UFC 4-722-01
2 July 2007

UNIFIED FACILITIES CRITERIA (UFC)

DINING FACILITIES

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DINING FACILITIES

U.S. ARMY CORPS OF ENGINEERS

NAVAL FACILITIES ENGINEERING COMMAND (Preparing Activity)

AIR FORCE CIVIL ENGINEER SUPPORT AGENCY

Record of Changes (changes are indicated by **1**\ ... /**1**/)

Change No.	Date	Location

This UFC supersedes UFC 4-722-01, dated January 2003.

FOREWORD

The Unified Facilities Criteria (UFC) system is prescribed by MIL-STD 3007 and provides planning, design, construction, sustainment, restoration, and modernization criteria, and applies to the Military Departments, the Defense Agencies, and the DoD Field Activities in accordance with USD(AT&L) Memorandum dated 29 May 2002. UFC will be used for all DoD projects and work for other customers where appropriate. All construction outside of the United States is also governed by Status of forces Agreements (SOFA), Host Nation Funded Construction Agreements (HNFA), and in some instances, Bilateral Infrastructure Agreements (BIA.) Therefore, the acquisition team must ensure compliance with the more stringent of the UFC, the SOFA, the HNFA, and the BIA, as applicable.

UFC are living documents and will be periodically reviewed, updated, and made available to users as part of the Services' responsibility for providing technical criteria for military construction. Headquarters, U.S. Army Corps of Engineers (HQUSACE), Naval Facilities Engineering Command (NAVFAC), and Air Force Civil Engineer Support Agency (AFCESA) are responsible for administration of the UFC system. Defense agencies should contact the preparing service for document interpretation and improvements. Technical content of UFC is the responsibility of the cognizant DoD working group. Recommended changes with supporting rationale should be sent to the respective service proponent office by the following electronic form: Criteria Change Request (CCR). The form is also accessible from the Internet sites listed below.

UFC are effective upon issuance and are distributed only in electronic media from the following source:

- Whole Building Design Guide web site http://dod.wbdg.org/.

Hard copies of UFC printed from electronic media should be checked against the current electronic version prior to use to ensure that they are current.

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UNIFIED FACILITIES CRITERIA (UFC)
REVISION SUMMARY SHEET

Document: UFC 4-722-01, Dining Facilities
Superseding: UFC 4-722-01 Dining Facilities, dated 27 January 2003

Description of Changes:

The primary intent of this revision was to develop performance-based criteria to facilitate the application of this document to design-build projects. Therefore, the planning section was reworked to outline the facility's functional spaces and the criteria for each space that drives the planning process. The following key planning factors were identified: Number of personnel served, meal schedule and duration, serving methodologies, and serving capacity/turnover rate. The intent is to provide the operational considerations which drive the planning and design of Dining Facilities.

Reasons for Changes:

The UFC has been changed for the following reasons:

- Facilitate the application of this document to design-build projects.
- Correct Navy space criteria to reflect the reduced storage requirements driven by the use of prime vendor contracts and just-in-time delivery practices (other Services have provided references to their applicable space criteria).
- Correct errors and outdated material and references.

Impact:

Facility construction costs should be reduced as a result of these changes for the following reasons:

- The performance-based criteria should reduce design-build proposals. Responders will be able to apply industry best-practices and more creativity to their proposals to reduce costs while still meeting the minimum technical design and construction standards outlined in Chapter 3.
- Navy and Marine Corps facility costs will be reduced as a result of the reduced facility size requirements. The reduction is size ranges from 4% for the smallest facilities (1-80) up to 18% for the largest facilities (1501-2200).

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CHAPTER 1 INTRODUCTION

1-1 SCOPE.

This UFC (Unified Facilities Criteria) presents facility operation, programming, and sustainability information to guide the design and construction criteria for all Department of Defense (DoD) enlisted dining facilities for both outside and inside the continental United States. Emphasis is placed on the design of functional and pleasant food service facilities that help attract and retain service personnel. This UFC applies to both new construction and renovation and modernization projects.

1-2 DISTRIBUTION OF RESPONSIBILITIES.

1-2.1 Army.

There are three participants in the development of Army facility design. First, the local command identifies the need for a new, modernized, or enlarged dining facility and initiates the project development process. Second, the Army Corps of Engineers Center of Standardization for Army dining facilities is responsible for standards design and/or review of all Army facility designs. Third, the Army Center of Excellence Subsistence (ACES) office sets the standard for all Army food service operations and determines the facilities and equipment required to perform the operations. ACES is the agent of the Army Chief of Staff for Installation Management (ACSIM) Installation Management Agency (IMA).

