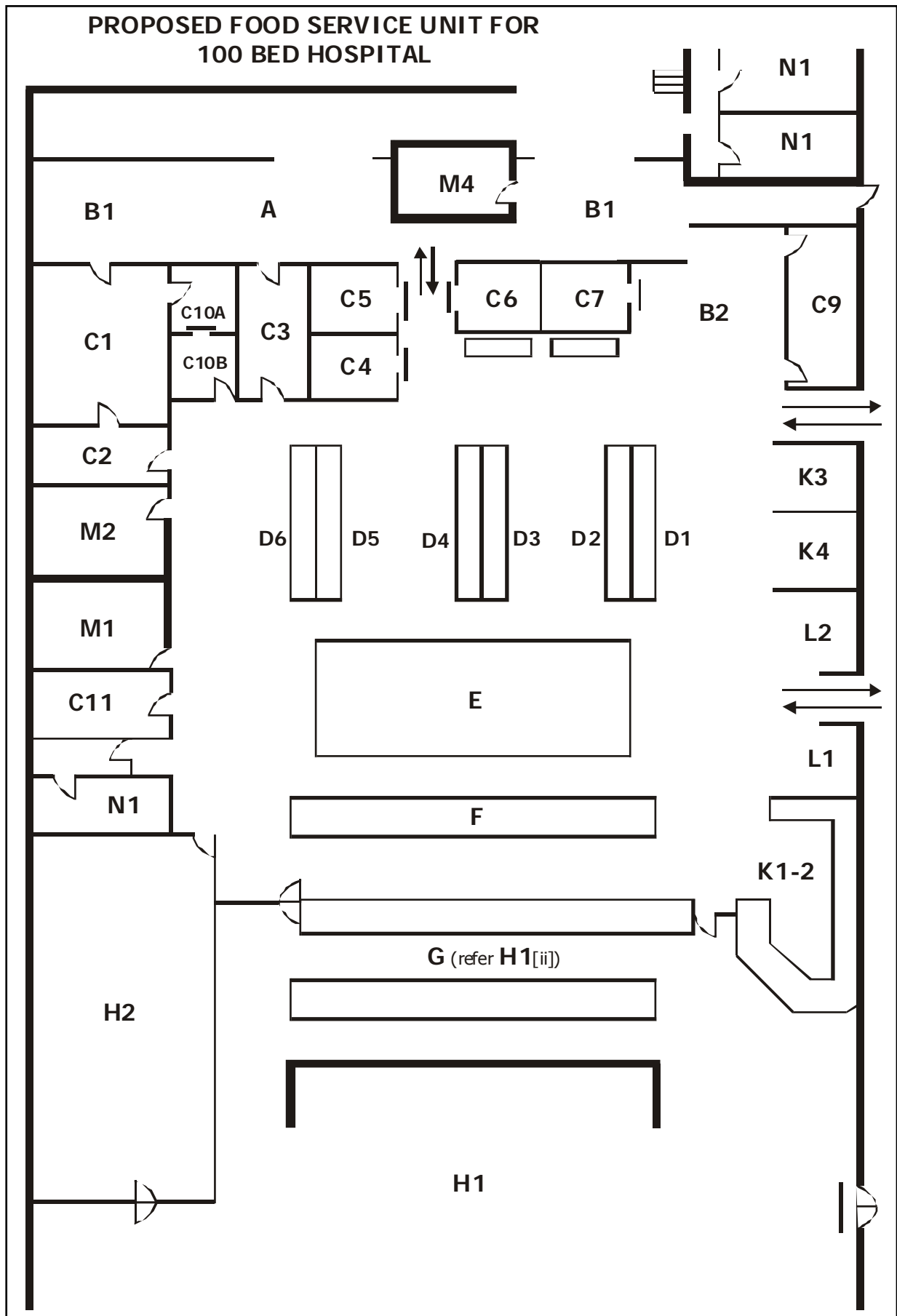
