

Part B - Health Facility Briefing and Planning

190 CENTRAL STERILE SUPPLY UNIT (CSSU)

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INTRODUCTION

General

190 .2.00	A Hospital must provide adequate facilities for cleaning, sterilisation and storage of equipment and instruments to ensure the care and safety of patients, and the safety of staff, at all times.
190 .3.00	The sterilisation process may be carried out entirely or partially on-site, the latter relying on an external supply source to regularly restock the hospital sterile goods store. The scale of operation can be small or large, dependent upon the requirements of the serviced departments, for example, an Operating Unit requires the services of a Theatre Sterile Supply Unit (TSSU) or a full Central Sterile Supply Department (CSSD), whereas an Acute Ward requires only a basic Sterile Supply Service.

PLANNING

Operational Models

190 .4.00	The size and role of the sterile goods supply service shall be clearly defined in the Operational Policy Statement. The following documents shall be referred to for design and operational standards: <ul style="list-style-type: none">- Australian Standard 4187 - Cleaning, disinfecting and sterilising reusable medical and surgical instruments and equipment and maintenance of associated environments in Health Care Facilities- National Standard for the Operation of Sterile Supply Service in Health Care Facilities produced by the National Consultative Council for Therapeutic Goods, (NCCTG).
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Functional Areas

- 190.5.00 The Central Sterile Supply Unit will include the following functional areas or zones:
- Receiving Area where soiled articles for recycling are received on trolleys from Units throughout the facility
 - Cleaning Area where all articles are sorted, rinsed, ultrasonically cleaned or mechanically washed then mechanically dried; this area may also include cleaning of the delivery trolleys
 - Packing Area (Clean Workroom) where the clean instruments, equipment and other articles are sorted, counted and packaged for sterilising
 - Sterilising and Cooling Area where sterilisers are loaded, set into operation and unloaded following completion of the sterilising cycle
 - Despatch Area where sterile stock is held prior to despatch to Units in the facility; distribution trolleys may also be located in this area
 - Administrative Areas including Offices or Workstations
 - Staff Amenities which includes Staff Toilets, Change Rooms and Staff Rooms; these may also be shared with Operating Unit if convenient.

190.6.00 ADMINISTRATIVE AREAS

A separate room, or space within the Workroom, shall be provided for routine clerical/administrative procedures. The provision of a separate office will depend upon the size of the unit/department. An area for write-up and storage of stationery and files shall be provided. A pinboard/whiteboard should also be considered.

190.7.00 CLEAN WORKROOM AREA

A room shall be provided that contains hand-washing facilities, work space and equipment for terminal sterilising of medical and surgical equipment and supplies. Linen folding shall be carried out in a separate room, preferably the laundry. Where procedure packs are prepared in a sterile supply unit they shall be in a separate area to instrument preparation. The air handling system shall be filtered or discharged direct to the outside to prevent lint build-up and related industrial and fire safety problems. High level supply and low level exhaust is the recommended airflow pattern, with localised high level extraction for heat removal only. Special attention shall be given to the height and depth of workbenches to allow staff to work sitting or standing.

- 190.8.00 Views to the outside are considered highly desirable.

190.9.00 DISTRIBUTION

A distribution point, if required, shall be provided in the form of a staffed counter or stable door, or a pass through cupboard from the sterile store into an adjacent service corridor. No general access is allowed to the CSSU.

190.10.00 STAFF AMENITIES

Showers, toilets and secure lockers for staff employed in this area shall be provided. These facilities shall be conveniently located and may be shared with the Operating Unit staff in cases where the Sterile Supply Department is attached to the Operating Unit. A lunch room can be a shared central facility outside the Sterile Supply Department. Access to a training room in close proximity to CSSU for formal training activities is recommended.

- 190.11.00 Facilities shall also be provided in the Change Room to store caps, overalls and footwear protection. 'Barrier' principles are observed when entering the

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unit.

190.12.00 STORAGE

A room shall be provided for the storage of processed sterile packs etc. Ventilation, humidity and temperature control is required. Supply air pressure shall be positive with respect to surrounding areas and the level of filtration shall equal or exceed that of the Operating Room. Storage cupboards shall be fitted with doors.

190.13.00 A separate room shall be provided to store stock that is 'clean' but not sterile. Access to this room shall be provided from outside the unit/department for stocking, and from within the unit/department for drawing stock to process.