Direct questions regarding **Army** projects to either HQUSACE/CECW-CER, 441 G Street NW, Washington, DC, 20314, telephone 202-761-0750 or the EPDF Center of Standardization, Norfolk, CENAO-TS-EA, 803 Front Street, Norfolk, VA, 23510, telephone 757-201-7220.

1-2.2 Navy.

There are four participants in the development of Navy facility design. First the local installation and facility manager identify the need for a new, modernized, or enlarged dining facility and initiates the project development process. Second, the Naval Facilities Engineering Command set the standards for developing the criteria and establishing the facility space requirements. Third, the Naval Supply Systems Command sets the standard food service operations. Fourth, the management of the design and construction of Navy facilities is a joint effort of the Naval Facilities Engineering command and the cognizant Navy Region.

Direct design questions regarding Navy projects to Office of the Chief Engineer, Naval Facilities Engineering Command, 1322 Patterson Avenue, SE, Suite 1000, Washington Navy Yard, DC 20374, telephone (202) 685-9167 or Commander, Naval Facilities Engineering Command Atlantic, 6506 Hampton Blvd Norfolk VA 23508-1278, telephone 757-322-8000 or visit the NAVFAC website at http://www.navfac.navy.mil.

1-2.3 **Air Force.**

There are three participants in the development of Air Force facility design. First, the local installation Civil Engineer identifies the need for a new, modernized, or enlarged dining facility and initiates the project development process. Second, an Air Force project manager is designated to manage design and construction. Third, the Air Force Services Agency sets the standards for all Air Force food service operations and determines the facilities and equipment required to perform the operations.

Direct questions regarding Air Force projects to HQ AFCEE/TDB, www.afcee.brooks.af.mil.

1-2.4 **Marine Corps.**

Headquarters Marine Corps, Logistics Food Service, Code (LFS-4) manages policies, sets standards, and directs all food service operations within the Marine Corps. The design project manager is responsible for approval of design and construction. Each new mess hall facility will have a technical representative assigned by the activity Food Service Office to coordinate needs and requirements between Code LFS-4, the cognizant Naval Facilities Engineering Command component, and other activities' as needed.

1-3 **COORDINATION.**

Prior to project development, coordinate the design team composition and facility requirements with the Service contacts noted in Section 1-3 and confirm the acquisition methodology.

1-3.1 **Design Professionals.**

The design team of record for Dining Facilities shall include a food service consultant that is qualified as a member of Foodservice Consultants Society International or equal. The design team should coordinate with Service user representatives and construction staff.

1-3.2 **Acquisition Methodology.**

There are two primary acquisition methodologies for Government construction: design-bid-build and design-build. Service personnel involved with project development should understand the acquisition methodology as it affects how and when they can influence the resulting facility design.

1-3.2.1 **Design-Bid-Build.** The design-bid-build acquisition methodology is characterized by separation between the designer of record and the construction contractor. The Government contracts with an architect or engineer to design the facility and separately contracts with a contractor for construction. Service personnel have the opportunity to interface with the designer of record and influence the design at several predefined points in the design process.

1-3.2.2 **Design-Build.** The design-build acquisition methodology is characterized by the combination of design and construction services under one contract. The Government contracts with one entity to prepare the design and to construct the facility based on the requirements outlined in a request for proposal (RFP). Service personnel have the opportunity to influence the design during the development of the RFP and during the design-build contractor selection process.

1-4 SCOPE OF FACILITY.

Dining facility functional design is driven by the payment style, food delivery and eating methodologies, and any additional functions accommodated in the specific facility. These functions and how they drive the design of the facility are described in detail in paragraph 2.1.

CHAPTER 2 PLANNING AND DESIGN ISSUES

2-1 FOOD SERVICE PLANNING DETERMINATIONS.

Planning the size and layout of dining facilities depends upon the following determinations.

2-1.1 Number of Personnel to be Served.

The number of personnel to be served drives the overall size of the facility (also see Paragraph 2-2) per the following references:

- **Army.** Army will follow MILCON Transformation Model RFP guidelines.
- **Navy and Marine Corps.** NAVFAC P-80, *Facility Planning Criteria for Navy and Marine Corps Shore Installations*, category code 722.
- **Air Force.** Air Force Handbook AFH 32-1084, *Facility Requirements*.

2-1.2 Meal Schedule and Duration.

The meal schedule and duration affects both the sizing and layout of the facility. Meal schedule may vary by Service, region, and Installation. The specific meal schedule shall be determined as part of the planning process. Army meal durations are documented in AR 30-22, *Army Food Service Program.*

2-1.3 Payment.