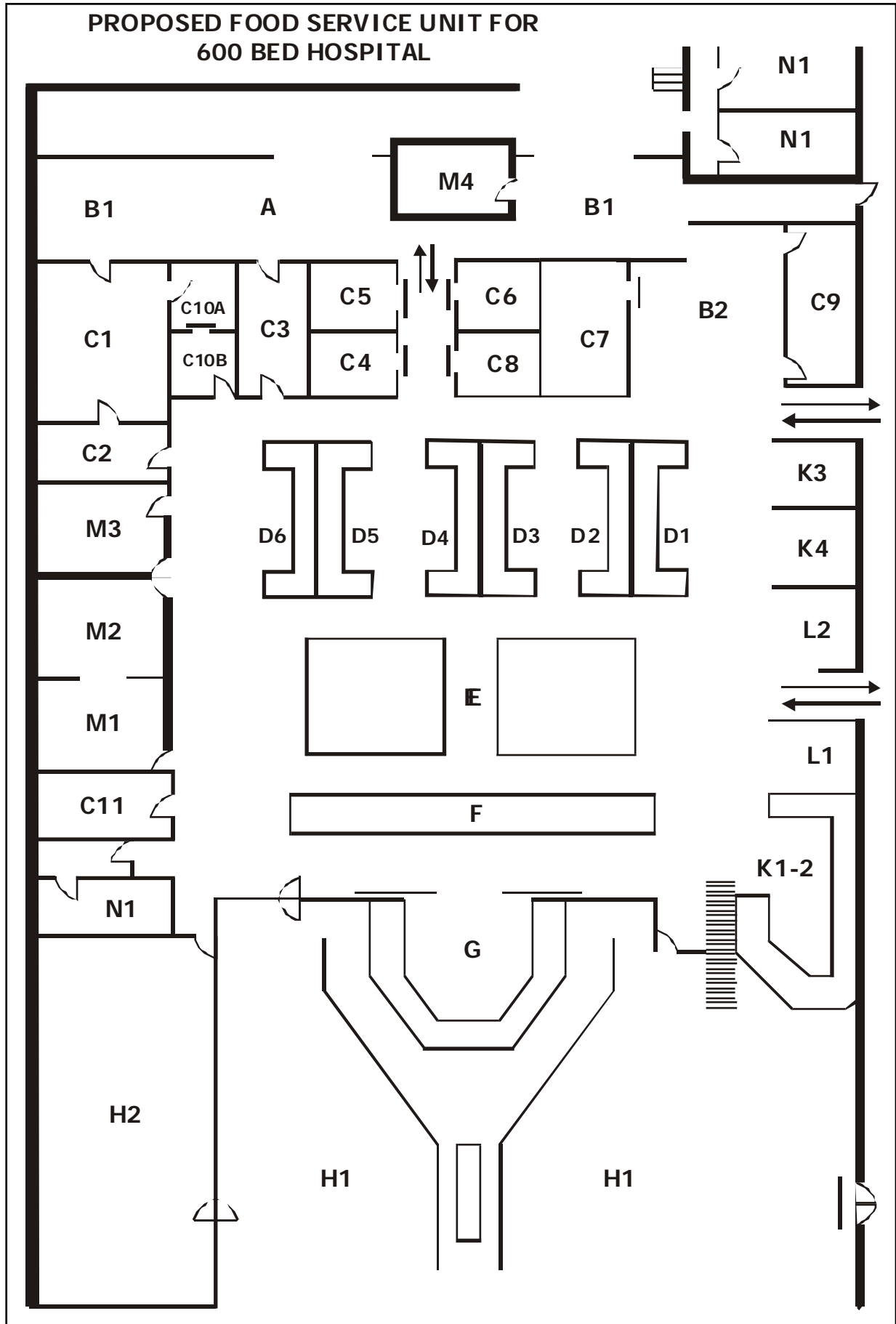