190.14.00 Space shall also be provided for storing distribution trolleys as required.

Functional Relationships

190.15.00 The Central Sterile Supply Unit (CSSU) should be located with direct or close access to the Operating Unit. It should have ready access to Supply Unit and Linen Handling Unit for delivery of supplies.

Access to the CSSU should be restricted to authorised personnel only.

DESIGN

General

190.16.00 The planning of the facility must provide for separate clean and dirty working areas.

Communications

190.17.00 A telephone or intercom system should be installed within the Clean Workroom and/or Office to allow communication with outside personnel and departments, without breaching the "clean barrier" regime.

Finishes

190.18.00 Floor finishes shall be easy to clean. Welded sheet vinyl, coved up the wall, is recommended. Wall finishes shall also be easy to clean, with special consideration for damage by trolleys. Windows, if provided, must be unable to be opened.

190.19.00 The ceiling shall be of a flush type and sealed against the walls.

Building Service Requirements

190.20.00 AIR FILTRATION

Where the Sterile Supply Unit is attached to an Operating Unit, ventilation shall be provided by a treated air supply, with air-conditioning to comply with AS 1386 and HEPA filters to comply with AS 1324. Refer to Part E - HVAC Services for more detailed information.

190.21.00 LIGHTING

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190 .21.00

Light fittings shall be fully recessed and selected to prevent dust and insects from entering.

190 .22.00 The light level shall be not less than 400 lux.

190 .23.00 SIGNAGE

Door signs are required to provide instruction as to the closed nature of the department and the limited access points for services.

COMPONENTS OF THE UNIT

Introduction

190 .24.00 The Central Sterile Supply Unit will consist of a combination of Standard Components and Non-Standard Components.

Standard Components must comply with details in Standard Components described in these Guidelines. Refer also to Standard Components Room Data Sheets.

Standard Components

190 .25.00 Provide the Standard Components as identified in the Schedule of Accommodation.

Non-Standard Components

190 .26.00 Provide the Non-Standard Components as identified in this section and in the Schedule of Accommodation, according to the Operational Policy and Functional Brief.

190 .27.00 DECONTAMINATION

DESCRIPTION AND FUNCTION

The Decontamination area shall contains work space and equipment for sorting, decontamination and cleaning medical and surgical equipment, and for disposal of used/soiled material. It shall include hand-washing facilities.

The Decontamination functions may also be provided in a Clean-Up Room.

190 .28.00 There will be a need to provide special types of cleaning equipment, dependent on the level of service, for example, ultrasonic cleaners, anaesthetic tubing washers and dryers.

190 .29.00 LOCATION AND RELATIONSHIPS

The Decontamination area should be located between the Receival area and the Sorting/ Packing area.

190 .30.00 CONSIDERATIONS

The Decontamination area will require the following finishes:

- Walls and ceiling that are smooth, impervious, and easily cleanable
- Floors that are impervious and non slip.

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Fittings and fixtures located in this area will include the following:

- Stainless steel deep bowl sinks with tubing manifolds (air and water) and additional water outlets for water pistols
- Stainless steel benches
- Instrument and tubing washers/ decontaminators, according to service requirements
- Ultrasonic cleaner, according to service requirements
- Instrument and tubing dryers, according to service requirements
- Staff handwashing basin
- Exhaust air extraction over sinks and equipment doors.

All decontamination and washing equipment shall be installed and commissioned to the requirements of all relevant Australian Standards and Occupational Health requirements, in particular AS 2773 for Ultrasonic Cleaners and AS 2945, AS 3836 for Washer/Disinfectors.

190 .31.00 STERILISING AND COOLING

DESCRIPTION AND FUNCTION

The Sterilising and Cooling Area provides accommodation for sterilisers and parking space for steriliser and cooling trolleys. Following unloading of the steriliser, packs should not be handled until cool.

Specialised sterilisers such as ethylene oxide, require separate installation and accommodation. Low temperature specialised sterilisers require separate installation according to manufacturer's recommendations.

The size of the area will be dependent on the number and type of sterilisers installed.

190 .32.00 LOCATION AND RELATIONSHIPS

The Sterilising and Cooling area should be located between the Sorting and Packing area and the Despatch area.

Special consideration shall be given to the location of the sterilisers. External access to a steriliser duct is highly desirable so that repairs or routine maintenance do not interfere with the activities within the Workroom.

