

**Part B – Health Facility Briefing & Design**  
**290 Waste Management Unit**



*i*HFG

**International Health Facility Guidelines**

Version 4 May 2014

## Table of Contents

290	Waste Management Unit.....	3
1	Introduction .....	3
2	Planning .....	3
3	Design .....	6
4	Components of the Unit.....	7
5	Schedule of Accommodation – Waste Management .....	8
6	Functional Relationship Diagram – Waste Management.....	10
7	References and Further Reading.....	11

## 290 Waste Management Unit

### 1 Introduction

#### *Description*

Waste Management Unit is a designated area of a healthcare facility which is staffed by a multi-disciplinary team whose roles include collection, transport, processing, disposal, managing and monitoring of waste materials generated from the facility. Hospital waste can be divided into five broad categories:

- Infectious and Pathological Waste
- Sharp Waste
- Pharmaceutical Waste
- Radioactive Waste
- General Waste

The Waste Management Unit should have the following features:

- Easily accessible from all functional areas
- Accessible from within the unit and externally
- Fitted with security fittings such as door locks, keypad/card access, CCTV and motion sensor depending on operational policy
- Located away from food and clean storage areas
- Not accessible to the public.

### 2 Planning

#### *Operational Models*

The Waste Management Unit will generally operate during the day with limited entry provisions after hours.

#### *Planning Models*

The configuration of the Waste Management Unit will be dependent on:

- Types of waste to be stored and disposed
- Frequency of waste collection
- Processing of waste to be undertaken at the healthcare facility if any

The Waste Management Unit should be located on ground level away from publicly accessible areas and areas involved in food preparation and storage. The location should be adjacent to the 'Dirty' Loading Dock for easy access by waste collection trucks.

#### Functional Areas

The Waste Management Unit will include the following Functional Areas:

- Enclosed dust free workstation with a workbench, telephone and computer outlet to undertake recording and reporting functions; it should have visual control of the waste handling facility
- General dry waste skip or compactor area with direct contractor access for removal; general waste may be compacted on site
- General wet waste holding area
- Loading Dock and area with provision for front load bins
- Clinical waste holding and cool room
- Paper and recyclable materials collection
- Clean bin storage area; a variety of bins need to be stored pending distribution to the hospital units
- Designated adequately drained bin & equipment washing area

- Storage space for consumables such as plastic bin liners and cleaning materials; could be located adjacent to the Work Management Station.

The following Functional Areas are optional requirements:

- An area for bin receiving with room for pull tug and cart trolley access and bin sorting
- A waste weighing and recording station, which includes a floor level digital weighbridge and bar code recorder. This area will be required if waste handling policy includes weighing and tracking.
- An upright freezer may be required to store tissue pending dispatch for incineration.
- A radioactive waste storage

### Clinical Waste Storage

Clinical waste includes human or animal tissue, blood and body fluids, pharmaceutical products, syringe, needles, dressings or any other waste which can be hazardous or may cause infection to any person who comes in contact with it. The three groups of clinical waste include:

- healthcare wastes which pose as a risk of infection (including human tissue, sharps, items in contact with body fluids, etc.)
- healthcare wastes which pose as a chemical hazard (including formaldehyde, gluteraldehyde, mercury, etc. which disposal is governed by local OH&S regulations)
- pharmaceuticals and medicinally-contaminated wastes which contain pharmaceutically-active agent (including expired drugs, partially administered medications, vaccines and discarded items used in the handling of pharmaceuticals)

Sharps are healthcare waste that could cause cuts and punctures wounds including needles, needle part of a syringe, scalpel, broken glass ampoules and the patient end of infusion sets. This waste must be segregated from 'soft' clinical waste and stored in robust colour coded receptacles which clearly identifies the presence of sharps prior to being disposed by the authorised waste management contractor.