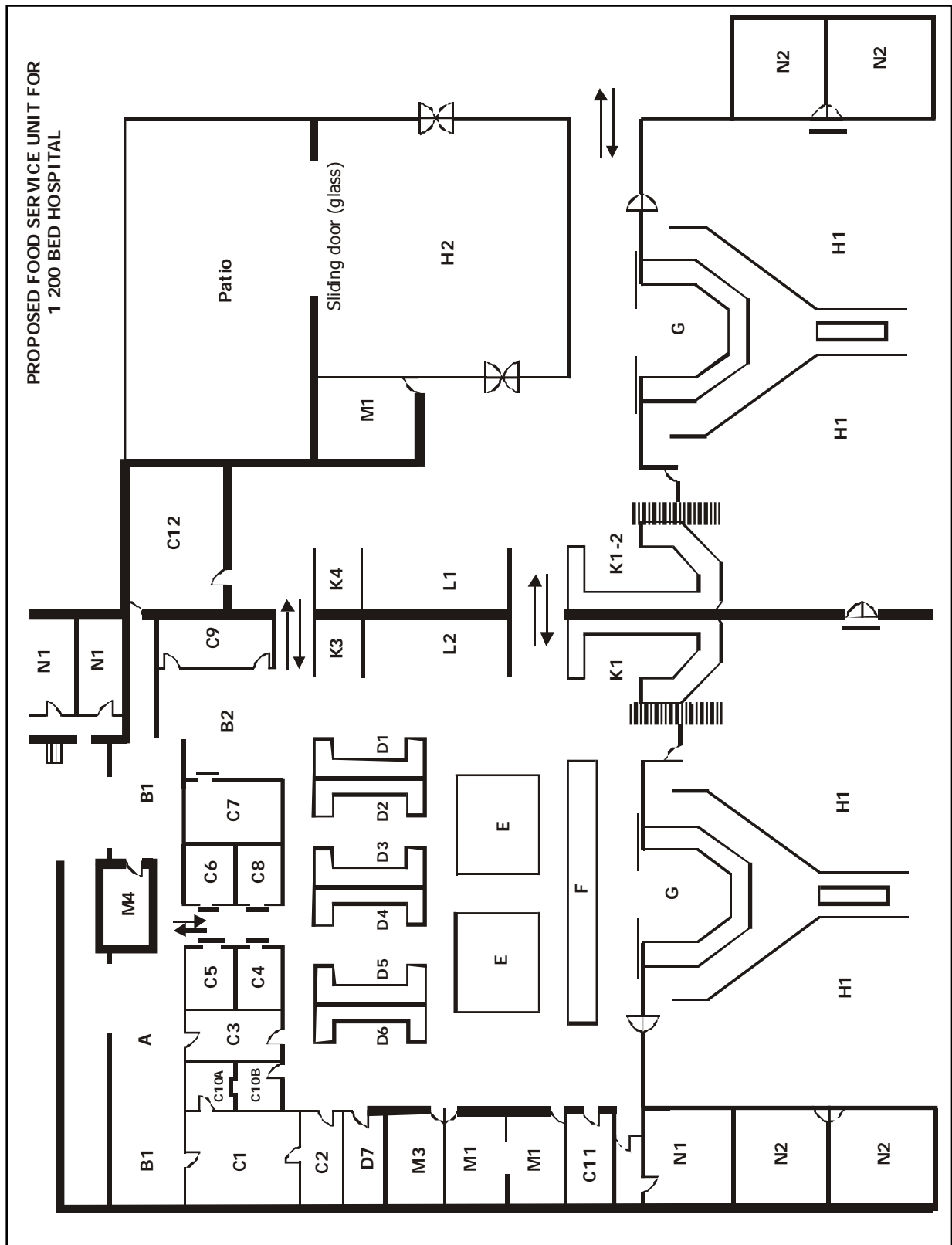
8. FLOOR AND FOOD PRODUCTION FLOW PLAN FOR A FOOD SERVICE UNIT AND DINING HALL

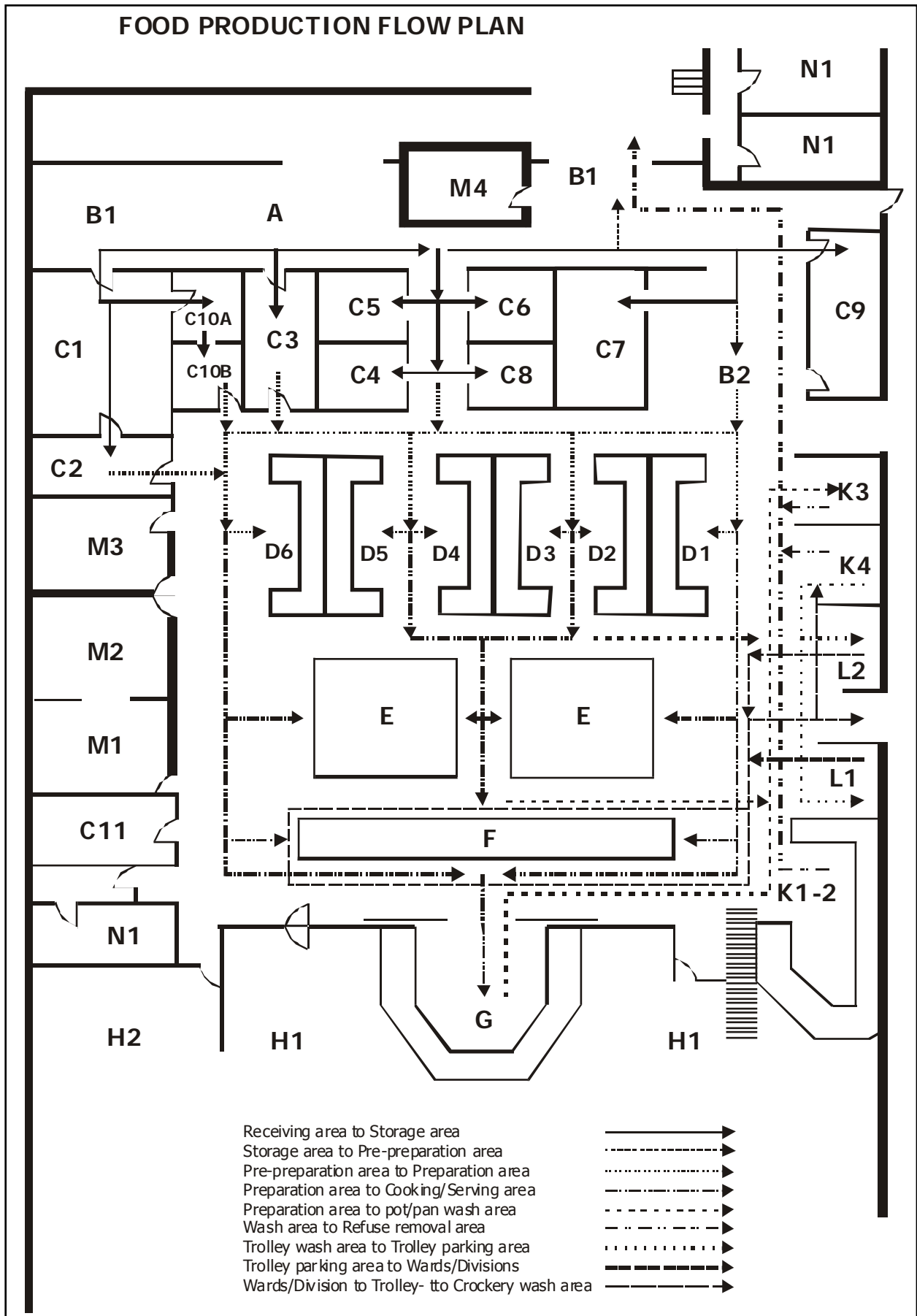
8.1 Code Guide for a Schematic Representation of a Floor plan (Area)

A	Delivery and Reception Area	F	Dishing-up and garnishing Area		
B B1 B2	Pre-preparation area Vegetable and fruit pre-preparation Removal of packaging material	G	Serving Area/Counters		
		H H1 H2	Dining halls General Entertainment/Formal		
C C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12	Storage Areas Grocery storage area Weighing room and storage area for daily supplies Bread Storage Area General Cold-Room Eggs, milk and dairy product- Cold-Room Meat Cold-Room Fresh Vegetable & Fruit Cold-room Freezer-Room (fish, chicken, etc.) Fresh Fruit and Vegetable non-cooled storage area a) Cleaning material Storage Area b) Cleaning equipment Storage Area Refuse Storage Area Crockery-, Equipment and Linen Refuse Storage Area	I	Ward-/Divisional Kitchen for Patients/Clients (Optional)		
		J	Refreshment Room for Personnel		
		K K1 K2 K3 K4	Wash-up Areas Crockery – (Dining halls) Crockery – (Wards/Divisions) Pots- and Pans Trolleys		