A duct enclosure can also minimise heat build-up within the Workroom. An exhaust over the front of the steriliser(s) shall also be considered, to extract both heat (cabinet) and steam (opening door).

190 .33.00 CONSIDERATIONS

An exhaust over the front of the steriliser(s) shall be considered, to extract both heat (cabinet) and steam (opening door).

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APPENDICES

CSSU Generic Schedule of Accommodation

190.34.00 Schedule of Accommodation for a CSSU in a Hospital at levels 3, 4, 5 and 6:

ROOM / SPACE	Standard Component		Level 3 Qty x m2	Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
DEBOXING				1 x 15	1 x 15	1 x 15	
DECONTAMINATION / CLEAN-UP / WASHING			1 x 15	1 x 40	1 x 80	1 x 80	May be smaller if Decontamination included in Clean-up Rooms
DECONTAMINATION - RESPIRATORY				1 x 12	1 x 15	1 x 15	
DECONTAMINATION - SPECIAL INSTRUMENTS					1 x 30	1 x 30	
DISPATCH / TROLLEY HOLD				1 x 8	1 x 20	1 x 20	
DISPOSAL ROOM	yes		1 x 8	1 x 8	1 x 8	1 x 8	
ENTRY/ INSTRUMENT RETURN				1 x 15	1 x 15	1 x 15	
RESPIRATORY PACKING					1 x 20	1 x 20	
SORTING & PACKING			1 x 12	1 x 30	1 x 50	1 x 50	
STERILISING & COOLING			1 x 10	1 x 20	1 x 30	1 x 30	Area allows for 1 steriliser/plant for L3, up to 2 for L4 and up to 3 for L5/6
STORE - NON-STERILE			1 x 6	1 x 20	1 x 30	1 x 30	
STORE - STERILE STOCK	see remarks		1 x 6	1 x 20	1 x 30	1 x 30	Refer to Standard Component Store-Sterile; size according to quantity of stock
CIRCULATION %			20	20	20	20	

190.35.00 STAFF AREAS

Note: Provision of Offices is dependent on the Operational Policy and Management Structure

ROOM / SPACE	Standard Component		Level 3 Qty x m2	Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
OFFICE - SINGLE PERSON 9 M2	yes			1 x 9 optional	1 x 9 optional	1 x 9 optional	Manager
OFFICE - SINGLE PERSON 9 M2	yes				1 x 9 optional	1 x 9 optional	
OFFICE - WORKSTATION	yes		1 x 6 optional		2 x 6 optional	2 x 6 optional	

190.36.00 SHARED AREAS

ROOM / SPACE	Standard Component		Level 3 Qty x m2	Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
BAY - BEVERAGE	yes			1 x 3	1 x 3	1 x 3	

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CHANGE ROOM - STAFF	yes			2 x 8	2 x 10	2 x 10	May be shared with adjacent areas or Operating Unit
CLEANER'S ROOM	yes		1 x 4	1 x 4	1 x 4	1 x 4	
MEETING ROOM - LARGE	yes				1 x 40	1 x 40	
RECEPTION	yes				1 x 10	1 x 10	
STAFF ROOM	yes			1 x 15	1 x 15	1 x 15	
TOILET - STAFF	yes			2 x 2	4 x 2	4 x 2	May be shared with adjacent areas or Operating Unit

References and Further Reading

- 190 .37.00 - American Institute of Architects, Guidelines for Design & Construction of Hospital & Healthcare Facilities, 1997.
- Health Department Western Australia, Private Hospital Guidelines, 1998.
- Queensland Government, Private Health Facilities Building Code, 2000.

