DoD Space Planning Criteria

Chapter 510: Food Service
July 1, 2017

Originating Component: Defense Health Agency Facilities Division

Effective: July 1, 2016

Releasability: No Restrictions

Purpose: This issuance: To provide space planning criteria guidance in support of planning, programming and budgeting for DoD Military Health System (MHS) facilities.

SUMMARY of CHANGE

This revision, dated July 1, 2017 includes the following:

- On page 7, section 2.1. OPERATING RATIONALE AND BASIS OF CRITERIA, paragraph F. reference the rooms listed under section 2.2 corrected to read "FA2 KITCHEN RECEIVEING AND STORAGE", corrected room numbering to align with SEPS and numbering shown on pages 11-12 of this chapter.

- On page 7, section 2.1. OPERATING RATIONALE AND BASIS OF CRITERIA, paragraph F. reference the rooms listed under section 2.3, corrected to read "FA3 KITCHEN FOOD PREPARATION", deleted the rooms labeled as "Clean Pots / Pans Holding Area" and "Bulk Food Re-thermalization" ; corrected room numbering to align with SEPS and numbering shown on pages 13-14 of this chapter.

- On page 8, section 2.1. OPERATING RATIONALE AND BASIS OF CRITERIA, paragraph F corrected section 2.4 to read "FA5 KITCHEN SANITATION".

- On page 8, section 2.1. OPERATING RATIONALE AND BASIS OF CRITERIA, paragraph F corrected section 2.5 to read "FA6 SERVERY".

- On page 9, section 2.1. OPERATING RATIONALE AND BASIS OF CRITERIA, paragraph F corrected section 2.6 to read "FA7 DINING".

- On page 12, section 4.1. FA1: KITCHEN STAFF AND ADMINISTRATION, added room 11 "Toilet, Staff (TLTU1) at 60 NSF" and the criteria statement "Minimum one; provide an additional one for every increment of fifteen Food Service FTE positions greater than fifteen on peak shift."

- On page 23, corrected Section 6 to read "FUNCTIONAL RELATIONSHIPS (INTERDEPARTMENTAL): FOOD SERVICE"; added the following description "6.1. FUNCTIONAL RELATIONSHIPS. Food Service provides services to a number of other services in a Military Treatment Facility (MTF) for patient care and support functions. The diagram below represents desirable relationships based on efficiency and functional considerations."

- On page 24, corrected section 7 to read "FUNCTIONAL DIAGRAM (Intradepartmental): Kitchen (Cook / Serve) and Servery"; added the following description "7.1. FUNCTIONAL DIAGRAM. The diagrams that follow illustrate

intradepartmental relationships among key areas / spaces. The diagram is necessarily generic. The planner shall use this as a basis for design only and shall consider project-specific requirements for each Military Treatment Facility."

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SECTION 1: PURPOSE AND SCOPE

1.1. PURPOSE AND SCOPE This chapter outlines space planning criteria for Food Service within the Military Health System (MHS). The space planning criteria in this chapter apply to all Military Treatment Facilities (MTFs) and are based on current DoD policies and directives, established and/or anticipated best practices, industry guidelines and standards, and input from DoD Subject Matter Experts (SME) and Defense Health Agency (DHA) Service contacts. As directed by the DHA, these space criteria are primarily workload driven; additional drivers are staffing and mission. Room Codes (RCs) in this document are based on the latest version of DoD UFC 4-510-01, Appendix B.

Criteria for the Central Production Kitchen (CPK) are not included in this chapter. The Chief, Food Service, must be advised, and a feasibility study conducted before the planning of a CPK is undertaken.

SECTION 2: OPERATING RATIONALE AND BASIS OF CRITERIA

2.1. OPERATING RATIONALE AND BASIS OF CRITERIA.

A. Workload projections and planned services / modalities for a specific MHS facility project shall be sought by the planner in order to develop a project based on these Criteria. Healthcare and clinical planners working on military hospitals, medical centers and clinics shall utilize and apply the workload based criteria set forth herein for identified services and modalities to determine space requirements for the project.

B. Space planning criteria have been developed on the basis of an understanding of the activities involved in the functional areas required for Food Service and its relationship with other services of a medical facility. These criteria are predicated on established and/or anticipated best practice standards, as adapted to provide environments supporting the highest quality health care for Service Members and their dependents.

C. These criteria are subject to modification relative to equipment, medical practice, vendor requirements, and subsequent planning and design. The final selection of the size and type of medical equipment is determined during the design process.

D. Calculation of the number and -in some cases- the area (NSF) of rooms is performed in one of the following methods:

1. Directly Workload (W) -driven

2. Indirectly workload-driven

3. Mission (M) or Staffing (S) -driven

The directly workload-driven rooms are based on workload projections entered in response to the Workload Input Data Statements (IDSs) in included in Section 3.

The indirectly workload-driven rooms are derived from the preceding group. They are typically in the Reception and Support Functional Areas in clinical chapters; in this chapter they are in Kitchen Receiving and Storage and in Kitchen Sanitation.

The mission / staffing-driven rooms are created based on Boolean ‘yes/no’ or numeric responses to the Mission and Staffing Input Data Statements (IDSs).

E. The Net Square Feet (NSF) and Room Code (RC) for each room in Section 5: Space Planning Criteria of this chapter was provided by or approved by the Defense Health Agency (DHA) Template Board.

F. The three workload parameters used to calculate the directly workload-driven rooms in Food Service are the projected number of:

1. Peak Single Meals (PSMs)- - An applied assumption of 100 PSMs is the minimum planning metric used to generate a basic Food Service activity.

2. Inpatient Meal Trays (IMTs)

3. Adjusted Peak Single Meals (APSMs)

The Peak Single Meals (PSMs) metric is used to calculate the following rooms based on industry standard throughputs:

2.2. FA2. KITCHEN RECEIVING AND STORAGE.

1. Room 9: Dry Food Storage
2. Room 10: Walk-In Refrigerator Storage
3. Room 12: Walk-In Freezer Storage
4. Room 13: Wares Storage
5. Room 14: Non-Food Storage

2.3. FA3. KITCHEN FOOD PREPARATION.

1. Rooms 1 to 10: Food Preparation and Production, (*)(**)
2. Room 11: Ice Machine
3. Room 13: Rapid Chill / Freeze Work Area
4. Room 14: Refrigerated Blast-Chill Food Storage
5. Room 15: Nourishment Preparation

(*) These ten rooms cover a 600 NSF to 2,900 NSF range; each room size has a unique Room Code, corresponding Room Contents and include the following stations:

a. Frying
b. Braising / Sautéing
c. Grilling / Broiling
d. Baking /Roasting
e. Steaming
f. Mixing
g. Fruit / Vegetable Preparation
h. Salad Assembly / Apportioning
i. Dessert Assembly / Apportioning

(**) Additionally, planner has the option to include the following individual stations per the Concept of Operations with appropriate justification:

a. Pastry Preparation Station (FSPP1)
b. Frying Station (FSFC1)

c. Grill / Broil Station (FSGB1)
d. Bake / Roast Station (FSBR1)
e. Steam Station (FSSC1)
f. Mixing Station (FSMC1),
g. Fruit / Vegetable Preparation Station (FSFV1)
h. Cold Food Assembly and Apportioning Station (FSSA1)

2.4. FA5. KITCHEN SANITATION.

1. Room 1: Dishwashing
2. Room 2: Pots / Pans Washing
3. Room 4: Clean Pots / Pans Holding Area

The Inpatient Meal Trays (IMTs) metric is used to calculate the following rooms based on an industry standard throughput.

2.5. FA6. SERVERY.

a. Tray pick up station
b. Grill Station
c. Deli Station
d. Hot Food Station
e. Soup Station
f. Salad Bar
g. Beverage Station
h. Grab and Go Station
i. Toast Station
j. Cashier
k. Chef's Special Station (not available in all nine room sizes)
l. Pizza Station (not available in all nine room sizes)
m. Dessert Station (not available in all nine room sizes)

(**) Additionally, planner has the option to include the following individual stations per the Concept of Operations with appropriate justification:

a. Grill Station (FSSS1)
b. Deli Station (FSSS2)
c. Hot Food Station (FSSS3)
d. Salad Bar (FSSS4)
e. Beverage Station (FSSS5)
f. Grab and Go Station (FSSS6)
g. Pizza Station (FSSS7)
h. Dessert Station (FSSS8)
i. Chef’s Special Station (FSSS9)

2.6. FA7. DINING.

1. Room 1: Seating Area
2. Room 3: Condiment Station

SECTION 3: PROGRAM DATA REQUIRED

3.1. INPUT DATA STATEMENTS. Input Data Statements are based on questions about Workload (W), Mission (M), Staffing (S) and Miscellaneous (Misc) information.