		L L1 L2	Parking Areas Crockery and Tray Rack (Wards/Divisions) Food Trolleys (Wards/Divisions)		
		M M1 M2 M3 M4	Office Spaces Dietician(s) Food Service Manager Food Service Supervisor Clerks		
		N N1 N2	Cloak Rooms Cloak Rooms – Personnel Cloakrooms – guests/clients		
			Optional		
		D D1 D2 D3 D4 D5 D6 D7	Preparation Areas Vegetable- and Fruit Preparation Fish- and Poultry Preparation Meat Preparation General preparation Bread- and Sandwich Preparation and Tray Tea Service Therapeutic Diet Preparation Tube Feed Preparation <i>(Separately planned in larger hospitals ± 500 Bed and larger)</i>		
		E.	Cooking Area		









8.2 Schematical representation of a food production flow plan

(see Food Production Flow Plan diagram)

- Receiving area to storage area.
- Storage area to pre-preparation areas.
- Storage areas or pre-preparation areas to preparation areas.
- Storage areas or pre-preparation areas to serving areas.
- Pre-preparation area or preparation area to pot- and pans wash area.
- Wash areas to refuse removal areas.
- Trolley wash area to trolley parking area (*food trolleys and crockery trolleys*).
- Trolley parking area to wards/divisions.
- Wards/Divisions to trolley wash area and crockery wash area.