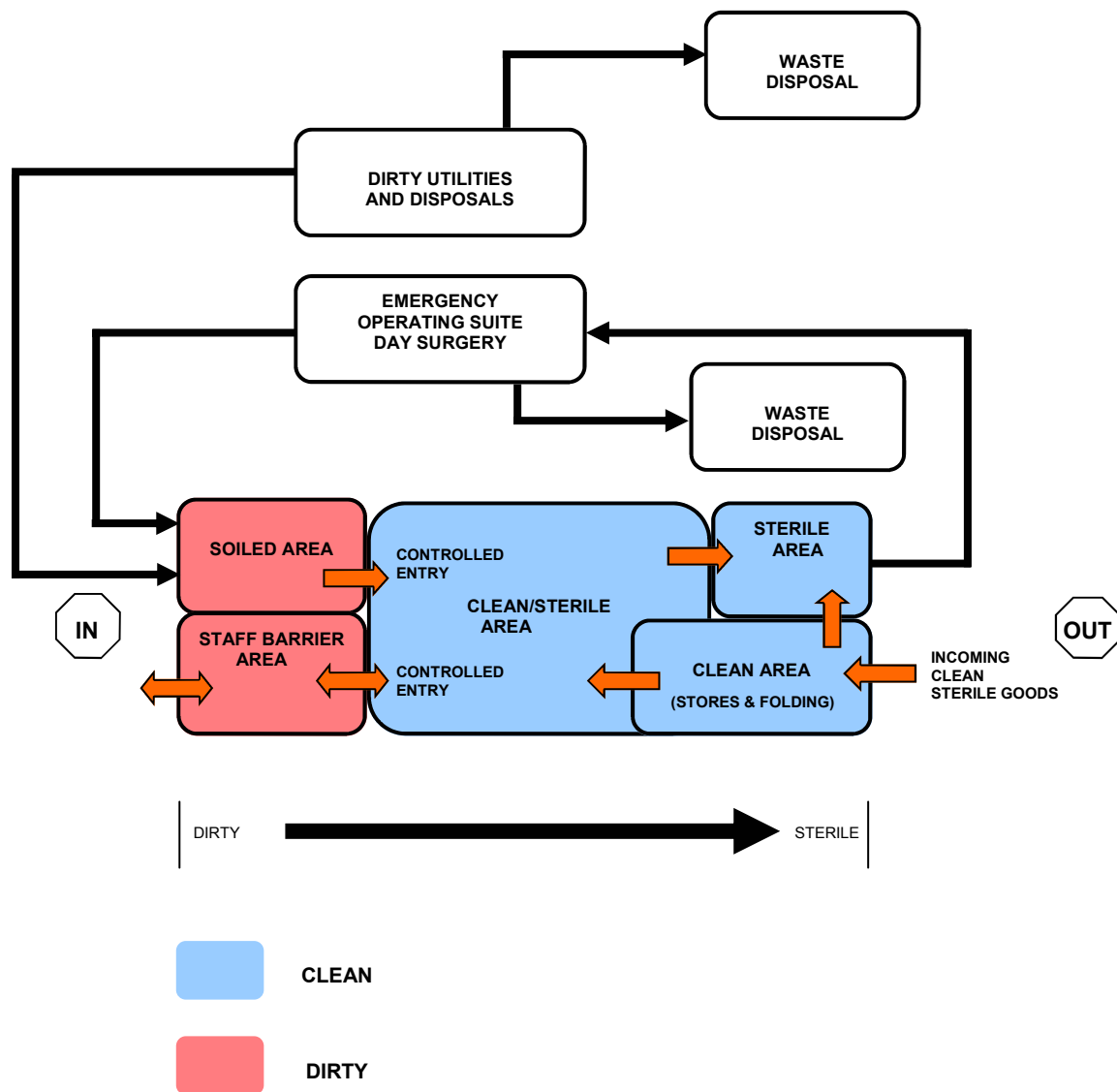
Functional Relationships Diagram/s

- 190 .38.00 Refer to Enclosure Sheet 1 for a flow diagram representing the Base Model.
- 190 .39.00 Refer to Enclosure Sheet 2 for a flow diagram representing a Stand-alone Model.
- 190 .40.00 Refer to Enclosure Sheet 3 for a diagram showing the pressure differentials.
- 190 .41.00 Refer to Enclosure Sheet 4 for a flow diagram indicating one sterile stock store.
- 190 .42.00 Refer to Enclosure Sheet 5 for a flow diagram indicating two sterile stock stores.
- 190 .43.00 Refer to Enclosure Sheet 6 for a flow diagram indicating a simple CSSU model which integrates (back to back) with an Operating Unit shown in Operating Unit Enclosure - Functional Relationship Diagram.