The Clinical Waste Storage is reserved for healthcare clinical waste only. The storage space should be:

- well-lit and ventilated;
- adjacent to 'Dirty' Loading Dock;
- located away from food preparation and general storage areas;
- located away from routes used by the public;
- totally enclosed and secure;
- provided with separate storage areas for sharps receptacles, anatomical and pharmaceutical waste;
- sited on a well-drained, impervious surface;
- readily accessible by authorised staff;
- kept locked when not in use;
- secure from entry by animals and free from insect or rodent infestations;
- provided with staff washing facilities;
- clearly marked with warning signs;
- appropriately drained to a sewer (if approved by local regulations)

### Soiled Linen Holding

Bagged soiled linen in trolleys should be temporarily stored prior to collection by external linen supplier. The room should have a staff handwashing basin and the door should be lockable.

### Bins and Equipment Washing Bay

A specific area, with adequate drainage, for washing bins and equipment should be located between the dirty and clean storage areas.

### Refrigerated Storage

Waste in storage must not create offensive odour to pose as a nuisance to staff and visitors of the facility. To prevent odours forming in hot weather, clinical & non-clinical waste should be stored in refrigerated storage prior to collection. Refrigerated storage should be fitted with a device to open

the door from the inside and duress alarm to alert staff as a precaution against people from being trapped.

### Radioactive Waste Storage

Radioactive waste should be handled in a safe manner to ensure that all staff have minimal exposure to radiation. A Radiation Safety Officer will be responsible for the safe handling, storage and transport of radioactive waste. Radioactive waste must be stored in leak proof containers in a specifically identified area for the storage of radioactive waste separate from clinical and general waste storage.

The handling, storage and disposal of radioactive materials must comply with requirements of the Radiation Control Act and other relevant local regulations.

### General Waste Storage

Waste that are assessed and/or classified as inert or solid waste should be stored in a room separate from clinical waste for collection by outside contractors to be sorted, processed and recycled elsewhere.

### Recyclable Waste

Recyclables such as cardboard, paper, plastic or glass which are composed of materials or components, capable of being remanufactured or reused. Items are considered recyclable if facilities are available to collect and reprocess them.

### Liquid Waste Storage/ Discharge

Liquid waste that is unsuitable for discharge into a sewer or waterways such as those from decontamination showers and laboratory wastes must be contained to prevent leakage and stored in a bunded area. Liquid waste may be legally discharged into a sewer or waterways only in accordance with local sewerage authority requirements.

## *Functional Relationships*

### External

The waste handling area will be frequently serviced by site and contractor's vehicles removing waste in carts and front loading bulk bins. It is important that adequate traffic access is provided for delivery and removal of all wastes. The access roads need to be adequate and turning areas uncongested. Noise levels may be significant during waste collection periods.

Bulk waste bin movement around the site and during the disposal process may require that the bins are accessed from a raised dock. A variable level platform may be considered as an option.

Servicing of waste and linen storage areas should be undertaken via thoroughfares that avoid regular public, patients and staff facilities. Particular attention should be made to avoiding food handling and high profile public areas. A service lift devoted to materials movement within the hospital is highly recommended.

### Internal

Contaminated waste bins should be located in strategic collection points for all clinical areas in all FPU's. Collection points such as Disposal Rooms or Dirty Linen Holding in each FPU need to be easily accessible to the staff responsible for disposing of wastes, as well as to those servicing the facility in removing and replacing the bins.

Separate robust colour-coded bins will be required for the disposal of sharps, human tissue, cytotoxic and radioactive materials. These bins are to be stored in separate designated areas within the Waste Management Unit prior to collection and disposal.

A Dirty Corridor should be provided for transport of waste which should not be used for transport of clean materials such as food items and general supplies for the facilities.

The Waste Management administration area should be located where visual control of the loading dock can be achieved.

### 3 Design

#### *Environmental Considerations*

##### Acoustics

Acoustic performance and sound levels shall be designed to contain the noise from waste management equipment such as waste compactors and bin/equipment washers to an acceptable level so as not to affect the functioning of adjacent departments.

#### *Space Standards and Components*

##### Ergonomics

The Waste Management Unit should be designed with consideration to ergonomics to ensure an optimal environment. Turning circles for large waste bins and wider corridors are to be considered to allow for two-way traffic. Manual handling may not be eliminated in the Unit; however, a well-designed and equipped work area will eliminate injuries resulting from manual handling.

