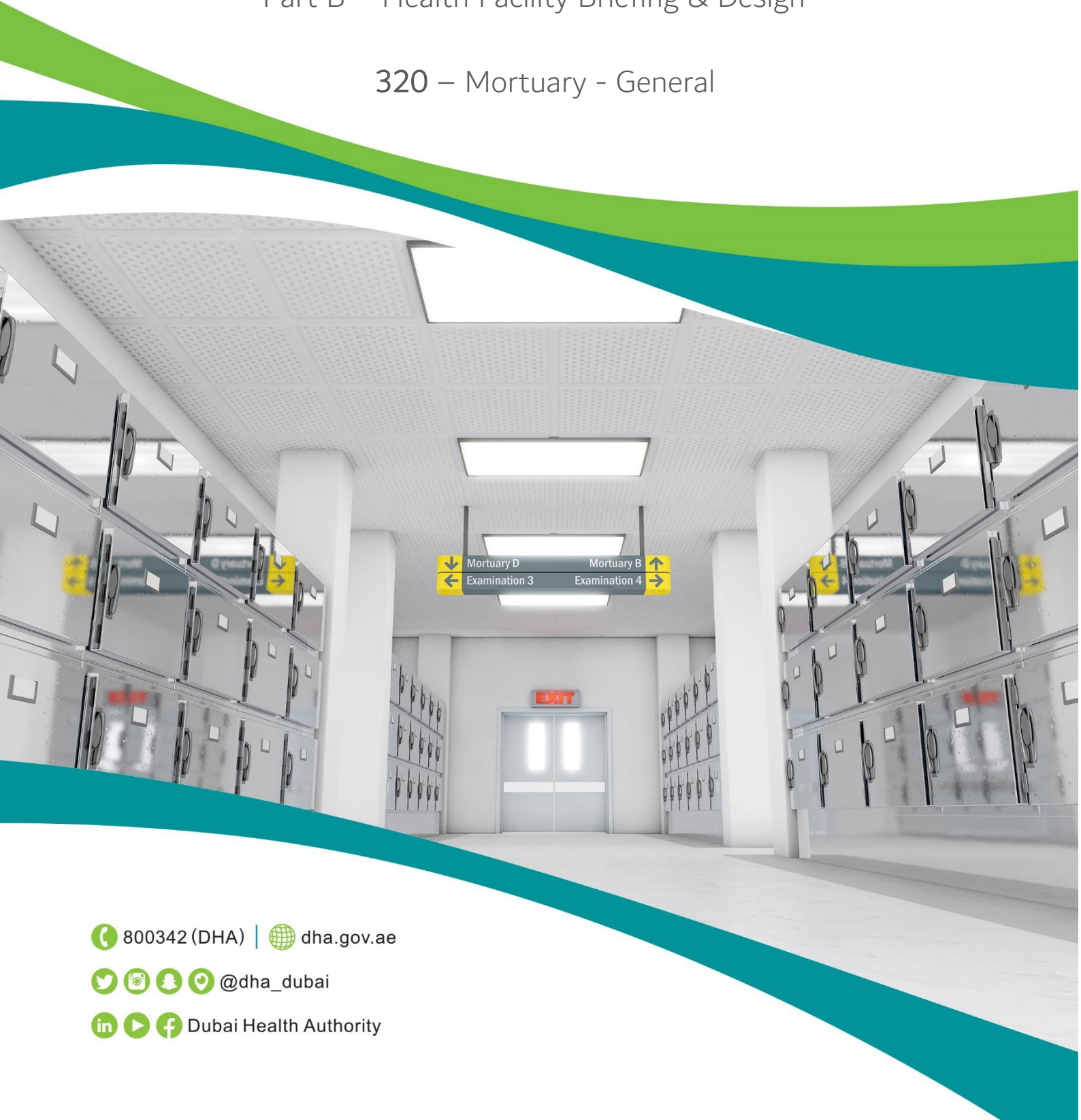


DHA Health Facility Guidelines 2019

Part B – Health Facility Briefing & Design

320 – Mortuary - General





Executive Summary

This Functional Planning Unit (FPU) covers the requirements of a Mortuary Unit. This FPU refers to a facility for the viewing and/or identification of a body and the temporary holding/ storage of bodies. The needs of hospital staff, relatives of the deceased and attendant authorised persons should be considered in the design, layout and functionality of the unit to provide a safe and private environment. Provisions of body holding can be either in a walk-in cool room for individual trolleys or a bank of refrigerated cabinets stacked vertically and/or horizontally.