HINT: Provide the routes with a colour code for clear application

9. PLANNING OF AREAS WITH APPROPRIATE PLACEMENT OF EQUIPMENT

9.1 Tabular representation of equipment and utensils needed (refer to 8.1 for Area)

No	Name/ Description	Symbol	Area	No	Name/ Description	Symbol	Area
1	Potato chip cutter		D1	15	Sliding-		B1, B4
2	Delivery platform with ramp for trolleys		1+	16	Slidable – (Concertina type)		M1 + M2
3	Partition, mobile		1+	17	Steel-		
4	Refuse mill		1	18	Stable-		
5	Bain-Marie: Open underneath			19	Steel- with glass shutter		D7
6	Closed with sliding door			20	Swinging-		H, N
7	Mobile			21	Drainage opening		B, C, D
8	Tin opener		4	22	Glass panels		M
9	Flower pot		1+	23	Vegetable drier		B
10	Fire extinguisher		H	24	Vegetable peeler		B
11	Door double		H1	25	Vegetable washer/drier		B
12	Single-		N	26	Hook: Above drainage trench		C10
13	Glass-						
14	Roll-up steel-		A	27	For notice board		M
28	For dustbin lid		1	42	Desk		M
29	Container: mobile		1	43	Filing cabinet		M
30	Disinfectant		D	44	Milk refrigerator		G
31	Soap dispenser		D	45	Mixer with attachments Household		D7
32	Hosepipe with spout (wall mounted)		A4	46	Industrial		D6
33	Tilting frying pan		E	47	Oven combination convection steam, bake-		E
34	Refrigerator: Gastronome reach-in type			48	Convection-		E

No	Name/ Description	Symbol	Area	No	Name/ Description	Symbol	Area
35	Household-			49	Microwave- Household		I, J
36	Under-counter		G	50	Industrial		1+2
37	Cooking pot tilting type-		E	51	Platform, mobile		A, C1, C9
38	Non-tilting type (fixed)-		E	52	Clingwrap sealer		D5
39	Tilting-type with stirring arm (porridge maker)		E	53	Rank wire- or stainless steel, mobile		F, G
40	Notice board		M	54	Mixer attachments- with hooks		D
41	Urn		DG	55	Mobile – (for food)		D
56	Nybn chopping board		D	70	Sandwich-		D5,I,J
57	Portioning-			71	Sitting bench		N
58	Tray – mobile		F	72	Scale platform, weigh electronic/ mechanical		A
59	Pots and pans-		K3	73	Counter, weighing-		C2
60	Lowerator-mobile, crocery		F, L	74	Switch with outlet socket		A,B,C,D E,G,H,I,J K,M,N
61	Lowerator-mobile, trays		L	75	Tray rail		G
62	Multi-purpose for baskets, mobile		B	76	Dishwasher		I, J K1+2
63	Adjustable- mobile			77	Locker		N
64	Stainless steel - solid			78	Cutting machine Bread-		D5
65	Food processor with attachments- with hooks		D1	79	Meat-		D3, F
66	Computer		M	80	Rinsing basin		C10
67	Dolly			81	Chair dining room		H1+2
68	Toaster Bread-		D	82	Easy-		M
69	Plate-			83	Office-		M
84	Bar-		7	98	Tea-		
85	Stove industrial with oven		E	99	Multi-purpose with plastic containers and baskets		
86	Table (dining room) -rectangular		H1+2	100	Food – tray 2 compartment (one heated, one not heated)		D, F, K, L1

No	Name/ Description	Symbol	Area	No	Name/ Description	Symbol	Area
87	Table (dining room) - round		J	102	Hosepipe and spout		A, K4
88	Coffee – rectangular		J	103	Trough – mobile		B
90	Counter dishing-up ordinary			104	Soaking		K3
91	- Heated		F2	105	Liquidiser		D4, D6 D7
92	- Cooled		H2	106	Conveyor belt		K1`
93	- Salad		2	107	Food processor		D
94	Trolley cutlery		H1	108	Freezer House- hold chest type		
95	Oven – convection, steam and bake		E	109	Gastronorm reach-in type		
96	Clearing-		H	110	Refuse bin		
97	Tray-		F,H	111	Warm air hand drier, electrical		D, I, J N