The payment style affects the layout of the facility.

- Cafeteria style. Patrons pay a set meal price upfront and chose from predetermined options.
- A la Carte. Patrons pick up individual menu items and pay only for the items selected.

2-1.4 Food Delivery and Eating Methodology.

The food delivery and eating methodologies affect the size and layout of the facility. Dining facilities may accommodate more than one of the following methodologies:

- Serving Line or Station. Patrons choose from predetermined options off of serving lines or stations such as hot bar line, salad bar, deli bar, pizza bar, taco bar, etc. Food may be packaged for consumption in the facility or for takeout.

- Short order. Patrons order items for custom preparation. Food may be packaged for consumption in the facility or for takeout.

- Takeout/Meal Replacement. Patrons chose from assorted prewrapped and prepackaged items that may range from hamburgers and pizza to full meals.

2-1.5 **Menu.**

Menu options, nutritional guidelines, and the required variety shall be determined prior to design. These will be used to determine the needed preparation and serving equipment and storage.

2-1.6 **Staffing.**

Staffing requirements shall be determined prior to design and will be used to size the administrative areas, staff lockers, and toilets.

2-1.7 **Bussing.**

The choice of contract/staff bussing or patron self-bussing is the option of the local command. All facilities shall be designed to accommodate both modes of bussing, and this affects the facility layout. Bussing carts should be screened from view of the dining area.

2-1.8 **Other Facility Functions.**

The dining facility may accommodate one or more of the following additional functions:

- Field Feeding/Vat Chow. Dining facility prepares group meals for field consumption. This function includes storage of field preparation and serving equipment.

- Flight Kitchens and Box/Bag Meals. Dining facility prepares individual meals for field consumption.

- Recreation Chow. Dining facility prepares special event group meals for consumption outside the facility.

2-2 **FUNCTIONAL SPACES.**

The food service planning determinations along with other basic building design and operation determinations establish the size, layout, and design of the facility functional spaces.

2-2.1 **Entrance Lobby.**

The entrance lobby is the main entrance to the facility, and the size is determined by the number of personnel to be served. Provide a canopy or enclosure for patrons who arrive in advance of the opening of the facility. In extreme weather areas, this function can be accomplished in the form of a vestibule.

2-2.2 **Queue.**

The queue is the space between the entrance lobby and the serving area and is determined by the serving capacity and the serving methodology.

2-2.3 **Serving Area.**

The serving area accommodates ordering and delivery of food to patrons and is determined by the food delivery methodology and the payment style.

2-2.4 **Cashier Station.**

The cashier station accommodates patron payment and is determined by the food delivery methodology and the payment style. Payment options (cash, credit, Smart™ cards) will be determined prior to design.

2-2.5 **Dining Area.**

The dining area accommodates patron eating and relaxation. It is determined by the number of personnel to be served, the meal schedule and duration, and the food delivery methodology as expressed by turnover/serving capacity and seating capacity.

2-2.5.1 **Turnover/Serving Capacity.** Turnover is the number of times a dining area seat is occupied during a given period. Turnover drives the serving capacity, which is the number of patrons served within the set meal duration. The serving capacity is used to size the functional elements of the Dining Facility to ensure that the required number of patrons can be served in the meal duration. The serving capacity shall be determined prior to design.

2-2.5.2 **Seating Capacity.** Seating capacity is determined by considering the required serving capacity and the serving methodology. The seating capacity is used to size the dining area of the facility. For **Army** facilities, follow MILCON Transformation Model RFP guidelines.

2-2.6 **Public Toilets.**

The public toilets are determined by the number of personnel to be served.

2-2.7 **Dish/Pot-Washing.**

The dish- and pot-washing areas are determined by the number of personnel to be served, bussing considerations, the food delivery methodology, and the menu.

2-2.8 **Kitchen and Preparation Areas.**

The kitchen and all food preparation areas are determined by the number of personnel to be served, the food delivery methodology, and the menu.

2-2.8 **Storage.**

Storage areas accommodate stocks of subsistence (consumables) and nonsubsistence; e.g., tableware, cleaning supplies. The areas are determined by analysis of the menu, the number of personnel to be served, and the defined delivery cycles.

2-2.9 **Loading Dock.**

The loading dock accommodates material transfer in and out of the facility and shall be coordinated with storage requirements.

2-2.10 **Support Areas.**

Support areas accommodate staff needs such as offices and administrative tasks, toilets, lockers, and janitor closets. The areas are determined by the staffing requirements.