The functional zones in a Mortuary Unit includes Entry/ Exit Lobby, Body Holding Area, Body Washing Area, Waiting Area and Preparation/ Multipurpose room, Storage and Support Area as well as Staff Area. The size of the Mortuary depends on the body holding capacity and the Health Facility's Operational Policy. Bodies are to be kept for up to 48 hours, and the capacity of the unit should be determined by the clinical services, A 1:25 ratio should be kept as per the Dubai Health Authority requirements.

External Relationships are important in determining a suitable location of it within a facility. The Unit shall be accessible through an exterior entrance and shall be located to avoid the need for transporting bodies through public areas. Washing is to be carried out at the graveyard.

The Schedules of Accommodation are provided using references to Standard Components (typical room templates) and quantities for a typical unit at Role Delineation Levels (RDL) 3 to 6.

Further reading material is suggested at the end of this FPU but none are mandatory.

Users who wish to propose minor deviations from these guidelines should use the **Non-Compliance Report (Appendix 4 in Part A)** to briefly describe and record their reasoning based on models of care and unique circumstances.

The details of this FPU follow overleaf.



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320. Mortuary – General

1 Introduction

The Hospital Morgue is a facility for the viewing and/or identification of a body and the temporary holding/ storage of bodies.

The needs of hospital staff, relatives of the deceased and attendant authorised persons should be considered in the design, layout and functionality of the unit to provide a safe and private environment.

The design must address the following:

- number of bodies to be stored;
- method of storage for research and educational facilities, i.e. refrigerated cabinets, cool room, freezing capacity;
- separation of entries for families to view/identify bodies, and
- delivery of bodies from inside the hospital and external delivery (if applicable).

It should be noted that the standard hospital Morgue facility should not be used for storage of a body associated with a criminal investigation. In this case the body is evidence and enhanced security should be provided.

2 Functional & Planning Considerations

The Mortuary Unit operates on a 24 hour per day basis with access for authorised personnel.

2.1 Operational Models

2.1.1 Body Holding Capacity



The size of a Mortuary Unit is primarily determined by the body holding capacity. The body holding capacity should be proportional to the number of beds in the Hospital and its operational policy; there should be 1 space for every 25 beds.

Two options are available for body-holding provisions, which should be used for research and education facilities only, and they are as follows:

- Walk-in cool room for individual trolleys; or
- Hospital Bank of refrigerated cabinets

In addition to the body holding capacity, other consideration should be given to the following:

- security of bodies
- isolation and bariatric needs. Note that for hospitals equipped for bariatric patients, at least one bigger sized cabinet should be provided
- expected length of time for retention of bodies

Morgue cold chambers could be provided in two ways as follow:

- positive temperature +2/+4°C (the most common type),
- negative temperature -15°C/-25°C (used by forensic institutes for the storage of bodies that have not yet been identified)

3 Unit Planning Models

The Unit should be located in the same building as the main health facility away from any public area to ensure that is appropriately screened from visibility.

It should be located at ground level to allow easy and discrete access to deliver and/or remove bodies via an exit lobby.



The size of the Unit will depend on the size of the facility and its Operational Policy.

3.1 Functional Zones

The Hospital Morgue Unit consists of the following key Functional Zones:

- Entry Lobby/ Exit Lobby
- Body Holding Area
- Body Washing Area
- Waiting Area and Preparation/ Multipurpose Room
- Storage and Support Area
- Staff Area

3.1.1 Entry Lobby/ Exit Lobby

The Entry Lobby to the Unit is commonly connect with an internal corridor of the facility where the body enters from. This also forms like an air lock prior to entering the Body Holding Area. The Exit Lobby will provide access for body retrieval from the Body Holding Area directly to outside where a vehicle could be parked close by.

Transport Trolley parking can be considered in the Lobbies if additional space is provided to accommodate mobile equipment. Both Lobbies should have access to hand washing facility.

3.1.2 Body Holding Area

The Body Holding Area provides refrigerated space for the temporary storage of bodies. One part of the Area will include refrigerated cabinets stacked or placed side by side to the quantity as defined in the Operational Policy. Separate cabinets should be provided for isolation purpose. Ample space to be provided in front of refrigerated cabinets for manoeuvring and withdrawing trays.



If cool rooms are preferred, minimum of 3m² per body holding (body on a loose tray or trolley) should be provided.

A hand wash basin is required and ideally positioned with easy access from the entry and exit lobbies. A workstation for body registration and removal record can be provided here or in a separate office within the Unit.