FUNCTIONAL RELATIONSHIPS DIAGRAM - CENTRAL STERILE SUPPLY UNIT

Sheet 1 of 6

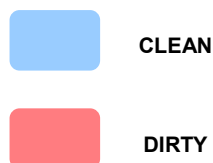
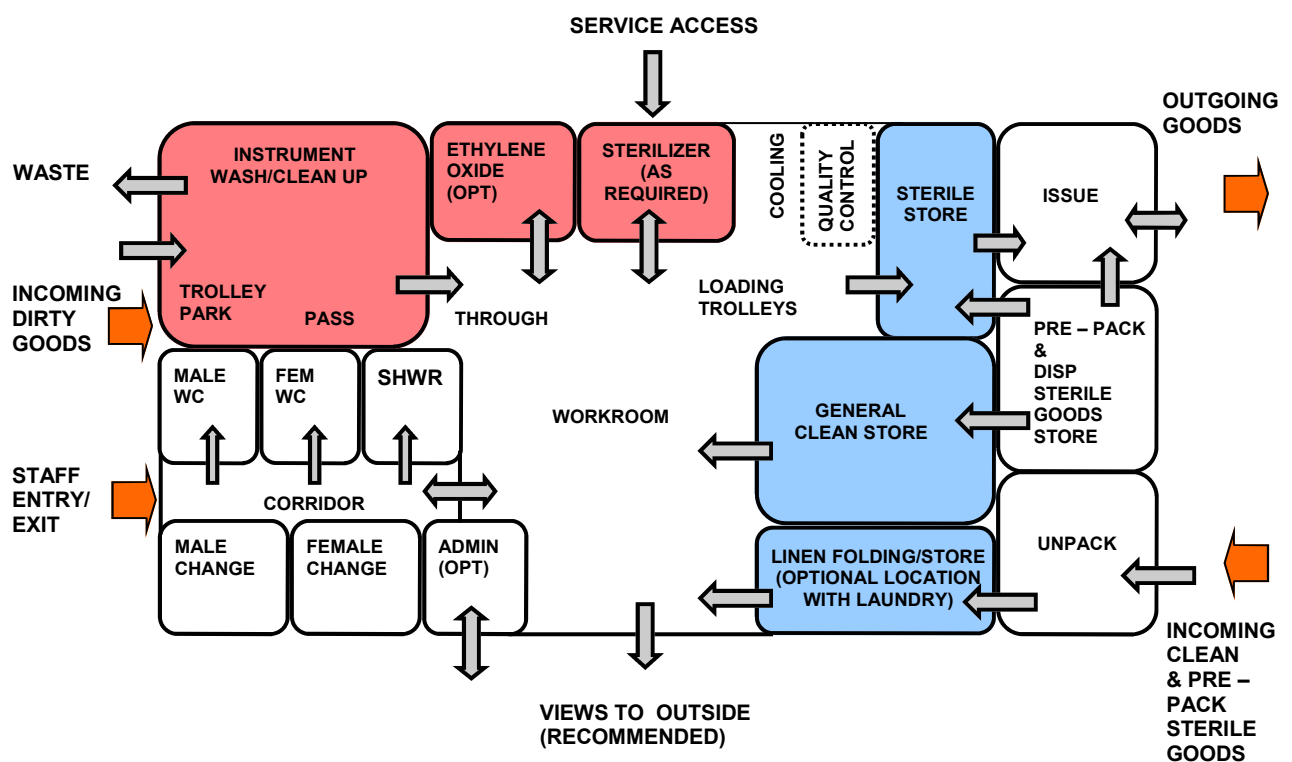
STAND ALONE FLOW DIAGRAM