Refer also to Part C of these Guidelines.

#### *Safety and Security*

The Waste Management Unit should not be accessible by public. Card access, intercom or CCTV cameras are to be provided at the Loading Dock and external access for visitor control to the Unit. Where required, concave directional mirrors along corridors and bends should be provided to avoid collision of oversized trolleys, motorised transporters and staff.

Emergency stop button should be installed for large equipment such as waste compactors to prevent entrapment. Exhaust should be provided in rooms for storing and recharging of pallet jacks, motorised transporters and other equipment depending on battery type to avoid build-up of noxious gases.

#### *Finishes*

Where appropriate painted block work walls are recommended in areas where large bins and trolleys are to be stored to resist chipping and breakage of wall lining.

Floor finish is to be non-slip, impervious, easy to clean and hardwearing. Movement of large equipment and waste receptacles are to be considered when choosing appropriate floor finish.

Refer also to Part C and Part D of these Guidelines

#### *Fixtures and Fittings*

Sturdy and robust door and wall protection are recommended to withstand impacts from large waste bins and trolleys. Timber or rubber wall guards and corner guards, and stainless steel door and frame protection will resist bumps from large equipment better than PVC or vinyl wall and door protection.

Water proof fixture and fittings are to be installed in all wet and dirty areas for easy cleaning and disinfecting. Cool rooms for waste storage are to be fitted with proprietary cool room or built on site as per industry requirements and local regulations.

Refer also to Standard Components Room Data Sheets and Room Layout Sheets for Furniture, Fittings and Fixtures requirements.

#### *Infection Control*

Walls and floors in areas used for waste storage should be sealed to allow easy cleaning.

Hand-washing facilities should be located adjacent to the waste collection area where clinical waste is handled.

Storage bays for Personal Protective Equipment (PPE) such as heavy duty gloves, safety shoes, protective face visors or goggles should be conveniently located to improve staff compliance thereby avoiding preventable risks.

Refer to Part D of these Guidelines for further information.

### *Pest & Insects Control*

Waste storage areas must be designed to prevent the harbourage of vermin and insects. Some examples of preventative measures includes provision of suitable waste receptacles, application of mesh to drains, installation of flushing drains and insect zapper near entry to waste storage.

### *Building Service Requirements*

Building service requirements for the Waste Management Unit will include the following:

- The temperature with the waste handling area should be maintained at a temperature that helps control odours; ideally a negative pressure environment should be provided to contain the spread of odours. Temperature monitor and alarm should be connected to Biomedical Services to alert staff of any malfunction.
- Hot and cold water outlets with a hose spray are the minimum requirements to be provided for cleaning waste holding areas and bins as required
- A high pressure wash down unit should be provided for the adequate cleaning of the area.
- Drainage from this area may include disinfectants; therefore liquid wastes may require special treatment prior to discharge.
- Walls and floors should be sealed to withstand the frequent wash downs and the floors graded to allow run off.
- All power points provided in the waste storage, equipment washing and disposal area should be waterproof to allow for thorough cleaning of floors and walls.
- Lighting should be adequate to allow staff to see clearly especially in waste storage areas and corridors.

## 4 Components of the Unit

The Waste Management Unit will contain Standard Components comply with details described in these Guidelines. Refer also to Standard Components Room Data Sheets and Room Layout Sheets.