3.1.3 Body Washing Area

Body Washing Area to be located adjacent to the Body Holding Area. Stainless Steel table with integral plumbing facilities and extendable hose should be found in the center of the room. Separate sink and hand wash basin are required. Stainless steel bench, waste bins and storage facility can be found in this area.

3.1.4 Autopsy Area (Optional)

The Autopsy Area should be located adjacent to the body cool store and have ready access to a clean up area. Autopsy rooms should provide height adjustable post-mortem table/s which are easily cleanable and free from areas which may harbour potentially infectious material.

Downdraught ventilated tables are preferred. Each table should have a hot and cold water supply and a waste outlet.

3.1.5 Waiting Area and Preparation/ Multipurpose Room

Provide discrete and dedicated entry to the Unit for family members. This can be directly from outside and separate from the Exit Lobby. Separate Male and Female Waiting areas are required with provisions of Male and Female Toilets. A Preparation/ Multipurpose Room is to located with direct entry to both waiting areas as well as a third entry from the Body Holding Area. This is a dedicated space where family members and friends of the deceased can spend some time in private

The function of this room could be re-assigned based on the preference and operational policy of



the Facility. If required, this room can serve as the Viewing Room where internal windows are provided between waiting areas and the Viewing Room. If internal windows are provided, integral venetians, blinds or smart glass are to be provided. Washroom facilities for both male and female can be accessed from here.

3.1.6 Storage and Support Area

Provide sufficient storage area to the Unit for plastic body bags and sealing machine and other consumables. Lockable storage for personal effects from the deceased should be considered.

Provide Clean-up room, including storage of waste and used linen within the Unit; and a cleaner's room including cleaning equipment, materials and agents.

3.1.7 Staff Area

Staff Area to include the following:

- Changing facilities including lockers and toilets;
- Storage of Clean Linen (can be inside the Change Rooms);
- Office(s) if required;
- Meeting Room/s for education and tutorial sessions as well as meetings (optional)

4 Functional Relationships

A Functional Relationship can be defined as the correlation between various areas of activity which work together closely to promote the delivery of services that are efficient in terms of management, cost and human resources.

4.1 External Relationships

Mortuary / Holding facilities shall be accessible through an exterior entrance and shall be located to avoid the need for transporting bodies through public areas. Connection to units such as the