FUNCTIONAL RELATIONSHIPS DIAGRAM - CENTRAL STERILE SUPPLY UNIT

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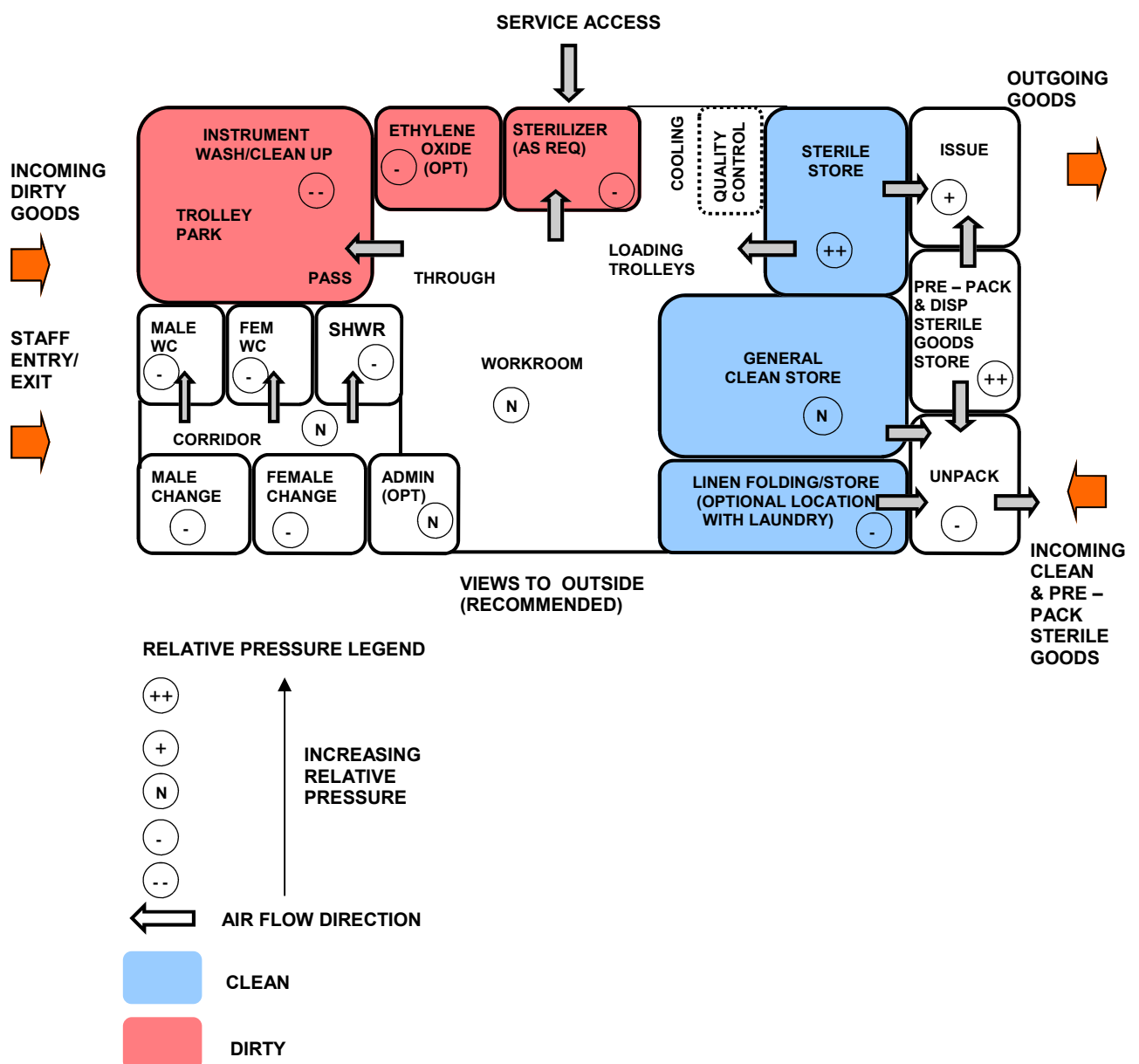
SCHEMATIC FUNCTIONAL SPACE DIAGRAM (BASE MODEL)