1. How many Inpatient Beds are projected? (W)
2. How many Peak Single Meals (PSMs) are projected? (W)
3. How many Inpatient Meal Trays (IMTs) are projected? (W)
4. How many Adjusted Peak Single Meals (APSMs) are projected? (W)
5. Is Food Service authorized a dedicated Loading Dock? (M)
    a. How many delivery lanes, greater than two, are authorized? (Misc)
6. Is cook / chill authorized? (M)
7. Is a Special Events / Catering authorized? (M)
    a. How many Catered Meals per event are projected? (W)
    b. Is a Special Events / Catering Storage authorized? (Misc)
8. Is a Straight Line Tray Assembly authorized? (M)
9. Is a Carrousel Line Tray Assembly authorized? (M)
10. Is a Pod Tray Assembly authorized? (M)
11. Is a counter Tray Assembly system authorized? (M)
12. Is Centralized Retherm authorized? (M) (If not, Decentralized Retherm will be provided)
13. Is a Servery Area authorized? (M)
14. Is an Executive Dining authorized? (Misc)
15. Is a Waste Pulper system authorized for Food Service? (M)
16. Is a Remote Dish / Tray Handling system authorized? (M)
17. Is a Staff Toilet for the Kitchen Receiving and Storage Area authorized? (Misc)
18. Is Refrigerated Garbage storage for Food Service authorized? (Misc)
19. Is Refrigerated Blast-Chilled Food Storage authorized? (Misc)
20. Is a Detergent Dispensing Room authorized for Food Service? (Misc)
21. Is a Sub-Waiting for the Kitchen Staff and Administration authorized? (Misc)
22. How many Food Service FTE positions are authorized? (S)
    a. How many FTE positions are authorized a private office? (S) (Examples include Dietitian Informatics, Production Planner, and Cost Accountant)
    b. How many Assistant Chief Food Service FTE positions are authorized a cubicle? (S)
    c. How many Dietitian FTE positions are authorized a cubicle? (S)
    d. How many Food Preparation and Service Foreman FTE positions are authorized a cubicle? (S)
    e. How many Patient Order / Request Center FTE positions are authorized a cubicle? (S)
    f. How many Production Supervisor positions are authorized a cubicle? (S)

23. Is a Food Service Manager FTE position is authorized? (Misc)
24. How many Food Service male FTEs will work on peak shift? (Misc)
25. How many Food Service female FTEs will work on peak shift? (Misc)
26. Is a Male Toilet/Shower authorized? (Misc)
27. Is a Female Toilet/Shower authorized? (Misc)
28. Is Nutrition / Dietetics authorized? (M)
    a. Is a Demonstration Kitchen for Nutrition / Dietetics authorized? (Misc)
    b. Is a Classroom for Nutrition / Dietetics authorized? (Misc)
29. How many Nutrition / Dietetics FTE positions are authorized? (S)
    a. How many Nutrition / Dietetics FTE positions are authorized to have a private office? (S)
    b. How many Nutrition / Dietetics FTE positions are authorized to have a shared office? (S)
    c. How many Nutrition / Dietetics FTE positions are authorized to have a cubicle? (S)
30. Is Nourishment Preparation in Kitchen Food Preparation authorized? (Misc)
31. Is a Preventive Food Pantry for Nutrition / Dietetics authorized? (Misc)
32. Is an Alcove, Height / Weight for Nutrition / Dietetics authorized? (Misc)
33. Is a Forms & Literature Storage for Nutrition / Dietetics authorized? (Misc)

SECTION 4: SPACE PLANNING CRITERIA

For calculation of the number of Vending Machine areas, Public Toilets, Communication Closets, and Janitor Closets for this Chapter, please refer to DoD Space Planning Criteria Chapter 610: Common Areas.

4.1. FA1: KITCHEN STAFF AND ADMINISTRATION.

1. **Office, Chief Food Service (OFA04)** **120 NSF**
   Provide one for Food Service.

2. **Sub-Waiting (WRC03)** **60 NSF**
   Provide one if a Sub-Waiting for the Kitchen Staff and Administrative Area is authorized.

3. **Office, NCOIC / LCPO / LPO (OFA04)** **120 NSF**
   Provide one for Food Service.

4. **Office, Private (OFA04)** **120 NSF**
   Provide one per each FTE position authorized a private office.

   Examples include Dietitian Informatics, Production Planner, and Cost Accountant.

5. **Cubicle (OFA03)** **60 NSF**
   Provide one per each Assistant Chief Food Service, Dietitian, Food Preparation and Service Foreman, Production Supervisor and Patient Order / Request Center FTE position authorized.

   These cubicles may be collocated in a shared space or dispersed as required.

6. **Training / Conference, Staff (CRA01)** **240 NSF**
   Provide one for Food Service.

7. **Copy / Office Supply (RPR01)** **120 NSF**
   Provide one for Food Service.

8. **Lounge, Staff (SL001)** **120 NSF**
   Minimum NSF if the number of Food Service FTEs working on peak shift is between one and ten; provide an additional 60 NSF for every increment of five Food Service FTEs working on peak shift greater than ten; maximum 360 NSF.

9. **Locker / Changing Room, Male Staff (LR002)** **120 NSF**
   Minimum NSF; provide an additional 10 NSF for every increment of two Food Service male FTE positions working on peak shift greater than twelve.

10. **Locker / Changing Room, Female Staff (LR002)** **120 NSF**
    Minimum NSF; provide an additional 10 NSF for every increment of two Food Service female FTE positions working on peak shift greater than twelve.

11. **Toilet, Staff (TLTU1)** **60 NSF**
    Minimum one; provide an additional one for every increment of fifteen Food Service FTE positions greater than fifteen on peak shift.

12. **Toilet/Shower, Staff (TLTS1)** **60 NSF**
    Provide two for Food Service if staff toilet / showers are authorized.

4.2. FA 2: KITCHEN RECEIVING AND STORAGE.

1. **Loading Dock (DOCK1)** **200 NSF**
   Minimum NSF if Food Service is authorized a dedicated Loading Dock; provide an additional 80 NSF per each delivery lane projected greater than two.

2. **Office, Food Service Manager (OFA04)** **120 NSF**
   Provide one if a Food Service Manager FTE position is authorized.

3. **Toilet, Staff (TLTU1)** **60 NSF**
   Provide one if a Staff Toilet for the Kitchen Receiving and Storage Area is authorized.

4. **Holding, Trash (UTC01)** **90 NSF**
   Provide one for Food Service.

5. **Holding, Refrigerated Waste (SRR01)** **90 NSF**
   Provide one if Refrigerated Garbage storage for Food Service is authorized.

6. **Holding, Recyclables (UTR01)** **90 NSF**
   Provide one for Food Service.

7. **Receiving Area (MMRP1)** **160 NSF**
   Minimum NSF; provide an additional 80 NSF per each delivery lane projected greater than two.

   Minimum allocated NSF accommodates material staging / break-down / manipulation upon unload for two delivery lanes.

8. **Storage, Holding CO2 Cylinder (SRGC2)** **60 NSF**
   Provide one for Food Service.

9. **Storage, Dry Food (SRS01)** **100 NSF**
   Minimum NSF; provide an additional 10 NSF for every increment of 20 PSMs greater than 200.

Minimum allocated NSF accommodates Dry Food storage space for one week.

10. **Storage, Walk-In Refrigerator (SRR01) 90 NSF**
Minimum NSF; provide an additional 8 NSF for every increment of 20 PSMs greater than 200.

    Minimum allocated NSF accommodates refrigerated storage space for one week. Separation of produce, diary and thaw box, general storage items is required. If minimum storage space is provided, reach-in refrigerators may also be required to provide separate storage. If a walk-in box complex is provided, the box is to be compartmentalized.