112	Sink three bowl, stainless steel with double drying leaf		K3	126	With warm shelf cupboard		F, G, H2
113	Double, stainless steel with double drying leaf			127	Mobile-		
114	Single, stainless steel with double drying leaf		CD	128	Ice cube machine		G
115	Single, stainless steel with single drying leaf		D				
116	Hand basin						
117	Water supply Cold-						
118	Warm-						
119	Work surface wooden-with drawers (office)		FM				
120	Stainless steel						
121	With lockable drawers		D7				
122	With opening for refuse bin		2				
123	With racks						
124	With lockable cupboard		D7				
125	With cold shelf cupboard		F				

9.2 Analysis of areas

A DELIVERY AND RECEPTION AREA

- The delivery platform must be the height of a standard delivery vehicle \pm 1,5m.
- It must be roofed.
- The ramps for mobile trolleys and –platforms must slope conveniently and must be calculated in accordance with the platform height.
- There must be a set of stairs next to the ramp.
- The receiving area and the storage area must be on the same level to facilitate the transport of supplies, for example, the storage of trolleys.
- [14] Must be 1,2 – 1,5 m wide doors that can lock.

B PRE-PREPARATION AREAS

B1. Vegetable pre-preparation

- Good ventilation.
- Good illumination.
- Good drainage.
- Gutter, after the eyes of the potatoes have been removed, it moves along the gutter to the mobile sink
- Drainage opening where mobile sinks are emptied.
- Floor surface must be level with the receipt, as well as the storage area and coldroom

B2. Removal of Packaging Material

C STORAGE AREAS

C1. Grocery storage area

C2. Weighing room and storage area for daily supplies

- Good ventilation (2 air exchanges per minute).
- Good illumination.
- Good drainage.
- Temperature 18-20°C.
- [29] Mobile containers in parking space underneath shelves and/or against walls.
- [120] Must have leg space underneath the work surface.
- [123] Must have shelves above work surface for recipe files and spices.
- [29] *Capacity of mobile containers:*
 - 102 Litre
 - 121 Litre
 - 136 Litre
 - 166 litre

Space determination

Max number of meals per day	Total length of shelves (mm)	Platform surface required	Number of mobile containers required capacity [*29]
250	30000mm	1x1000x600x300mm	6
500	50000mm	1x1000x600x300mm	6
900	50000mm	1x1000x600x300mm	6-8
1500	50000mm	1x1000x600x300mm	8-10
2400	65000mm	2x1000x600x300mm	8-10
3400	65000mm	2x1000x600x300mm	8-10
4800	80000mm	2x1000x600x300mm	10-12
7800	100000mm	2x1000x600x300mm	10-15

C3. Bread storage area

- Good ventilation.
- Space allowance for storage of bread for 3 days according to the ration scale
- Up to 250 meals per day is bread cupboard kept in daily storage area (C2).

Steel bread cupboard (Steel bread cupboard unit)

- 2 hinged doors
- Steel shelves (Number depending on quantity bread required for 3 days)
- Ventilation panels of 2 mm mesh wire
- On stand.

Space determination

Max number meals per day	Mobile epoxy coated steel shelves	Number of bread for 3 days
250	Steel bread cupboard	48
500	1 shelf	96
900	2 shelves	160
1500	4 shelves	287
2400	6 shelves	447
3400	8 shelves	640
4800	10 shelves	800
7800	14 shelves	1280

COLD ROOMS**C4. General cold room**

(dessert, left over food, supplies for night duty, portioned menu items)

C5. Egg, milk and dairy product cold room**C2. Weighing room and storage area for daily supplies**

- The entrance to the cold room and the floor level must be the same.
- There must be a drainage opening [21] in front of each cold room. [55] in C5 for the storage of cheese and butter portions. Cartons with milk, eggs and margarine are piled on [51] during the storage period in C5.
- Each cold room has different temperature requirements:

C4 + C5	4°C
C6	0-3°C
C7	7°C

C6. Meat cold room

- Plastic or stainless steel containers where raw meat are placed on [55].

C7. Vegetable – and fruit cold room

- Effective temperature control must be applied by using a fan, plastic strips, glass door or glass shutters.
- Pre-prepared fresh vegetables and fruit are stored here.
- [15] must be able to close tightly and must be able to be opened from the inside.
- Door opening must be large enough for mobile racks [55] to pass through.
- Safety warning triangle

FREEZER ROOM

C8. Freezer room for fish, chicken, vegetables, ice-cream

- [55] on which standard cartons with chicken or fish and ice cream containers fit.
- The freezer room must maintain a constant temperature of -30°C.
- General notes on cold rooms (C4, C5) also applicable here.
- Plastic strips or a fan in front of door helps to maintain internal temperature.