FUNCTIONAL RELATIONSHIPS DIAGRAM - CENTRAL STERILE SUPPLY UNIT

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AIR FLOW DIAGRAM WITH PRESSURE DIFFERENTIALS



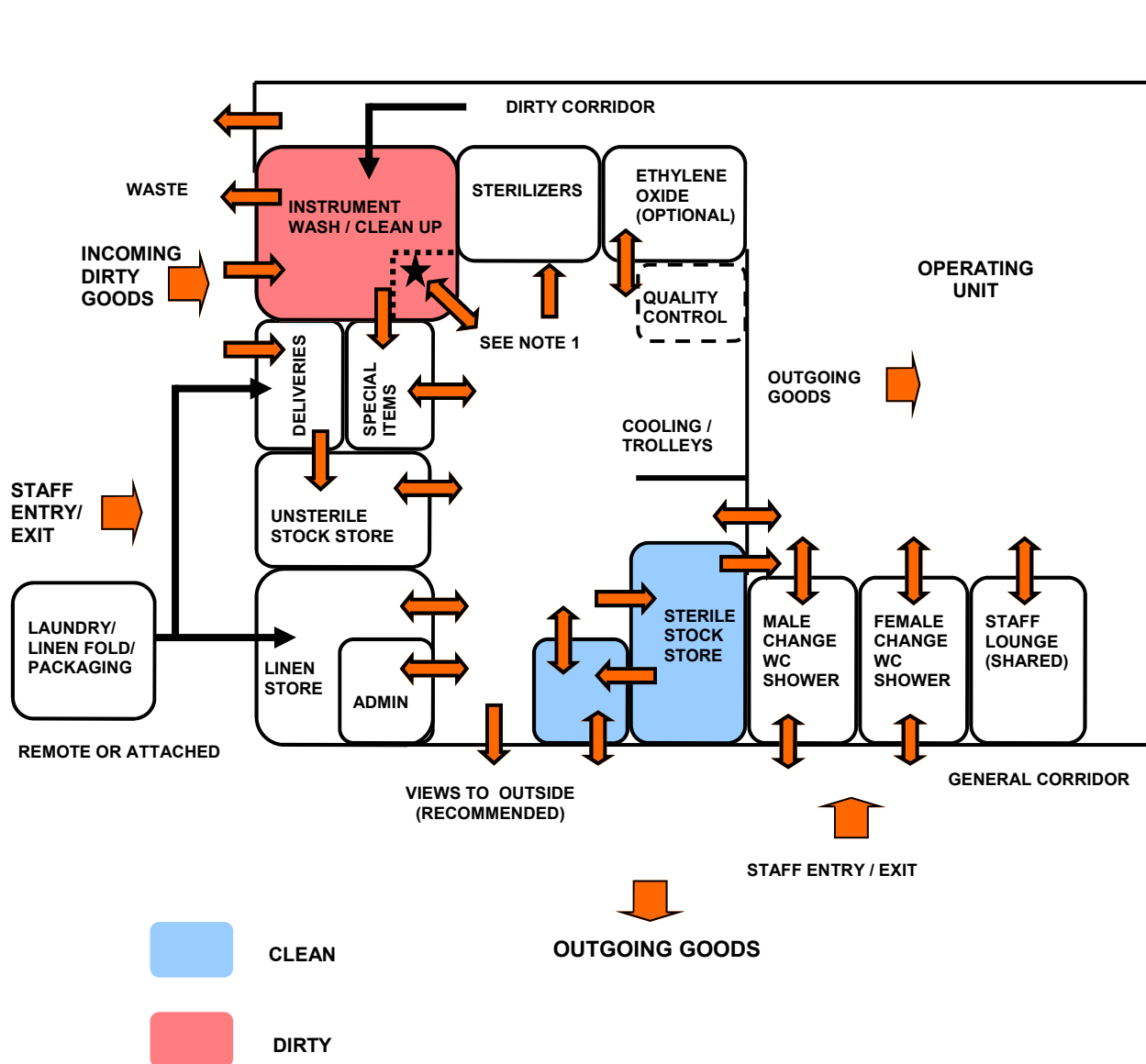
FUNCTIONAL RELATIONSHIPS DIAGRAM - CENTRAL STERILE SUPPLY UNIT

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SIMPLE MODEL 1 - INTEGRATED WITH OPERATING UNIT (ONE STERILE STOCK STORE)

NOTE 1 DIRECT ACCESS (OTHER THAN PASS THROUGH) BETWEEN INSTRUMENT WASH AND THE WORKROOM SHOULD BE RESTRICTED OTHER THAN IN SMALL FACILITIES WHERE DUPLICATION OF STAFF FOR BOTH "CLEAN" AND "DIRTY" AREAS IS NOT POSSIBLE

★ BARRIER ENTRY (SRUC - UP, GOWN, ETC PRIOR TO RE - ENTRY)