11. **Storage, Walk-In Refrigerator, Bulk Cook / Chill (SRR01) 270 NSF**
Minimum NSF if the number of Inpatient beds Food Service is authorized to serve is 150; provide an additional 18 NSF for every increment of ten Inpatient beds projected greater than 150.

    Minimum allocated NSF accommodates refrigerated storage space for nine meals. Food that has been cooked and rapid chilled is stored in pan racks or carts.

12. **Storage, Walk-In Freezer (SRF01) 90 NSF**
Minimum NSF; provide an additional 8 NSF for every increment of 20 PSMs greater than 200.

    Minimum allocated NSF accommodates Walk-In Freezer storage space for one week.

13. **Storage, Wares (FSDS1) 100 NSF**
Minimum NSF; provide an additional 20 NSF for every increment of 20 PSMs greater than 200.

    Minimum allocated NSF accommodates storage space for one week and for day-to-day tableware, cooking utensils, pots, pans, and small wares.

14. **Storage, Non-Food (SRS01) 100 NSF**
Minimum NSF; provide an additional 50 NSF for every increment of 20 PSMs greater than 200; maximum 500 NSF.

    Minimum allocated NSF accommodates Non-Food storage space for one week. Disposable dishes, cups, latex gloves, décor, display info, menu board items, etc.

15. **Storage, Special Events / Catering (SRS01) 120 NSF**
Minimum NSF if a Special Events / Catering Storage is authorized; provide an additional 10 NSF for every increment of 200 projected Catered Meals per event greater than 200.

4.3. FA 3: KITCHEN FOOD PREPARATION.

1. **Food Preparation and Production (FSFP1)** **600 NSF**
   Provide one if the number of projected PSMs is between 100 and 250.

2. **Food Preparation and Production (FSFP2)** **850 NSF**
   Provide one if the number of projected PSMs is between 251 and 400.

3. **Food Preparation and Production (FSFP3)** **1,200 NSF**
   Provide one if the number of projected PSMs is between 401 and 550.

4. **Food Preparation and Production (FSFP4)** **1,450 NSF**
   Provide one if the number of projected PSMs is between 551 and 700.

5. **Food Preparation and Production (FSFP5)** **1,700 NSF**
   Provide one if the number of projected PSMs is between 701 and 880.

6. **Food Preparation and Production (FSFP6)** **1,900 NSF**
   Provide one if the number of projected PSMs is between 881 and 1,000.

7. **Food Preparation and Production (FSFP7)** **2,100 NSF**
   Provide one if the number of projected PSMs is between 1,001 and 1,150.

8. **Food Preparation and Production (FSFP8)** **2,400 NSF**
   Provide one if the number of projected PSMs is between 1,151 and 1,300.

9. **Food Preparation and Production (FSFP9)** **2,600 NSF**
   Provide one if the number of projected PSMs is between 1,301 and 1,450.

10. **Food Preparation and Production (FSFP0)** **2,900 NSF**
    Provide one if the number of projected PSMs is between 1,451 and 1,620.

11. **Ice Machine (ICE01)** **20 NSF**
    Minimum NSF; provide an additional 20 NSF for every increment of 400 PSMs projected greater than 250.

12. **Carbonated Beverage Room (FSCB1)** **60 NSF**
    Provide one for Food Service.

13. **Rapid Chill / Freeze Work Area (FSRC1)** **80 NSF**
    Minimum NSF; provide an additional 80 NSF for every increment of 650 PSMs projected greater than 650.

14. **Storage, Refrigerated Blast-Chilled Food (FSBC1)** **100 NSF**
    Minimum NSF if Refrigerated Blast-Chilled Food Storage is authorized; provide an additional 100 NSF for every increment of 250 PSMs projected greater than 250.

15. **Nourishment Preparation (FSNP1)** **120 NSF**
Provide one if the total number of PSMs projected greater than 250 and if Nourishment Preparation in Kitchen Food Preparation is authorized

4.4. FA 4: KITCHEN PATIENT TRAY SERVICE.

1. **Tray Assembly, Straight Line (FSPT1)** **525 NSF**
Minimum NSF if Straight Line Tray Assembly is authorized; provide an additional 100 NSF if the number of projected IMTs is between 175 and 275; provide an additional 200 NSF if the number of projected IMTs is between 275 and 375; provide an additional 300 NSF if the if the number of projected IMTs is greater than 375.

   Allocated NSF accommodates the following stations: Starter, Cold Food, Hot Food, Beverage, Dry Storage and Refrigerated Storage. The area allocated for each station varies depending on the number of PSMs projected.

2. **Tray Assembly, Carousel (FSPT2)** **600 NSF**
Minimum NSF if Carrousel Line Tray Assembly is authorized; provide an additional 200 NSF if the number of projected IMTs is between 275 and 375.

   Allocated NSF accommodates the following stations: Starter, Cold Food, Hot Food, Beverage, Dry Storage and Refrigerated Storage. The area allocated for each station varies depending on the number of PSMs projected.

3. **Tray Assembly, Pod (FSTA1)** **450 NSF**
Minimum NSF if Pod Tray Assembly is authorized; provide an additional 450 NSF if the number of projected IMTs is between 150 and 300.

   Allocated NSF accommodates the following stations: Starter, Cold Food, Hot Food, Beverage, Dry Storage and Refrigerated Storage. The area allocated for each station varies depending on the number of PSMs projected.

4. **Tray Assembly, Counter / Cook to Order (FSTA2)** **450 NSF**
Provide one if the number of projected IMTs is between 25 and 75 and if a Counter Tray Assembly system is authorized.

5. **Holding Area, Clean Tray Cart (Cook / Chill) (FSCS1)** **20 NSF**
Minimum one; provide an additional one for every increment of 20 Inpatient Beds projected greater than 20.

6. **Walk-in Refrigerator, Tray Carts (SRR01)** **120 NSF**

   Minimum NSF if the number of Inpatient Beds projected is 150 and if cook /chill is authorized; provide an additional 15 NSF for every increment of 20 Inpatient Beds projected greater than 150.

7. **Tray Retherm Cart Area, Centralized (FSCS2)** **50 NSF**
   Provide one for every increment of 20 Inpatient Beds projected if Decentralized Retherm is not authorized.

8. **Holding Area, Food Cart (Hot / Cold) (FSCS1)** **30 NSF**
   Provide one for every increment of 20 Inpatient Beds projected.

4.5. FA 5: KITCHEN SANITATION: (DIVIDED IN SOILED AND CLEAN AREAS).

1. **Dishwashing (FSDW1)** **250 NSF**
   Minimum NSF; provide an additional 10 NSF for every increment of 20 projected PSMs greater than 200.

2. **Pots / Pans Washing (FSPW1)** **200 NSF**
   Minimum NSF; provide an additional 5 NSF for every increment of 75 projected PSMs greater than 200.

3. **Cart Wash Area, Manual (CWSH1)** **120 NSF**
   Provide one for Food Service.

4. **Holding Area, Clean Pots / Pans (FSRH1)** **40 NSF**
   Minimum NSF; provide an additional 10 NSF for every increment of 200 projected PSMs greater than 200.

   Planner may allocate some of the generated NSF for this room in Kitchen Food Preparation and Production.

5. **Holding Area, Soiled Tray Carts (FSCS1)** **40 NSF**
   Minimum NSF; provide an additional 40 NSF for every increment of 20 Inpatient Beds projected greater than 20.

   Allocated space is based on one 20-tray cart and circulation space needed for every 20 Inpatient Beds for either Cook / Serve or Cook / Chill.

6. **Waste Pulper System Room (UTR02)** **100 NSF**
   Provide one if a Waste Pulper system is authorized for Food Service.

7. **Detergent Dispensing Room (USDD1)** **80 NSF**
   Provide one if a Detergent Dispensing Room is authorized for Food Service.

8. **Janitor Closet (JANC1)** **60 NSF**
   Minimum one; provide an additional one for every increment of 500 projected PSMs.

9. **Storage, Cleaning Products & Supplies (SRE01)** **80 NSF**
   Provide one for Food Service.

4.6. FA 6: SERVERY.

1. **Servery Area (FSSL1)** **1,200 NSF**
   Provide one if a Servery Area is authorized and if the number of projected APSMs is between 100 and 400.