- *Alternative:* Entrance through meat cold room

C9. Fresh vegetable and fruit non-cooled storage area

- Good ventilation.
- Half dark. High small windows (burglar proofing in front of windows is recommended).
- Good drainage.
- [51] for stacking of potato bags (10 kg each).

Max number of meals per day	Mobile shelf for food	Minimum number baskets	Mobile platform for stacking of potatoes [51]
250	1	1x7	1x1000x600x300mm
500	1	1x7	1x1000x600x300mm
900	3	3x7	1x1000x600x300mm
1500	3	3x7	1x1000x600x300mm
2400	5	5x7	2x1000x600x300mm
3400	5	5x7	2x1000x600x300mm
4800	6	6x7	3x1000x600x300mm
7800	7	7x7	4x1000x600x300mm

C10A. Cleaning materials – and

C10B. Cleaning equipment storage areas

- [26] on which mops, brooms and squeegees can be hung above [21].
- Good ventilation.
- Good drainage.
- Sufficient illumination
- Drums with cleaning materials
- [64] are adjustable shelves

- [67] Dolly is for cleaning material drums
- Cleaning equipment, e.g. polishers and scrubbing machines are parked in C10B.

C11. Refuse storage area

- C11 close to food service unit but in a separate sheltered space.
- Must have easy access from
- Fresh vegetable and fruit preparation area.
- Pots and pans wash-up area.
- Crockery wash-up area.
- Exit for daily refuse removal to central refuse removal area of the hospital/ institution.

Hook and drainage funnel for clean refuse bins and lids

- Must be resistant to animals, rodents, flies and other insects.
- Good temperature control.
- Good illumination.
- Good drainage.
- Allowance calculated at 3 refuse bins per 600 meals and 1 bin for each additional 300 meals.
- "A" dimension must be wide enough to place drum upside down for drying after it has been washed.
- Two-way swing doors with protective kicking plate are recommended.

C12. Crockery-, utensil- and linen storage area (additional/new supplies)

- Number and length of [63] are determined by capacity required.
- Good ventilation.
- Good illumination.

D PREPARATION AREAS

D1. Vegetable- and fruit preparation

- Good ventilation.
- Good drainage.
- Good illumination.
- See table for proposed quantity equipment.
- Potato chip cutter [1] table mounted (manual) only necessary in smaller food service units. A food processor can otherwise be used.

D2. Fish- and poultry preparation

- Ready to use frozen fish and poultry portions. The same area can thus be used if after each use it is thoroughly cleaned and disinfected to prevent cross contamination.
- [56] Shelf 1W which chopping boards can be stored beneath the work surface [120]

D3. Meat preparation area

- The same requirements as at area D1 and D2.
- See table for proposed equipment.

D4. General preparation

D5. Bread- and sandwich preparation area

- High activity takes place in this area and it must be planned as compactly as possible

D6. Therapeutic diet preparation area

- The same requirements as at area D1.
- Tube feeds can also be prepared here in units smaller than 500 beds.
- Mobile writing board must be available.

D7. Tube feed preparation area

- The same requirements as in area D1.
- This area must be locked after use.
- A notice board must be available here.
- No ventilation openings above work surfaces – bacterial contamination of feeds.

E COOKING AREA

The total length will be determined by the size of the food service unit in terms of the number of meals cooked per day.

- The layout will vary depending on the number and type of equipment required.
- Ventilation hood over total area to ensure good ventilation.
- Good drainage in area [2].
- Good illumination.
- Waterproof power points must be supplied.
- Separate steam line and electrical line.
- Water supply and steam supply pipes from beneath floor surface
- Consult table for proposal equipment in paragraph 10.4.5.
- The cooking area can be divided into smaller adjacent units in large food service units.
- Tea trolley is used here with ingredients and equipment in use.

F DISHING-UP AND GARNISHING AREA

- Length of conveyor belt adapted according to needs.
- Mobile Bain Marie adapted according to needs.
- Electricity supply for heated Lowerators and Bain-Maries and conveyor belt.
-

G SERVICING AREA/COUNTERS

For larger numbers, the length of the counter is adapted in view of the number of meals served per hour

- *Sequence of serving is usually as follows:*
- Trays.
- Tray railing on which tray glides with ease.
- Plates.
- Main- and side dishes.
- Soup plates and soup.
- Dessert bowls and dessert.
- Bread plates – bread/salad/fresh fruit/fruit juice glasses
- Bread toaster.
- Cups and saucers.
- Tea bags, instant coffee, sugar.
- Urn.
- Milk jugs.
- Cutlery trolleys with cutlery.
- Ice cube machine.
- Cleaning trolleys or clearing hatch (area H).

