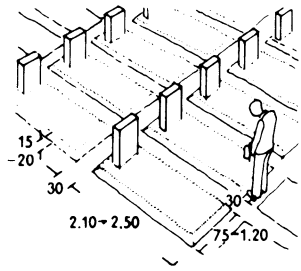
The furnace room should either be on a floor below the chapel, with lift for coffins → ⑥ or behind the chapel and separated from it by a lobby → ⑦ + ⑧. Horizontal movement of coffins can easily be done by hand-operated winches. The door to the lobby or the floor trap should close slowly as the coffin gradually disappears through the opening.

In the furnace room the coffin is transferred from a trolley to the chamotte grating inside the furnace. A two-storey furnace is roughly 4.30 m high and may use either electricity (approximately 45 kW per cremation), coke or gas to carry out the combustion. Cremation is a completely dust-free and odourless process achieved by surrounding the body with dry air at 900-1000°C dry; flames do not touch the body. After the furnace has been pre-heated for 2-3 hours in advance, the cremation itself takes 1 1/4 to 1 1/2 hours and is monitored through peep-holes. The ashes are collected in an iron box before being transferred to an urn. The size of urns is often limited by cemetery regulations. Wall niches in columbaria are usually 38-40 cm wide and deep and 50-60 cm high.

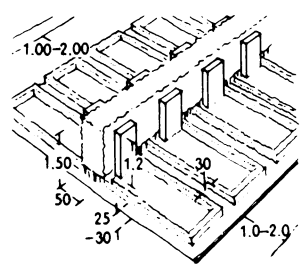
These installations should if possible be behind the cemetery chapel, which is non-denominational. For this reason there are two rooms for clergy. The size of the chapel varies, but should seat at least 100 people and have standing room for a further 100. Around the chapel there will be a need for waiting rooms for relatives, administration rooms, coffin and equipment stores and, possibly, flats for the cemetery keeper and caretaker.

In Britain, crematoria are now being built by the private sector. They are always surrounded by a garden for the dispersal of ashes. Urns, niches and miniature graves are often available in a compact memorial garden to provide a temporary memorial (5-10 years).

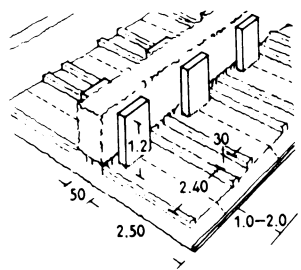
CEMETERIES AND GRAVEYARDS



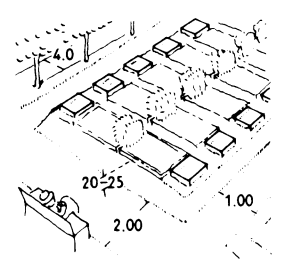
① Grave arrangement head to foot in sections of 200-300 graves



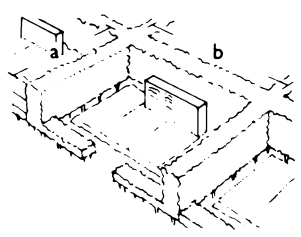
② Head to head arrangement in narrow cemetery; separated by hedges; sunken path



③ Double graves; separated by hedges; uniform sunken path

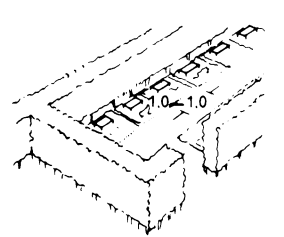


④ Simple rows of graves with prescribed planting (proposed by H. Hartwig)

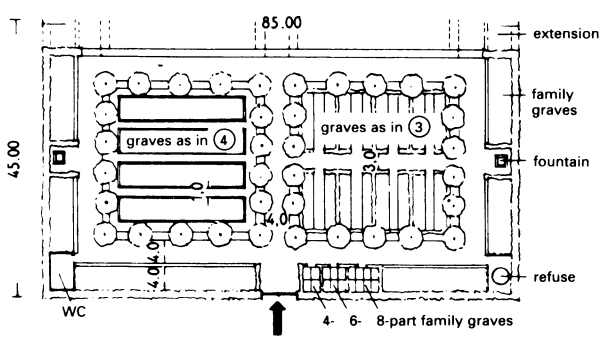


Size	two behind each other	
	a	b
2 part	2.50	2.40
4 part	2.50	4.80
6 part	2.50	7.20

⑤ Family graves



⑥ Section for urns between hedges or in areas surrounded by trees, similar to ④



⑦ Cemeteries for larger villages or land near a church, i.e. without cemetery chapel (proposed by H. Hartwig)

There is a distinction between churchyards and cemeteries. In Britain, for example, the growth of churchyards was slow and gradual; each year the graves of a few parishioners were added until the churchyard was exhausted. Burials were then made using old graves. Cemeteries, on the other hand, came into existence during the nineteenth century with the aim of solving problems caused by large numbers of people coming into towns and cities to find work. The need for new cemeteries is always dealt with by local authorities rather than the church and kept extremely simple for maintenance reasons.

The site should have soil that is easy to dig (clay or sandy) and be well drained, with a ground water level $\geq 2.50-3.00$ m deep. If necessary, drainage should be provided. Attractive surroundings are preferable.

The space requirement is approximately 40 hectares, including paths and open spaces, per 100 000 inhabitants although many existing cemeteries are smaller than this, particularly in cities. Of this 50-65% is purely for graves and urns, the rest for buildings, paths and gardens. In Britain, roughly 70% of dead bodies are cremated; the rest are buried in graveyards. The size and length of use of graves as specified in cemetery regulations vary greatly.

Type of grave	size (cm)	space between graves (cm)	decomposition time/period of use (years)
1) row, for adults	210 × 75 - 250 × 120	30	20 - 25
2) row, for children up to 10 yrs	150 × 60 - 150 × 75	30	20
3) row, for children up to 3 yrs	100 × 60	30	15
purchased grave with hedges	300 × 150 - 350 × 150		40 - 100
crypt places	300 × 120 - 350 × 150		50 - 100
urn places	100 × 100 - 150 × 100	60	10 - 100
main places	150 × 150	100	30 - 100

Military or war cemeteries and memorials

These are usually reserved for the burial of servicemen and soldiers who die during the wars, and for their commemoration. Two examples of well-maintained military cemeteries in Britain are at Cambridge and Aldershot. At Cambridge, the American Government established its own cemetery for its servicemen who died in Europe during and after the Second World War. At Aldershot, British Soldiers have been buried since the middle of last century. The American cemetery is on flat ground, whereas Aldershot is on hilly ground, which gives it the look of a pleasant park.

Graveyards as parks

Many village churchyards and a few churchyards in the centres of towns have become small parks. They have benches, lawns and established trees to provide shade and a relaxing environment.

Gravestones

In any section of graves surrounded by a hedge the gravestones should all be flat or standing and as far as possible of uniform colour and size (see examples below).

Type of grave	height	width	thickness
simple	100 - 105	40 - 45	9 - 10
double with plants to rear	120 - 125	50 - 55	10 - 12
triple, at appropriate places	120	150	13 - 15