2. **Servery Area (FSSL2)** **1,540 NSF**
   Provide one if a Servery Area is authorized and if the number of projected APSMs is between 401 and 550.

3. **Servery Area (FSSL3)** **1,960 NSF**
   Provide one if a Servery Area is authorized and if the number of projected APSMs is between 551 and 700.

4. **Servery Area (FSSL4)** **2,380 NSF**
   Provide one if a Servery Area is authorized and if the number of projected APSMs is between 701 and 850.

5. **Servery Area (FSSL5)** **2,800 NSF**
   Provide one if a Servery Area is authorized and if the number of projected APSMs is between 851 and 1,000.

6. **Servery Area (FSSL6)** **3,220 NSF**
   Provide one if a Servery Area is authorized and if the number of projected APSMs is between 1,001 and 1,150.

7. **Servery Area (FSSL7)** **3,640 NSF**
   Provide one if a Servery Area is authorized and if the number of projected APSMs is between 1,151 and 1,300.

8. **Servery Area (FSSL8)** **4,060 NSF**
   Provide one if a Servery Area is authorized and if the number of projected APSMs is between 1,301 and 1,450.

9. **Servery Area (FSSL9)** **4,480 NSF**
   Provide one if a Servery Area is authorized and if the number of projected APSMs is between 1,451 and 1,600.

4.7. FA 7: DINING.

1. **Seating (FSCD1)** **600 NSF**
   Minimum NSF; provide an additional 16 NSF for every increment of three APSMs projected greater than 120.

   Minimum allocated NSF accommodates 40 seats with three turns per meal period each.

2. **Executive Dining (FSCD2)** **250 NSF**
   Provide one if an Executive Dining area is authorized.

3. **Condiment Station (FSCN1)** **30 NSF**
   Minimum one; provide an additional one if the total number of projected PSMs is greater than 650.

4. **Dish / Tray Handling, Remote (FSDW2)** **600 NSF**
   Provide one if a Remote Dish / Tray Handling system is authorized.

5. **Storage, Furniture (SRE01)** **100 NSF**
   Minimum NSF; provide an additional 30 NSF for every increment of 200 NSF in Seating Area.

4.8. FA8: NUTRITION / DIETETICS.

1. **Waiting (WRC01)** **120 NSF**
   Provide one if Nutrition / Dietetics is authorized.

2. **Reception (RECP3)** **60 NSF**
   Provide one if Nutrition / Dietetics is authorized.

3. **Kiosk, Patient Check-in (CLSC1)** **30 NSF**
   Provide one if Nutrition / Dietetics is authorized.

4. **Cubicle, Patient Education (CLSC2)** **30 NSF**
   Provide one if Nutrition / Dietetics is authorized.

5. **Office, NCOIC / LCPO / LPO (OFA04)** **120 NSF**
   Provide one if Nutrition / Dietetics is authorized.

6. **Demonstration Kitchen (NCWD5)** **360 NSF**
   Provide one if a Demonstration Kitchen for Nutrition / Dietetics is authorized.

7. **Office, Private (OFA04)** **120 NSF**
   Provide one per each Nutrition / Dietetics FTE position authorized to have a private office.

8. **Office, Shared (OFA05)** **120 NSF**
   Provide one for every increment of two Nutrition / Dietetics FTE positions authorized to have a shared office.

9. **Cubicle, Administrative (OFA03)** **60 NSF**
   Provide one per each Nutrition / Dietetics FTE position authorized to have a cubicle.

   These cubicles may be collocated in a shared space or dispersed as required.

10. **Classroom (CLR02)** **400 NSF**
    Provide one if a Classroom for Nutrition / Dietetics is authorized.

11. **Preventive Food Pantry (SRS01)** **100 NSF**
    Provide one if a Preventive Food Pantry for Nutrition / Dietetics is authorized.

12. **Alcove, Height / Weight (EXR11)** **30 NSF**
    Provide one if an Alcove, Height / Weight for Nutrition / Dietetics authorized.

13. **Storage, Forms & Literature (SRS01)** **120 NSF**
    Provide one if a Forms & Literature Storage for Nutrition / Dietetics authorized.

SECTION 5: PLANNING AND DESIGN CONSIDERATIONS

The following design considerations are intended to provide planners and designers with guidance on world-class and evidence-based design strategies for new healthcare facilities and renovation of existing ones. Please refer to the World Class Checklist (https://facilities.health.mil/home/). Also refer to Food and Nutrition Services for Hospitals and Outpatient Facilities in the FGI Guidelines for Design and Construction of Hospitals and Outpatient Facilities by the Facility Guidelines Institute (the FGI Guidelines).

5.1. NET-TO-DEPARTMENT GROSS FACTOR. The net-to-department gross factor (NTDG) for Food and Nutrition Service is 1.40. This number when multiplied by the programmed net square foot (NSF) area determines the departmental gross square feet. This factor accounts for the space occupied by internal department circulation and interior partitions and other construction elements not defined by the net square foot area. Refer to UFC 4-510-01, Section 2-3.4.2.2 and DoD Space Planning Criteria Chapter 130: Net to Gross Conversion Factors.

5.2. GENERAL DESIGN CONSIDERATIONS.

A. The net-to-department gross factor (NTDG) for Food and Nutrition Service is 1.40. This number when multiplied by the programmed net square foot (NSF) area determines the departmental gross square feet. This factor accounts for the space occupied by internal department circulation and interior partitions and other construction elements not defined by the net square foot area. Refer to UFC 4-510-01, Section 2-3.4.2.2 and DoD Space Planning Criteria Chapter 130: Net to Gross Conversion Factors.

B. To maximize efficiency and minimize traffic in the Kitchen, the adjacency of the functional areas is important. Staff and materials should have a logical flow from receiving to storage to production and to points of service. Refer to the Functional Diagrams at the end of this chapter for more information.

C. Adequate circulation aisles or corridors should be provided so that the general traffic in the Kitchen moves around the busiest areas: Food Preparation & Production, tray Assembly, and Dishwashing.

D. The Kitchen should be designed as an open floor plan concept with as few full height walls as possible. Low walls may be used to create separation without obstructing the view into other areas. An open Kitchen concept encourages communication among the staff and is easier to manage.

E. Efficient workstations in the Kitchen are equipped to support the menu and sized to accommodate the number of staff that will be in the workstation.

F. Design options that create flexibility should be included. For example, an island of cooking equipment could be provided with a utility distribution system or UDS. This is a horizontal stainless steel enclosure manufactured with electrical outlets, gas and water

connections. In the future, equipment can easily be changed or relocated. Mobile worktables allow adjustment to workstations. In the Servery the use of adjustable sneeze guards allow a service counter to be changed from served to self-served.

G. Sanitation is paramount. Cooking equipment on casters, equipped with quick disconnect assemblies is preferred. A line of cooking equipment may be designed so that Items that have fixed utility connections are interspersed with mobile equipment. This provides maximum accessibility for maintenance and cleaning.

H. Throughout the entire foodservice operation, sustainable initiatives can contribute to reduction of energy, fuel and water usage. Examples include Energy Star rated equipment, devices that capture heat from exhaust hoods and compressors, heat water that can be used to wash dishes and variable speed fans.

I. Earth-friendly waste handling systems that offer practical solutions for the disposal of food and paper waste are strongly encouraged. Waste pulper systems have advantages over standard waste disposers, but some areas of the country have banned both. Local codes should be investigated. Waste haulage fees should be evaluated. Equipment that reduces biodegradable waste using dehydration or enzymes is available, and may provide a solution. Each facility needs to develop the best system for their operation.

J. Web-based monitoring of foodservice equipment can track equipment from date of purchase to date of replacement or removal, implement maintenance scheduling systems, predictive and preventative upkeep alerts, and work order tracking and storing asset warranty information, serial numbers, and inspection results.

K. The serving area or Servery has special requirements in terms of adjacencies and patron traffic patterns. Adequate space to form customer lines should be taken into consideration. Slow stations such as the Grill or Deli, where food is made to order require more queuing space. Fast to moderately fast stations such as Grab and Go or Hot Entrées require less queuing space. Locations of the stations in the Servery create traffic patterns. For example, the location of the tray counter will direct incoming traffic to that counter.

L. Technology can be used to create a better, more personal experience for the patient. Touch screen devices record patient meal requests at bedside and communicate the requests to the Kitchen. Room service ordering software used by staff in the Kitchen, take patient meal requests that are then forwarded to printers on the cooking line.