## 5 Schedule of Accommodation – Waste Management

### *Waste Management Unit for Role Delineation Level 4 and 5/6*

ROOM/ SPACE	Standard Component Room Codes	RDL 1 & 2 N/A			RDL 3 N/A			RDL 4 Qty x m <sup>2</sup>			RDL 5/6 Qty x m <sup>2</sup>			Remarks
<b>Waste Storage Area</b>														
Bay - Handwashing, Type B	BHWS-B-I							1	x	1	2	x	1	Refer to Part D
Bay - Emergency Shower	BES-I							1	x	1	1	x	1	
Bin Washing Area	BWA-10-I BWA-15-I							1	x	10	1	x	15	Optional. May be done off site.
Cool room - Clinical Waste	CORM-I (sim)							1	x	20	1	x	30	
Linen Holding - Soiled	LHO-SO-25-I LHO-SO-I							1	x	25	1	x	50	
Store - Clean Bins	STGN-15 (sim) STGN-30 (sim)							1	x	15	1	x	30	
Waste Holding - Clinical	WH-CLIN-I							1	x	20	1	x	40	Includes sharps bin storage
Waste Holding - General Dry	WH-GD-I							1	x	40	1	x	60	Adjust size if paper, cardboard & recyclable waste to be stored in the room.
Waste Holding - General Wet	WH-GW-I							1	x	20	1	x	40	
Waste Holding - Paper and Cardboard	WACO-I (sim)							1	x	20	1	x	45	May be located in General Waste Store
Waste Holding - Radioactive	WH-RAD-I							1	x	10	1	x	15	
Waste Holding - Recyclable	WACO-I (sim)							1	x	10	1	x	20	Optional. Maybe located with Paper and Cardboard Storage.
Sub Total										192.0			348.0	
Circulation %										20			20	
Area Total										230.4			417.6	
<b>Support Areas</b>														
Loading Dock - Dirty	LODK-I (sim)							1	x	0	1	x	0	External area; size as required.
Office - Single Person	OFF-S9-I OFF-S12-I							1	x	9	1	x	12	Manager
Office - Workstation	OFF-WS-I							1	x	5.5	2	x	5.5	Waste Management personnel
Shower - Staff	SHST-I							1	x	4	1	x	4	Optional. May be provided in centralised Staff Amenities.
Toilet - Staff (Male/ Female)	WCST-I							2	x	3	2	x	3	Separate for male and female
Sub Total										24.5			33.0	
Circulation %										20			20	
Area Total										29.4			39.6	
<b>Grand Total</b>										<b>259.8</b>			<b>457.2</b>	

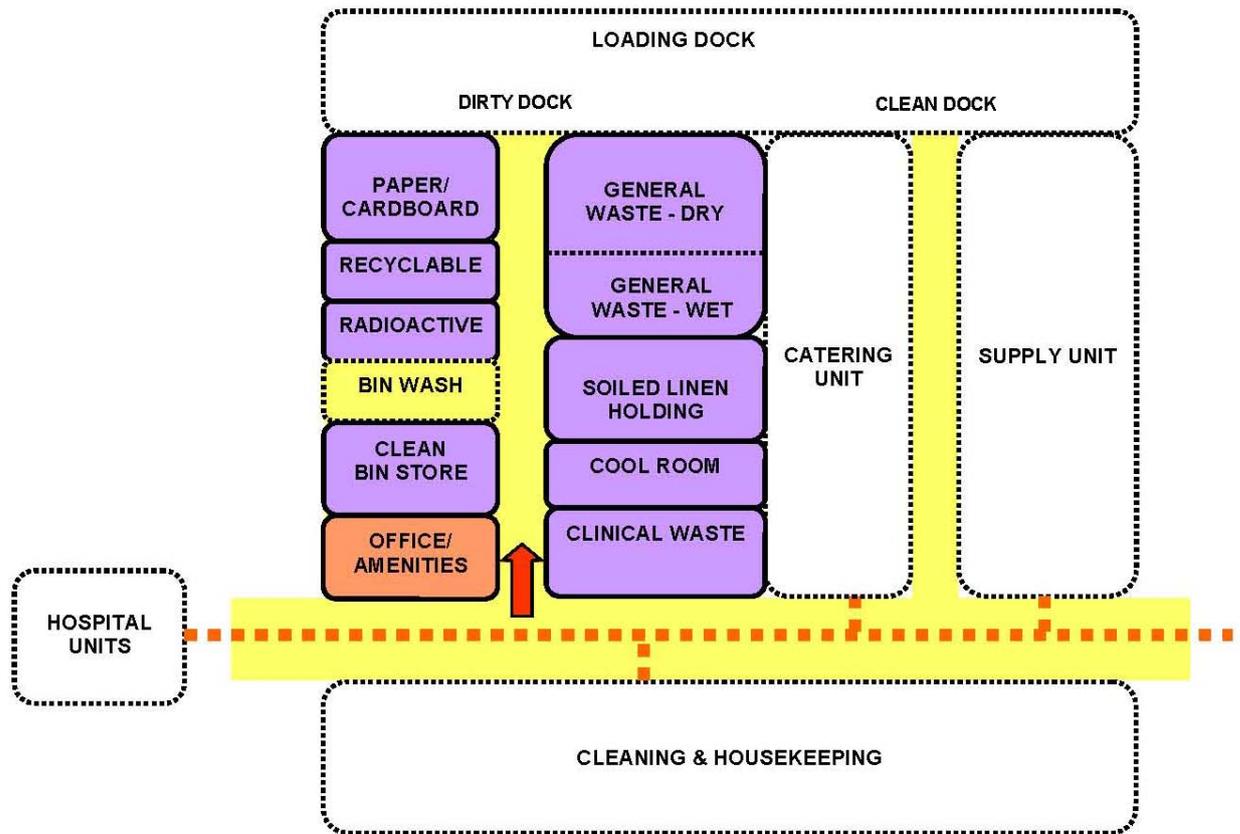
Please note the following:

- Areas noted in Schedules of Accommodation take precedence over all other areas noted in the FPU.
- Rooms indicated in the schedule reflect the typical arrangement according to the Role Delineation.

## Waste Management Unit

- Exact requirements for room quantities and sizes will reflect Key Planning Units identified in the 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 Unit.
- Office areas are to be provided according to the Unit role delineation and number of endorsed full time positions in the unit.
- Staff and support rooms may be shared between Functional Planning Units dependent on location and accessibility to each unit and may provide scope to reduce duplication of facilities.

6 Functional Relationship Diagram – Waste Management



## 7 References and Further Reading

- Australasian Health Facility Guidelines, Part B Health Facility Briefing and Planning, Rev 4, 2012; refer to website [www.healthfacilitydesign.com.au](http://www.healthfacilitydesign.com.au)
- The Facility Guidelines Institute (US), 2010 Edition. Guidelines for Design and Construction of Health Care Facilities) refer to website [www.fgiguidelines.org](http://www.fgiguidelines.org)
- Waste Management Guidelines for Health Care Facilities - August 1998. (Published Jan 2005), NSW Health, Australia, refer to website <http://www.health.nsw.gov.au/publications>
- Safe management of healthcare waste Version:2.0: England. March 2011, Department of Health, refer to website [www.estatesknowledge.dh.gov.uk](http://www.estatesknowledge.dh.gov.uk)



The International Health Facility Guidelines recommends the use of HFBS “Health Facility Briefing System” to edit all room data sheet information for your project.

HFBS provides edit access to all iHFG standard rooms, and departments, and more than 100 custom report templates.

## HFBS Health Facility Briefing System



### Briefing Module

The Health Facility Briefing System (HFBS) has numerous modules available via annual subscription. It suits healthcare Architects, Medical Planners, Equipment Planners Project Managers and Health Authorities.

Use the HFBS Briefing Module to quickly drag in health facility departments or pre-configured room templates from the iHFG standard, edit the room features such as finishes, furniture, fittings, fixtures, medical equipment, engineering services. The system can print or download as PDF more than 100 custom reports including room data sheets, schedules, and more...

To learn more about the HFBS web-based Healthcare Briefing and Design Software and to obtain editable versions of the “Standard Components” including Room Data Sheets (RDS) and Room Layout Sheets (RLS) offered on the iHFG website, signup for HFBS using the link below.

**Get Started Now:**  
[hfbs.healthdesign.com.au](http://hfbs.healthdesign.com.au)

- ✓ iHFG Room Data Sheets and Departments are instantly editable in the HFBS software available online.
- ✓ You can access hundreds of report templates to print your iHFG room data in HFBS.
- ✓ HFBS has a onetime free 3 day trial available to all new users.

**Get Started Now:**  
[hfbs.healthdesign.com.au](http://hfbs.healthdesign.com.au)



## HFBS

Health Facility Briefing System

[hfbsinfo.com](http://hfbsinfo.com) | [techsupport@healthdesign.com.au](mailto:techsupport@healthdesign.com.au)