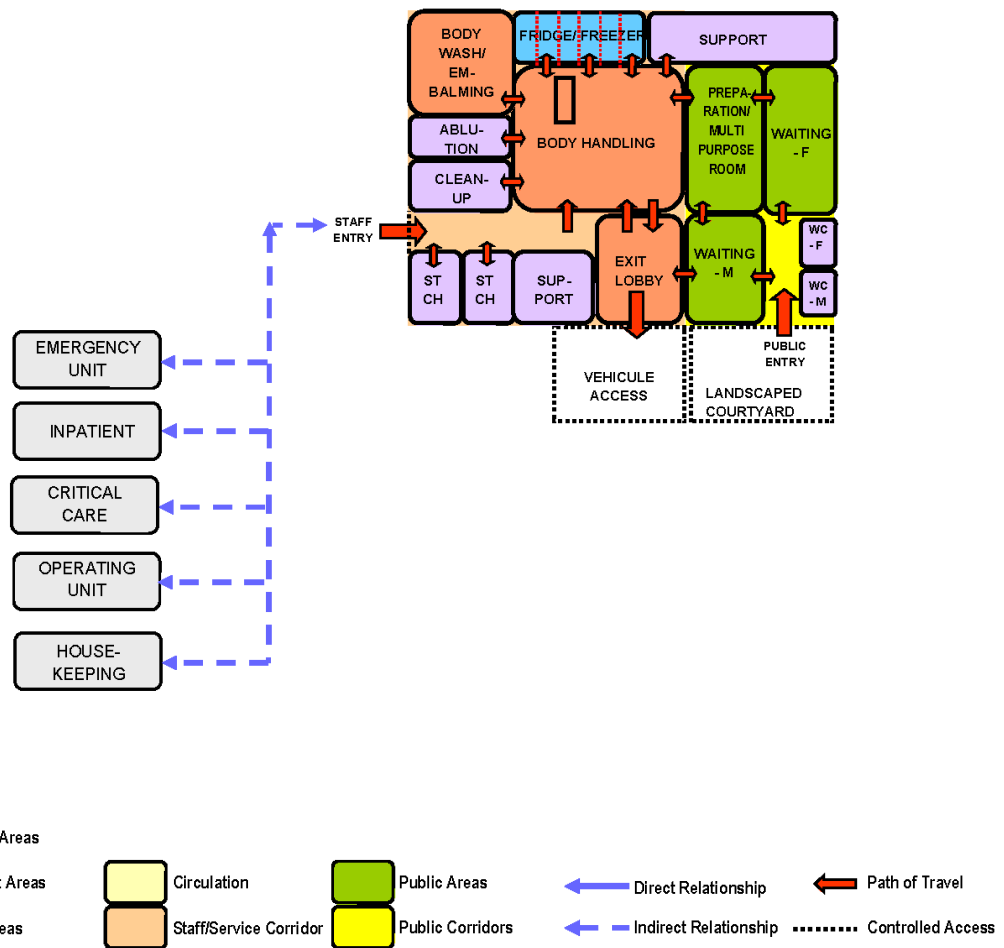


Intensive Care Unit, Coronary Care Unit and Emergency Unit should be considered. It should also be located in close proximity to Anatomical Pathology laboratories and relevant clinical areas for transportation of laboratory specimens.

4.2 Internal Relationships

The Waiting Area and Preparation/ Multipurpose Room should be collocated with no access to other sections of the Morgue for families and visitors. Entry Lobby, Exit Lobby and Administrative Area form part of a single area.

4.3 Functional Relationships Diagram





5 Design Considerations

5.1 General

The design of the Unit shall provide staff with sufficient space, working surfaces and appropriate equipment to safely carry out their duties. Infection control, cooling and ventilation must be considered.

The Preparation/ Multipurpose Room and Waiting Areas shall be pleasant spaces with consideration given to adjustable lighting and possibly provision of a music system.

The Unit shall be ergonomically designed to avoid any potential injury to staff, family members and maintenance personnel.

5.2 Environmental Considerations

5.2.1 Acoustics

Acoustic design shall ensure that conversations in adjoining rooms cannot be overheard by relatives in the preparation/ waiting areas.

5.3 Accessibility

5.3.1 External

Mortuary Unit is to have separate access as follows:

- direct access from the Hospital for delivery of the body
- direct but separate and discreet access for relatives of the deceased from all relevant areas of the hospital to Mortuary Unit's waiting area/ preparation/ multipurpose room
- adequate access for vehicle parking and screening provision surrounding the collection of bodies
- adequate access for ambulances delivering bodies



- adequate access for police vehicles

5.3.2 **Internal**

The Body Holding Room is to have direct access to/from:

- the hospital corridor for use by staff
- Preparation/ multipurpose room or if preferred, this can also be used as a viewing room
- discreet access from body hold / cool room to hearse and ambulance parking bays

5.4 **Safety and Security**

Selection of interior finishes to the Mortuary Unit shall consider the impact on safety aspects including adequate drainage, protection from protrusions or sharp edges, stability and height of equipment or fittings, adequate protection against infection and other hazards.

Security aspect of the Unit will include storage of the bodies, valuables left by the deceased, staff personal belongings and security, access and egress in particular after hours. If autopsy facility is available, storage of and disposal of specimens removed shall be handled with care.

5.5 **Finishes**

Floor finishes shall be non-slip for all wet areas or areas subject to water. It should be impervious, easy to clean, sealed with coving at the edges and have adequate drainage. Drains should be fitted with appropriately filtered traps for ease of hosing down.

Wall surfaces in the body holding area should be washable and/or scrubbable.

Ceiling linings within the Unit are to be washable, impermeable and non-porous.

Refer also to **Part C - Access, Mobility and OH&S** in these Guidelines.

5.6 **Fittings, Fixtures and Equipment**

The Equipment layout of the Mortuary Unit shall ensure:



- adequate provision for operation and maintenance;
- provision of services as required;
- door sized to allow for delivery and removal of the equipment;
- design for the required heat loads;
- Adequate provision for weight loads

5.7 Building Service Requirements

This section identifies unit specific services briefing requirements only and must be read in conjunction with **Part E - Engineering Services** for the detailed parameters and standards applicable.

5.7.1 Information and Communication Technology

It is recommended that an intercom be provided from the main / exit (external) door/s to the to the body holding area to alert attendants.

5.7.2 Heating Ventilation and Air-conditioning (HVAC)

The temperature of the body holding area should be maintained within a comfortable range not exceeding 20-21°C. The ventilation system should be isolated from other ventilation systems by being designed to minimise the spread of odours and airborne pathogens.