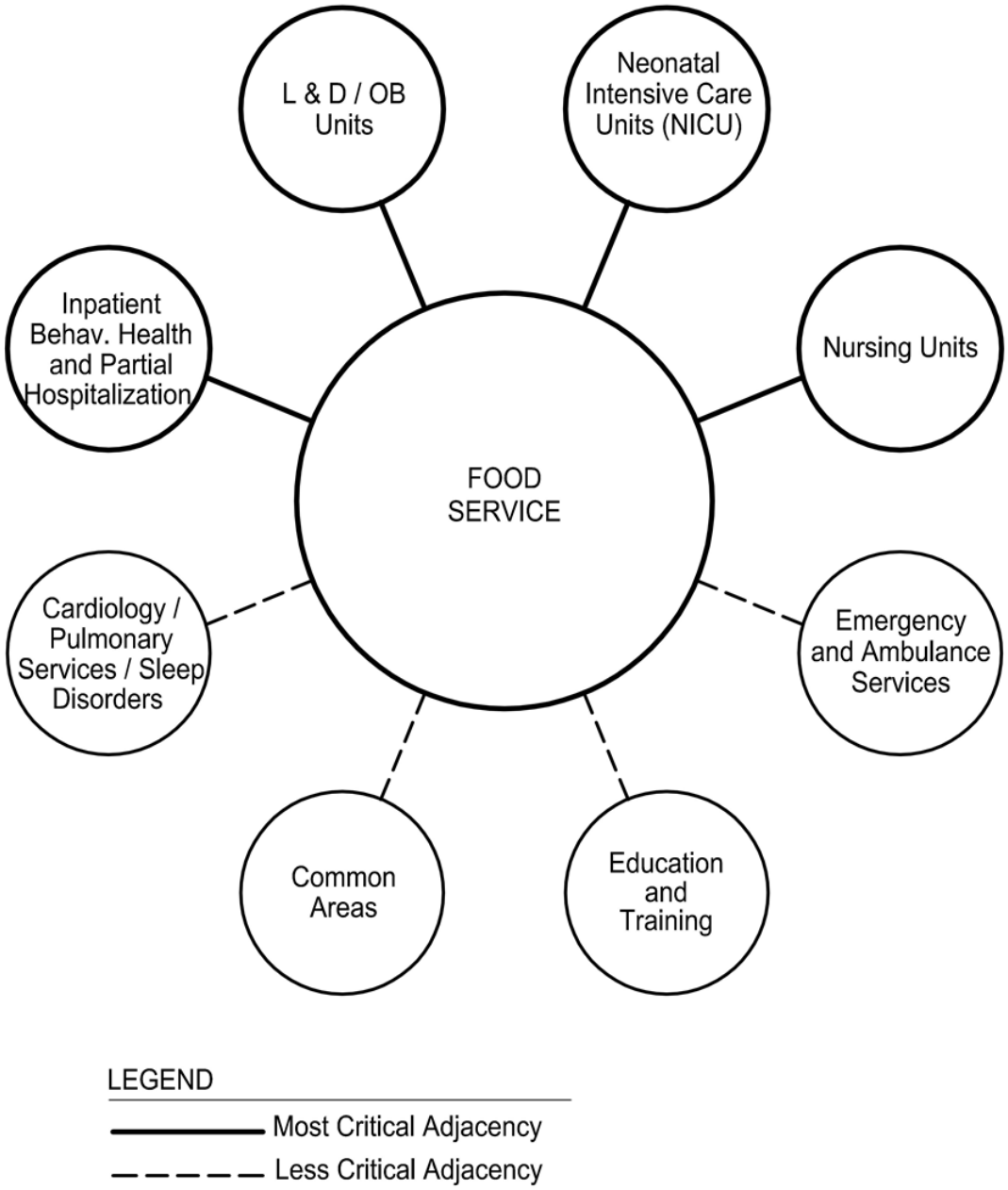
M. Technology that can be considered for the Cafeteria includes debit and credit cards in place of cash, and touch-screen ordering.

N. Cashier, serving stations, and salad bars shall be designed with solid tray glides for customer ease of movement. The design must allow for generous queuing room at the cash register stations to prevent interference of the line with the flow of the servery

O. Time available for lunch, the peak meal in the Cafeteria, is a factor in its design. Generally, medical center staff has a limited time for lunch. Cafeteria food stations can respond to this by offering menu items that can be prepared and consumed quickly. A self-serve food bar that includes both hot and cold foods, or refrigerated display cases that offer entrée salads are options.

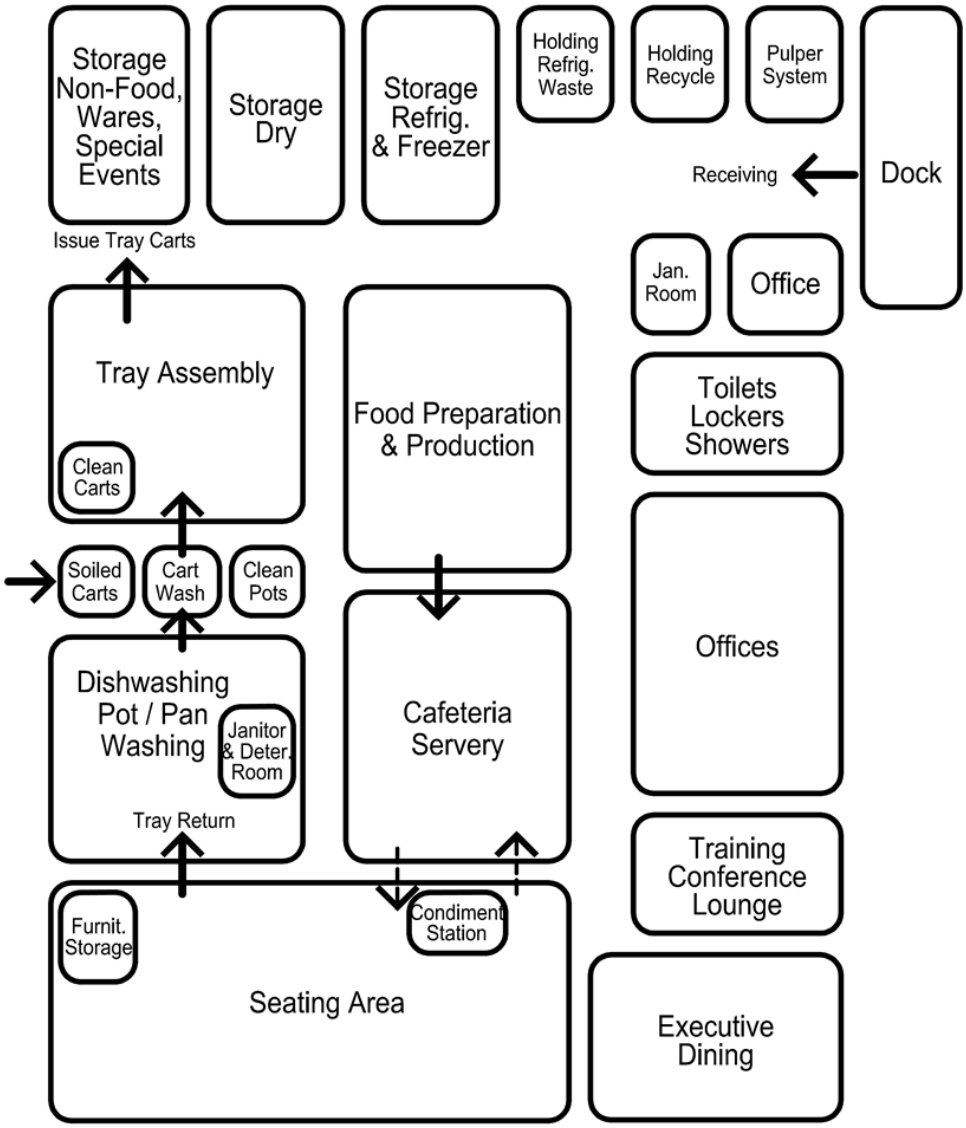
SECTION 6: FUNCTIONAL RELATIONSHIPS (INTERDEPARTMENTAL): FOOD SERVICE

6.1. FUNCTIONAL RELATIONSHIPS. Food Service provides services to a number of other services in a Military Treatment Facility (MTF) for patient care and support functions. The diagram below represents desirable relationships based on efficiency and functional considerations.