- Advantage of the carousel system: Food service personnel and clients never come in contact with one another. It can also be a disadvantage.
- Advantage of the scatter system: Clients are being helped very quickly without waiting in long rows. Quick serving method. Disadvantage – more service points and personnel are required.
- Water supplies and drainage for urn and ice cube machine.
- Electricity supplies at equipment where applicable.

H DINING HALL

H1. General dining hall

- Good ventilation.
- Good illumination
- Durable finishes on walls and floors.
- A pleasant atmosphere must be created.
- A patio adjacent to the dining hall is handy for entertainment purposes.
- Cloakrooms can be in front of the entrance or on the side of the dining hall with a barrier wall.
- [86] Quantity is determined according to space and number of persons per session.
- See paragraph 7.4.2 for space determination.

H2. Entertainment/formal hall

- As H1.
- Area adjacent to dining hall for final finishing of dishes.
- 3 Mobile partitions to accommodate smaller group.
- [124] Lockable cupboards above and below work surface.
- Buffet with lockable drawer also used for storage of crockery, cutlery and linen.
- Cloakroom facilities for clients.

I WARD KITCHEN/DIVISIONAL KITCHEN FOR PATIENTS/CLIENTS (Optional)

- Handling of casual meals, groceries, crockery, etc.
- Used for final preparation of in-between feeds and beverages.
- Washing-up.
- The utilisation philosophy of the area must be known before the placement, lay-out and planning is done.
- See paragraph 3.3.

J REFRESHMENT ROOM FOR PERSONNEL

- Can be used for mobile patients for the serving of meals, tea and refreshments.
- Refreshment room is decentralised as close as possible to the ward/division and/or service point and ward/divisional kitchen. Mainly used for beverages, refreshments and take-away meals.
- The utilisation philosophy of the area must be known before the placement, lay-out and planning is done. See paragraph 3.3.
- Work surface with refrigerator is counter for serving. Boiled water can be placed on counter.

K WASH-UP AREAS

K1 / K2. Crockery wash-up: Dining hall, general and divisions

- Good ventilation.
- Good illumination.
- Good drainage.
- Wall finish must be sound, absorbent, durable and mould resistant.
- Floor finish must be durable and slip resistant.
- [76] Must have cold rinsing-, warm wash- and warm rinsing cycle.
- Racks above and below work surface to load and unload dishwasher baskets.
- Parking area for trolleys with dirty crockery being unloaded. Sufficient mobile racks on which clean crockery and tray can be placed.
- Two openings are required in the work surface for refuse bins for wet and dry refuse.
- [115] Serves as pre-wash before [76] is loaded. The bowl must be approximately 500x500x2 mm deep and have a hose with a nozzle.
- Consult table for proposed equipment, in paragraph 10.4.
- The shelf, lowerator, mobile for crockery [60] and- trays [6] and cutlery for dining halls are parked temporarily in this area during the washing-up process.
- Obvious parking of lowerator at dishing-up and garnishing area F, serving counter are G and crockery trolley parking area L.

K3. Pots and pans wash-up area

- The same as K1 + K2
- Electricity and water supplies for soaking trough

K4. Trolley wash area

- [21] Drainage opening in the middle of the floor for effective drainage.

L PARKING AREAS

L1. Crockery and tray rack parking area

- Electricity supply for crockery lowerator.
- Good illumination.
- Good ventilation.
- Size of areas is determined by number of mobile rack. Thus number of divisions concerned.
- Can differ depending on type of food service systems.

L2. Food trolley parking area for divisions

- Electricity supply is determined according to type of food trolleys.
- Switch socket outlet of 15 amp for each trolley, plus one reserve for approximately each 8 trolleys.
- With restricted wall space switch socket outlets can be provided from the roof.

M OFFICE SPACES

M1. Dietician

M2. Food service manager

M3. Food service supervisors

M4. Clerk

(Reception area)

- Number of offices is determined by personnel needs of food service unit.
- Doors [16] can be opened to enlarge room for lectures during in-service training.

- Office for clerk/secretary can also be planned at these offices according to needs.

N CLOAK ROOMS AND TOILET FACILITIES

N1. Personnel

N2. Guests/Clients

- Good ventilation.
- Good illumination.