The operating temperatures of all cooled and freezing facilities should be continuously monitored and fitted with alarms which are activated when the temperature exceeds a predetermined level.

The alarms should be transmitted to a permanently manned station.

All HVAC units and systems are to comply with services identified in Standard Components and

Part E – Engineering Services.

5.7.3 Power Supply



Provide protective covers to power supply outlets to protect outlets from wetting. Provide an emergency back-up system for the power supply to the refrigeration, high priority equipment and illumination.

Refer to **Part E - Engineering Services** for details.

5.8 Infection Control

Bodies stored in the Mortuary Unit which may contain infectious diseases that must be contained.

Cleaned instruments and materials shall be re-circulated under normal procedures through the Sterile Supply Unit or autoclaved within the Morgue Unit. The unit shall be designed to control infection utilising the following:

- layout designed to minimise cross contamination in work areas
- provision of a small wash-down / disposal / booting area
- provision of an adequate number of hand wash facilities
- provision of appropriate cleaning, waste storage and waste disposal;
- use of suitable materials and finishes
- specimen storage facilities
- first aid facilities
- adequate isolation of space and ventilation systems which present potential hazard

5.8.1 Safety Showers and Eye Wash

Provision of safety shower and eye wash or eye/ face wash equipment within the Unit- if body washing by family members is allowed.

5.8.2 Hand Basins

Handbasins for staff hand washing are required in areas where handling of the bodies occur.



5.8.3 Antiseptic Hand Rubs

Antiseptic Hand Rub dispensers can be provided within the Unit and comply with **Part D - Infection Control**, in these guidelines. Antiseptic Hand Rubs, although very useful and welcome, cannot fully replace Handwash Bays. A combination of both are required.

Refer to **Part D – Infection Control** for additional details.

6 Standard Components of the Unit

Standard Components are typical rooms within a health facility, each represented by a Room Data Sheet (RDS) and a Room Layout Sheet (RLS).

The Room Data Sheets are written descriptions representing the minimum briefing requirements of each room type, described under various categories:

- Room Primary Information; includes Briefed Area, Occupancy, Room Description and relationships, and special room requirements)
- Building Fabric and Finishes; identifies the fabric and finish required for the room ceiling, floor, walls, doors, and glazing requirements
- Furniture and Fittings; lists all the fittings and furniture typically located in the room; Furniture and Fittings are identified with a group number indicating who is responsible for providing the item according to a widely accepted description as follows:

Group	Description
1	Provided and installed by the builder
2	Provided by the Client and installed by the builder
3	Provided and installed by the Client



- **Fixtures and Equipment;** includes all the serviced equipment typically located in the room along with the services required such as power, data and hydraulics; Fixtures and Equipment are also identified with a group number as above indicating who is responsible for provision
- **Building Services;** indicates the requirement for communications, power, Heating, Ventilation and Air conditioning (HVAC), medical gases, nurse/ emergency call and lighting along with quantities and types where appropriate. Provision of all services items listed is mandatory

The Room Layout Sheets (RLS's) are indicative plan layouts and elevations illustrating an example of good design. The RLS indicated are deemed to satisfy these Guidelines. Alternative layouts and innovative planning shall be deemed to comply with these Guidelines provided that the following criteria are met:

- Compliance with the text of these Guidelines
- Minimum floor areas as shown in the schedule of accommodation
- Clearances and accessibility around various objects shown or implied
- Inclusion of all mandatory items identified in the RDS

The Mortuary Unit will consist of Standard Components to comply with details described in these Guidelines. Refer also to Standard Components Room Data Sheets and Room Layout Sheets.

Non-standard rooms are rooms are those which have not yet been standardised within these guidelines. As such there are very few Non-standard rooms. These are identified in the Schedules of Accommodation as NS and are separately covered below.

6.1 Non-Standard Rooms

6.1.1 Body Washing Area

Body Washing Area to be located adjacent to the Body Holding Area. Stainless Steel table with integral plumbing facilities and extendable hose should be found in the center of the room. Separate



sink and hand wash basin are required. Stainless steel bench, waste bins and storage facility can be found in this area.



7 Schedule of Accommodation

The Schedule of Accommodation (SOA) provided below represents generic requirements for this Unit. It identifies the rooms required along with the room quantities and the recommended room areas. The sum of the room areas is shown as the Sub Total as the Net Area. The Total area is the Sub Total plus the circulation percentage. The circulation percentage represents the minimum recommended target area for corridors within the Unit in an efficient and appropriate design.