SECTION 7: FUNCTIONAL DIAGRAM (INTRADEPARTMENTAL): KITCHEN (COOK / SERVE) AND SERVERY

7.1. FUNCTIONAL DIAGRAM. The diagrams that follow illustrate intradepartmental relationships among key areas / spaces. The diagram is necessarily generic. The planner shall use this as a basis for design only and shall consider project-specific requirements for each Military Treatment Facility.



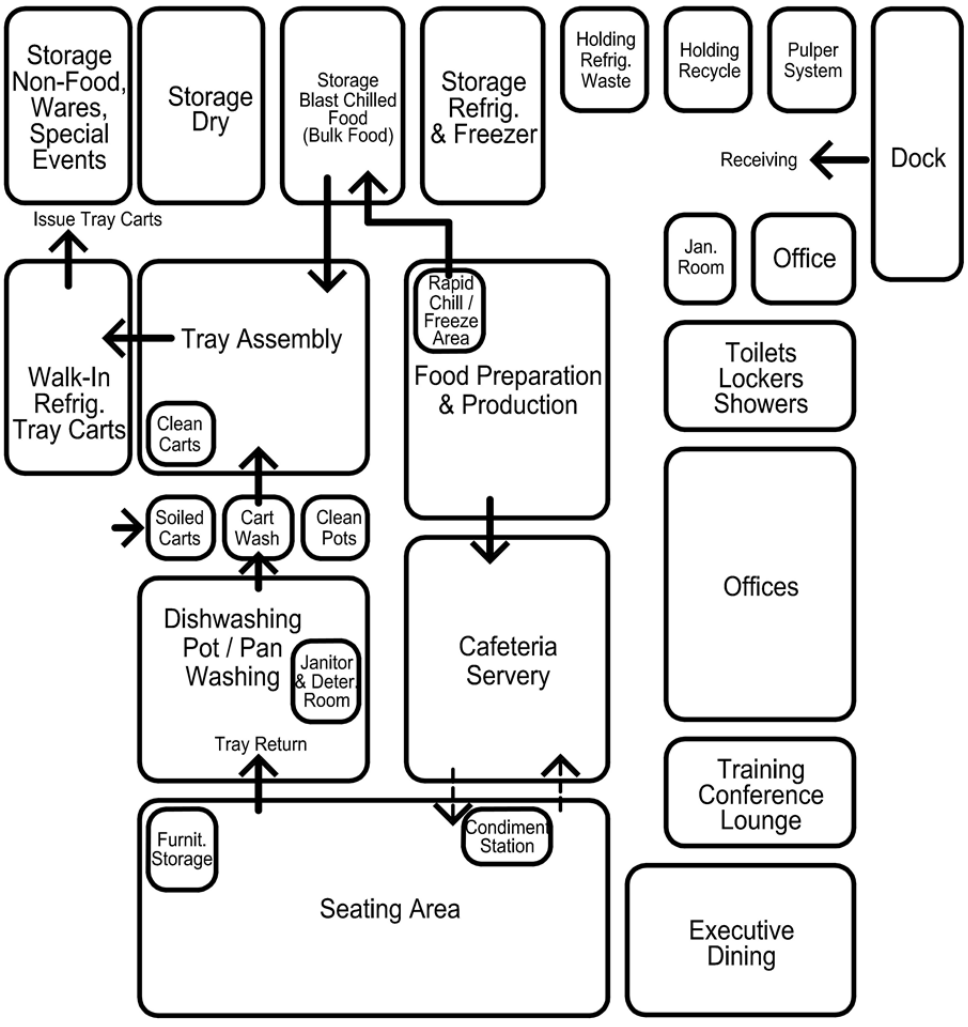
COOK / SERVE KITCHEN & CAFTERIA

LEGEND

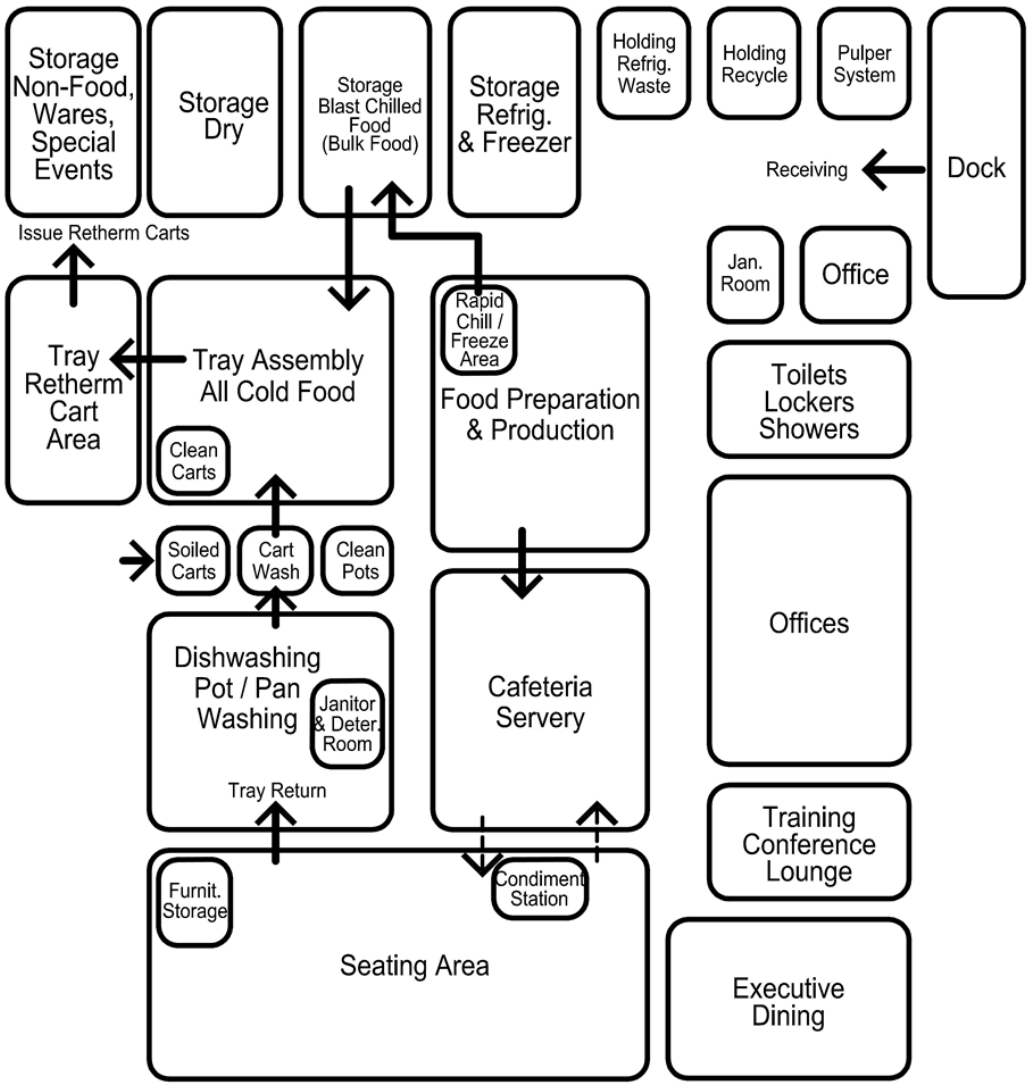
Kitchen Circulation
Servery Circulation

NOTE: Size and shapes of spaces do not reflect actual configuration or square foot area of departments.