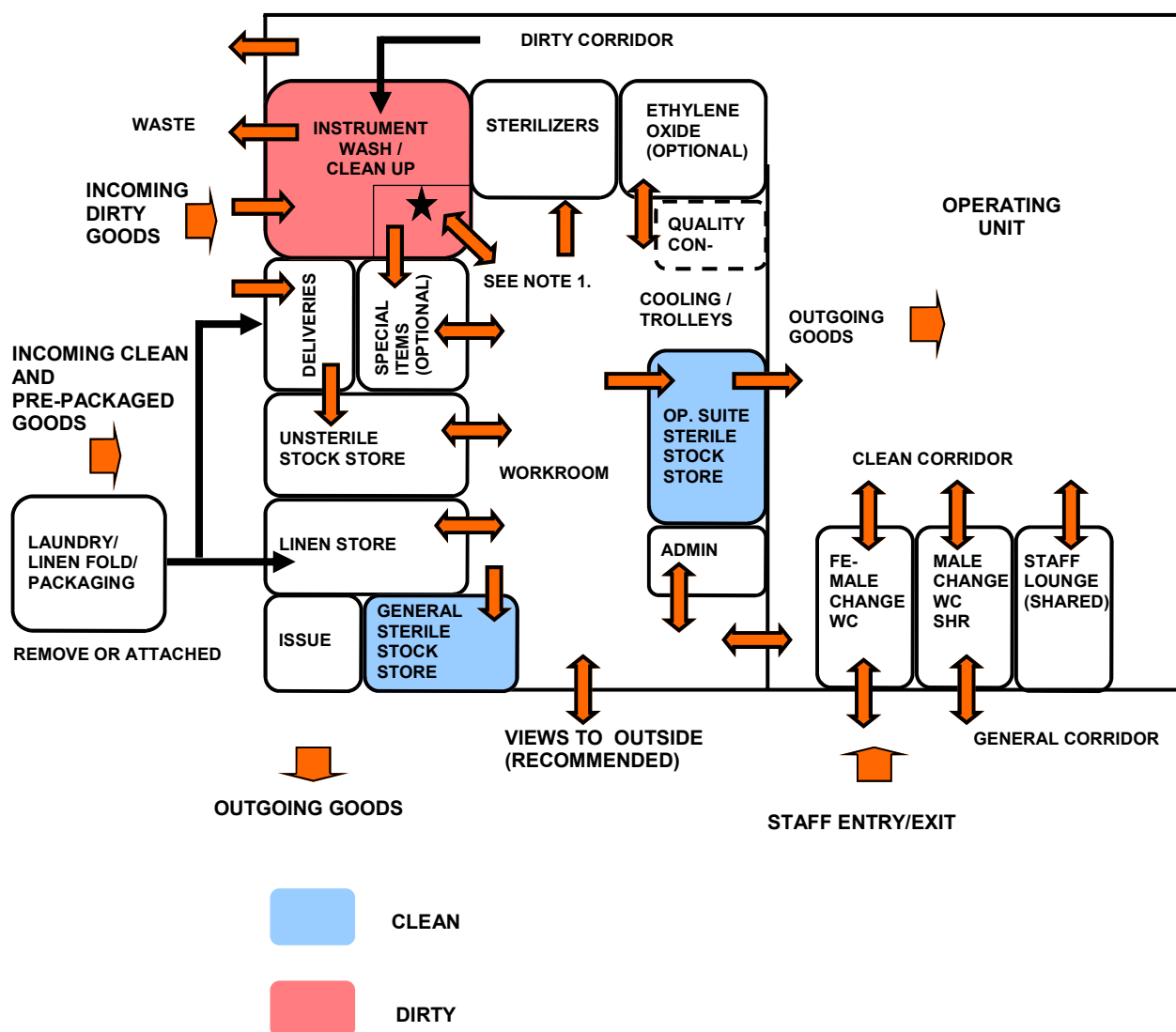
FUNCTIONAL RELATIONSHIPS DIAGRAM - CENTRAL STERILE SUPPLY UNIT

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ALTERNATE MODEL 2 (TWO STERILE STOCK STORES)

NOTE 1 DIRECT ACCESS (OTHER THAN PASS THROUGH) BETWEEN INSTRUMENT WASH AND THE WORKROOM SHOULD BE RESTRICTED OTHER THAN IN SMALL FACILITIES WHERE DUPLICATION OF STAFF FOR BOTH "CLEAN" AND "DIRTY" AREAS IS NOT POSSIBLE

★ BARRIER ENTRY (SRUC - UP, GOWN, ETC PRIOR TO RE - ENTRY)



FUNCTIONAL RELATIONSHIPS DIAGRAM - CENTRAL STERILE SUPPLY UNIT

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STERILE SUPPLY / SERVICE UNIT - SIMPLE MODEL Integrated with Operating Suite

NOTE 1 ONLY THE MOST IMPORTANT FUNCTIONS ARE SHOWN FOR CLARITY

NOTE 2 CSSU MAY BE CONNECTED TO OPERATING SUITE VIA CLEAN/DIRTY HOISTS
CSSU TRANSFER LOBBY MAY BE REPLACED WITH DIRTY HOIST LOBBY
THEATRE DISPATCH AIR-LOCK MAY BE REPLACED WITH CLEAN HOIST LOBBY