Within the SOA, room sizes are indicated for typical units and are organised into the functional zones. Not all rooms identified are mandatory therefore, optional rooms are indicated in the Remarks. These guidelines do not dictate the size of the facilities, therefore, the SOA provided represents a limited sample based on assumed unit sizes. The actual size of the facilities is determined by Service Planning or Feasibility Studies. Quantities of rooms need to be proportionally adjusted to suit the desired unit size and service needs.

The Schedule of Accommodation are developed for particular levels of services known as Role Delineation Level (RDL) and numbered from 1 to 6. Refer to the full **Role Delineation Framework (Part A - Appendix 6)** in these guidelines for a full description of RDL's.

The table below shows a typical Unit within a Hospital from RDL 3 to 6.

Any proposed deviations from the mandatory requirements, justified by innovative and alternative operational models may be proposed and record in the **Non-Compliance Report** (refer to **Part A - Appendix 4**) with any departure from the Guidelines for consideration by the DHA for approval.



7.1 Mortuary Unit – General

ROOM/ SPACE	Standard Component Room Codes							RDL 3-6 Qty x m ²	Remarks
Mortuary Unit									
Waiting – (Male/Female)	wait-10-d							2 x 10	
Preparation/ Multipurpose Room	mor-vr-d similar							1 x 8	
Toilet – Accessible (Male/ Female)	wcac-d							2 x 6	Separate for Male and Female; or shared if there are other toilets nearby
Airlock - Entry	airl-6-d							1 x 6	
Office - Workstation	off-ws-d							1 x 5.5	
Bay - Mobile Equipment	bmeq-4-d							1 x 4	For transport equipment/ trolley
Bay - Handwashing, Type B	bhws-b-d							1 x 1	
Mortuary - Exit Lobby	mor-ex-d							1 x 7	
Mortuary - Cool Store/ Body Holding Room	mor-cs-d similar							1 x 35	3 body holding capacity; body holding area with refrigerated cabinets
Mortuary - Body Washing Room	NS							1 x 16	Optional
Ablution Room	ablu-13-k similar similar							1 x 5	Optional. Adjacent to body washing room,
Cleaners Room	clrm-6-d							1 x 6	or shard if one is provided in the same floor within 30m. Only to be provided if body washing is also provided
Disposal Room	disp-8-d similar							1 x 5	
Change – Staff (Male/ Female)	chst-12-d similar							2 x 6	Lockers, WC and optional shower (allow additional 2m2 per shower cubicle); separate Male and Female
Store - General	stgn-8-d							1 x 8	
Office - Single	off-s9-d							1 x 9	Optional
Sub Total								159.5	
Circulation %								20	
Area Total								191.4	

Please note the following:



Part B: Health Facility Briefing & Design

Mortuary - General

- Areas noted in Schedules of Accommodation take precedence over all other areas noted in the Standard Components
- All the areas shown in the SOA follow the No-Gap system described elsewhere in these Guidelines
- Exact requirements for room quantities and sizes shall reflect Key Planning Units (KPU) identified in the Clinical Service Plan and the Operational Policies of the Unit
- Room sizes indicated should be viewed as a minimum requirement; variations are acceptable to reflect the needs of individual Uni.
- Offices are to be provided according to the number of approved full-time positions within the Unit



8 Further Reading

In addition to Sections referenced in this FPU, i.e. **Part C- Access, Mobility, OH&S** and **Part D - Infection Control** and **Part E - Engineering Services**, readers may find the following helpful:

- Health Building Note 00-04 Circulation and communication spaces, Department of Health (UK), 2013 refer to:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/187026/Health_Building_Note_00-04_-_Circulation_and_communication_spaces_-_updated_April_2013.pdf
- Health Building Note - HBN 20, Facilities for mortuary and post-mortem room services, NHS Estates (UK), 2001, refer to website:
<https://www.gov.uk/government/collections/health-building-notes-core-elements>
- International Health Facility Guidelines (iHFG) www.healthdesign.com.au/iHFG
- Ministry of Health UAE, Unified Healthcare Professional Qualification Requirements, 2017, refer to website: <https://www.haad.ae/haad/tabid/927/Default.aspx>
- The Facility Guidelines Institute (US), Guidelines for Design and Construction of Hospitals, 2018. Refer to website: www.fgiguideines.org
- The Facility Guidelines Institute (US), Guidelines for Design and Construction of Outpatient Facilities, 2018. Refer to website: www.fgiguideines.org