SECTION 8: FUNCTIONAL DIAGRAM: KITCHEN (COOK / CHILL / DECENTRALIZED TRAY RETHERM) AND SERVERY



SECTION 9: FUNCTIONAL DIAGRAM: KITCHEN (COOK / CHILL / CENTRALIZED TRAY RETHERM) AND SERVERY



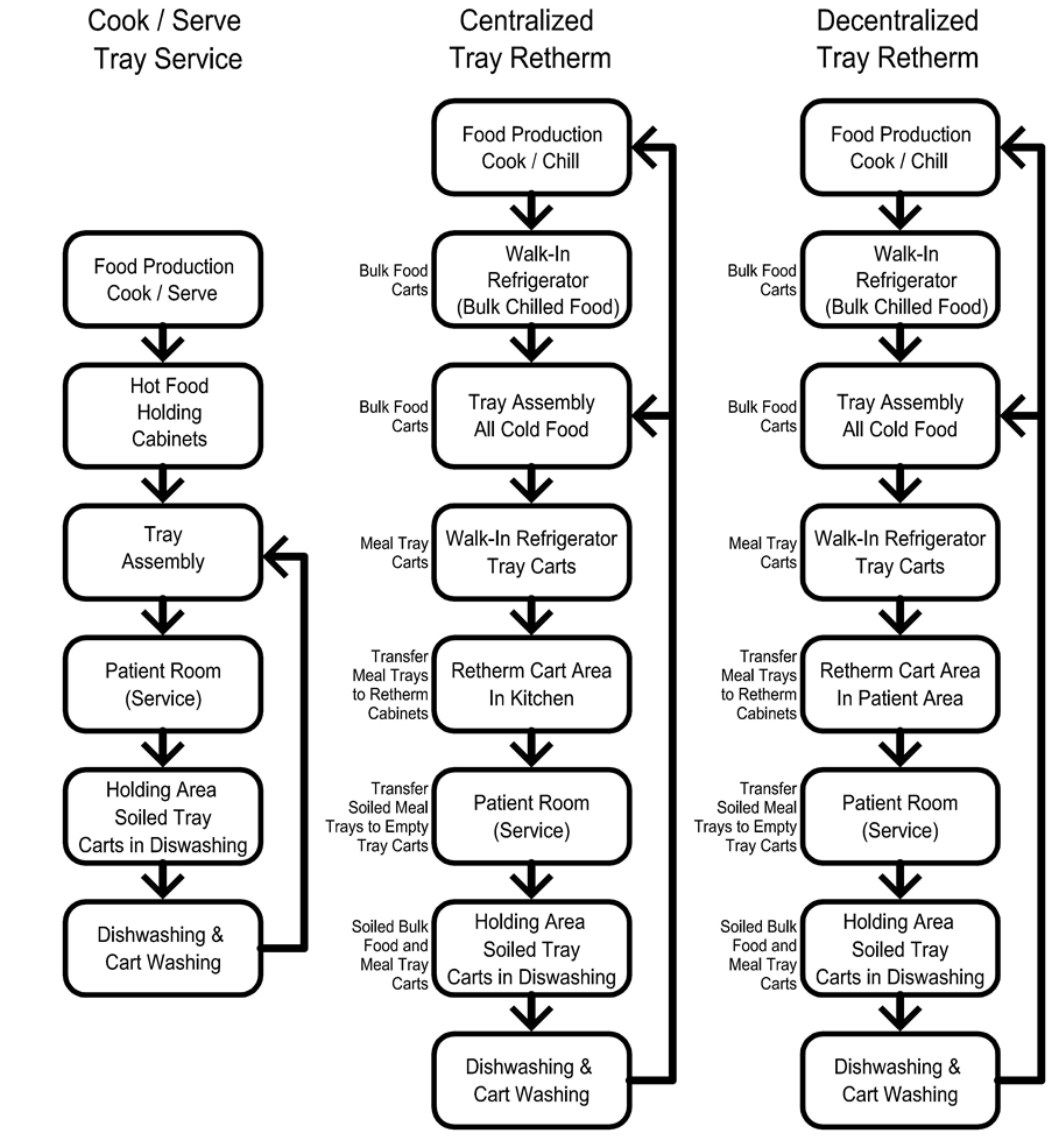
KITCHEN (COOK / CHILL / CENTRALIZED TRAY RETHERM) AND CAFETERIA

LEGEND

Kitchen Circulation
Servery Circulation

NOTE: Size and shapes of spaces do not reflect actual configuration or square foot area of departments.

SECTION 10: FUNCTIONAL DIAGRAM: FLOW OF PATIENT MEAL DELIVERY
PATIENT MEAL SYSTEM: COOK / SERVE



FLOW DIAGRAMS PATIENT MEAL DELIVERY SYSTEMS

LEGEND

Process Flow Pattern

NOTE: Size and shapes of spaces do not reflect actual configuration or square foot area of departments.

GLOSSARY

G.1. DEFINITIONS.

Adjusted Peak Single Meal (APSM): The maximum number of meals prepared and served during a single meal period, breakfast or lunch or dinner. It excludes meals served to non-ambulatory patients.

Advanced Delivery System (ADS): A tray delivery system that uses special carts designed to hold both cold prepared food and food that has been cooked and rapidly chilled. The chilled hot food is re-thermalized in the cart before meal service. See Tray Retherm Cart in this section.

Tray Retherm, Centralized (ADS): This system consists of individual docking stations that may be arranged in a central location in the Kitchen, or in the Satellite Unit.

Tray Retherm Cart System, Conducted Heat (ADS): Meals are assembled cold on trays, and placed in rethermalization carts which are held in roll-in refrigerators, or a centralized walk-in refrigerator. During meal assembly, food items that are to be served hot are placed on flat-bottom plates that rest on top of heating elements. When the pre-programmed rethermalization process begins, the heating elements rethermalize hot-food items to the proper serving temperature. Insulated domes cover the plate to contain the heat and keep food hot, while ensuring that nearby cold foods remain perfectly chilled

Tray Retherm Cart System, Convected Air (ADS): The two components of the convected air system are a meal tray rethermalization cart and a docking station for the cart. A meal tray with chilled hot foods on one side and cold foods on the other is placed into the cart. The cart is rolled into a docking station that uses forced air to refrigerate the entire tray. Before meal service the docking station automatically goes into a retherm mode. The chilled hot food is re-thermalized while the cold portion of the tray continues to be refrigerated. In the centralized model multiple retherm docking stations are located in the kitchen near the tray line. In the decentralized model, the docking stations are located in the floor pantries or dining rooms. Standard ceramic dishes and wares, or disposable dishes are used.

Advanced Food Preparation System (AFPS): Any food production method that uses equipment to rapidly chill or freeze hot food for use in advance of the meal service. Meal trays are assembled, or food in bulk is portioned in advance of service and kept refrigerated until it is re-thermalized. For example, the breakfast meal tray would be assembled the day before it is needed.

Authorized: This document uses the term “authorized” to indicate that, during a project’s space plan development, a planner shall seek approval from the appropriate official in the chain of command to activate certain spaces or certain groups of spaces. Typical components that may require authorization are certain programs or services that activate Functional Areas (e.g., GME); office spaces (e.g., FTE position); specialized rooms (e.g., Hybrid OR) or other spaces (e.g., On-

Call Room). Typically, Mission, Staffing and Miscellaneous Input Data Statements require authorization, while directly and indirectly workload driven rooms / spaces do not.

Cafeteria-style Serving Unit: A small cafeteria for serving regular and therapeutic diets to ambulatory patients. Includes all space and equipment required for holding, displaying and serving food and beverages so that the patient can make his/her choice of menu items. The menu will include some foods that can be assembled, finished or cooked to order. Components of the Cafeteria-style Serving Unit include short order cooking, serving counters, salad bar, beverage station, backup units and access or circulation space related to their use. Food in bulk may be cook/served or cook/chilled/rethermalized.

Central Production Kitchen (CPK): A kitchen designed and equipped to produce a minimum of 5000 meals per day for multiple Satellite Units. In addition to conventional cooking, the CPK uses more than one Advanced Food Preparation System (AFPS). The CPK requires special production equipment, extensive refrigerated and frozen storage, and transportation equipment to deliver food to remote locations. The CPK may be located on a Medical Campus or may be a stand-alone facility.

Cook / Blast-Chill: Blast chilling is the simplest method of rapidly chilling hot food. Food is first prepared in conventional cooking equipment. Most recipes do not need to be adjusted to adapt to chilling and reheating. Within 30 minutes of cooking, food is portioned into 2-1/2" deep pans and placed in a blast chiller for 60 to 90 minutes. Chilled food in pans has a shelf life of five (5) days including the day of preparation and the day of distribution or use. Blast chillers may also be used for rapidly chilling left over food, cold food ingredients, or preparing food in advance for special events. The recommended minimum volume of meals for a blast-chill system is 150 meals per meal-period or 450 meals per day.

Cook / Serve (Conventional): Food is cooked or heated, and served within a short time span. Conventional cooking equipment is used to bake, roast, steam, fry, braise, broil or boil foods.

Cubicle: A cubicle is a partially enclosed workspace, separated from neighboring workspaces by partitions. Managers and other staff with no supervisory responsibilities as well as part-time, seasonal, and job-sharing staff may qualify for a cubicle.

Delivery Lane: An open area outside the building at ground level and adjacent to the dock that accepts delivery trucks.

Demonstration Kitchen: An instructional kitchen, as part of a Healthy Cooking Program where cooking skills and healthy meal choices are taught.

Food Cart, Cook / Chill: The cart consists of a compartment that is programmed to re-thermalize pans of rapid chilled foods, and a compartment that is a small refrigerator. Hot food that has been rapid chilled is loaded into the cart. Re-thermalization of food is automatically programmed for meal service. Hot food is served from a heated worktop with a heat lamp. Cold menu items are served from the refrigerated section. Meals are plated and assembled in the pantry or in a dining room. Storage for dishes and wares are also on the cart.

Food Cart, Hot / Cold: A self-contained cart that features one refrigerated compartment and one heated compartment. Some carts use single trays for the entire meal with separate sections for hot and cold food items. Some use two small trays, one for hot and one for cold food that are combined at the time of service.

Full-Time Equivalent (FTE): A staffing parameter equal to the amount of time assigned to one full time employee. It may be composed of several part-time employees whose total time commitment equals that of a full-time employee. One FTE equals a 40-hour per week workload. The FTE measure may also be used for specific workload staffing parameters such as a clinical FTE; the amount of time assigned to an employee providing clinical care. For example, a 0.5 clinical FTE for a healthcare worker would indicate that the healthcare worker provides clinical care half of the time during a 40-hour work week.

Functional Area (FA): The grouping of rooms and spaces based on their function within a clinical service. Typical Functional Areas are Reception Area, Patient Area, Support Area, Staff and Administrative Area, and Education Area.

Heat / Serve Prepared Foods: Processed prepared foods are heated, warmed or baked before use.

Inpatient Meal Trays (IMTs): The maximum number of inpatient meal trays prepared for a single meal based on the number of beds.

Input Data Statement: A set of questions designed to elicit information about the healthcare project in order to create a Program for Design (PFD) (see definition below); based on the space criteria parameters (refer to Section 4) set forth in this document. Input Data Statements are defined as Mission, Workload, Staffing or Miscellaneous.

Kitchen: A food production facility designed and equipped to produce food for designated populations of patients, residents, employees and visitors. Food may be served within a building or transported to Satellite Units. The kitchen may include a rapid-chill system to complement a conventional Cook / Serve system. Refer to definitions "Cook / Serve (Conventional)", “Cook / Blast-Chill” and “Central Production Kitchen” for additional information.

Loading Dock: Exterior covered space where delivery trucks unload materials and goods.

Net Square Feet (NSF): The area of a room or space derived by multiplying measurements of the room or space taken from the inside surface of one wall to the inside surface of the opposite wall.

Net-to-Department Gross Factor (NTDG): A parameter used to calculate the Department Gross Square Foot (DGSF) area based on the programmed Net Square Foot (NSF) area. Refer to DoD Chapter 130 for the NTDG factors for all Space Planning Criteria chapters.

Office, Private: A single occupancy office provided for confidential communication.

Office, Shared: An office that accommodates two workstations.

Patient Room Service: Patients may request meals anytime during a designated meal service period, typically 7 AM to 7 PM. Orders are placed via phone, or spoken to a hostess on the patient floor. If a patient is unable to make a request, a non-select meal tray may be issued and communicated electronically to the Patient Order / Request Center Workroom in the Kitchen. Several tray assembly systems for a room service program are available. See Tray Assembly, Cook to Order, Tray Assembly, Pod, and Tray Assembly, Straight Line for additional information.

Peak Single Meal (PSM): The maximum number of meals prepared and served during a single meal period, breakfast or lunch or dinner. It includes meals served to patients, staff, and visitors regardless of dining location.

Preventive Food Pantry (PFP): The PFP fills a therapeutic gap by linking patients to physicians and nutritionists in the MHS. The PFP makes recommendations for supplemental foods that patients may purchase to best promote physical health, prevent future illness, and facilitate recovery.

Program for Design (PFD): A listing of all of the rooms / spaces generated based on answers to the Input Data Statements (see Section 3) and the space planning criteria outlined in this document (Section 4) in SEPS. The list is organized by Functional Area and includes the Room Quantity, Room Code, Room Name, generated Net Square Feet (NSF), Construction Phase and Construction Type.

Project Room Contents (PRC): A listing of the assigned contents (medical equipment, FF&E, etc.) for each room in a PFD generated by SEPS.

Re-thermalization: A technical term for heating cook/chilled or frozen food to a minimum core temperature per food safety guidelines.

Satellite Unit, Campus: Receives meal trays or food in bulk from a Kitchen on the same medical center campus. The Satellite Unit may be connected to the Kitchen via interior corridors and elevators or will require delivery by truck. The food service for each Satellite Unit may vary significantly, ranging from the delivery of ready to serve meal trays, to a tray assembly line, to a patient cafeteria.

Satellite Unit, Remote: For purposes of space planning, the Remote Satellite Unit is the same as a Campus Satellite Unit, except it is not located on the medical center campus. The Remote Satellite Unit may have the capability to prepare part of each day's menu (usually breakfast), as well as simple, basic, but complete menus for several days under emergency conditions. Unless authorized to receive hot food or hot / cold meal trays, food in bulk or trays that are received will be all cold and re-thermalized on site.

Space and Equipment Planning System (SEPS): A digital tool developed by the Department of Defense (DoD) and the Department of Veterans Affairs to generate a Program for Design (PFD) and a Project Room Contents list (PRC) for a DoD healthcare project based on approved Space

Planning Criteria, the chapter and specific project-related Mission, Workload and Staffing information entered in response to the Program Data Required - Input Data Statements (IDSs).

Tray Assembly, Carousel: A motorized or non-motorized roller conveyor moves meal trays along a series of stations. To prepare the meal tray, staff members place selected items on the tray until it reaches the check point at the end. The tray may be completed with a hot beverage, domes are added, then tray is placed in a delivery cart and moved to the patient areas.

Tray Assembly, Centralized: Meal trays are assembled in the kitchen and then transported on carts to patient floors or pantries. Food used on the central tray line may be hot and cold, or all cold, depending on whether a cook / serve or cook / chill production system is used.

Tray Assembly, Counter, Cook-to-Order: This system is used for traditional tray assembly and for Patient Room Service. A typical tray assembly area consists of the short-order cooking line, a cook's counter with hot and cold stations on the cook's side and a non-motorized tray conveyor on the server's side. Typical tray line support equipment is used. This may include carts for trays, dishes, cups and glasses, heated pellets and dishes, and refrigerators for plated cold food, beverages, and desserts. Office space and computer software are needed to take orders.

Tray Assembly, Decentralized: Plated cold food and food in bulk are transported to pantries on patient floors. Meal trays are assembled in the pantries.

Tray Assembly, Pod: Rather than each person placing one menu item on a tray as it moves along a conveyor, a small team assembles entire meal trays from "pods that consist of a stationary worktable with shelves above for utensils and condiments, a hot food counter, and typical tray line support equipment such as carts for trays, dishes, cups and glasses, heated pellets and plate warmers, or underliner heaters, refrigerators for plated cold food and desserts, and beverage equipment.

Tray Assembly, Straight Line: A straight motorized or non-motorized roller conveyor moves meal trays along a series of stations. To prepare the meal tray, staff members place selected items on the tray until it reaches the checkpoint at the end. Domes are added, and the tray is placed in a delivery cart and moved to the patient areas.

Tray Delivery System, Conventional: Trays are assembled with hot and cold foods, loaded onto standard delivery carts and moved to patient areas. Heated pellets or bases, and heated plates are used to maintain temperatures of hot foods. Insulated or chilled plates are used for cold foods.

Workload: Space Planning Criteria per DHA Policy shall be workload driven. Workload projections divided by the throughput determined in this document for each workload driven room determines the quantity of rooms needed to satisfy the projected workload demand.