2-2.11 **Other Facility Functions.**

These spaces will be determined by the specific facility functions required as described in Paragraph 2-1.8.

2-2.12 **Building Services Areas.**

These spaces accommodate building services such as mechanical, electrical, and communications.

2-2.13 **Trash & Garbage Removal and Recycling.**

Garbage removal and recycling systems will be determined prior to design.

2-3 **SIZE OF FACILITIES.**

Gross allowable area is defined by guidance provided for each service in the following documents:

- **Army.** Army will follow MILCON Transformation Model RFP guidelines.

- **Navy and Marine Corps.** NAVFAC P-80, *Facility Planning Criteria for Navy and Marine Corps Shore Installations*, category code 722, *Unaccompanied Personnel Housing-Mess Facilities*

- **Air Force.** Air Force Handbook AFH 32-1084, *Facility Requirements*

2-4 SPACE PROGRAMS.

2-4.1 Army.

Army will follow MILCON Transformation Model RFP guidelines.

2-4.2 Navy and Marine Corps.

Figure 2-1 identifies functional areas in Navy dining facilities and provides a target space allotment for each functional area. These targets have been provided to serve as a budget to the designer and are not intended to be restrictive. The critical area that must be rigorously adhered to is the allowable gross area of the facility and storage requirements; i.e., provisions and nonprovisions. Actual gross allowable area for each project will be defined in the facility programming document DD Form 1391 for the specific project.

2-4.3 Air Force.

The Air Force provides design guidelines for its facilities.

TABLE 2-1A. NAVY SPACE PROGRAM

Facility Size	Minimum Seats & Turnover Rate	Public Areas						
		Dining Area & Circulation	Public Toilets	Queue	Sign-In Station			Total
1-80	62	87	17	12	4			120 sm
	1.3	935	180	130	40			1,285 SF
81-150	108	150	19	23	4			196 sm
	1.4	1,630	200	250	40			2,120 SF
151-250	116	174	20	30	4			228 sm
	2.2	1,875	220	325	40			2,460 SF
251-400	172	279	23	46	6			354 sm
	2.3	3,000	250	500	60			3,810 SF
401-650	288	437	28	70	8			543 sm
	2.3	4,700	300	750	80			5,830 SF
651-1000	345	587	30	93	9			719 sm
	2.9	6,320	320	1,000	100			7,740 SF
1001-1500	460	753	32	102	11			898 sm
		7,565	340	1,100	120			9,125 SF
1501-2200	575	1,022	34	153	11			1,220 sm
	3.8	11,000	370	1,650	120			13,140 SF

Facility Size	Minimum Seats & Turnover Rate	Serving Areas						
		Regular Food Line	Fast Food Line	Combin-ation Line	Beverage Line	Cashier Station	Dish Washing	Total
1-80	62	23			19	3	17	62 sm
	1.3	250			200	30	180	660 SF
81-150	108	30			23	3	23	79 sm
	1.4	320			250	30	250	850 SF
151-250	116			39	33	5	30	107 sm
	2.2			420	350	50	320	1,140 SF
251-400	172			58	46	5	35	144 sm
	2.3			620	500	50	380	1,550 SF
401-650	288	56	56		60	9	42	223 sm
	2.3	600	600		650	100	450	2,400 SF
651-1000	345	60	60		65	14	56	255 sm
	2.9	650	650		700	150	600	2,750 SF
1001-1500	460	98	60		75	19	68	320 sm
		1050	650		810	200	730	3,440 SF
1501-2200	575	121	60		98	23	96	398 sm
	3.8	1300	650		1056	250	1032	4,288 SF

Note: The total area for any given project will vary with the number of special functional requirements added to the basic programs. The area required for storage should be based on an engineering analysis and include the following: refrigerated storage, dry stores, non-food storage, carbonated beverage storage, and janitorial storage.

TABLE 2-1B. NAVY SPACE PROGRAM

Facility Size	Minimum Seats & Turnover Rate	Preparation Areas						
		Kitchen	Vegetable Preparation	Meat Preparation	Bakery	Utensil Wash		Total
1-80	62	60						60 sm
	1.3	650						650 SF
81-150	108	74						74 sm
	1.4	800						800 SF
151-250	116	56	20			16		92 sm
	2.2	600	220			175		995 SF
251-400	172	79	24			20		123 sm
	2.3	845	255			220		1,320 SF
401-650	288	93	28			31		152 sm
	2.3	1000	300			330		1,630 SF
651-1000	345	102	33	22	64	37		258 sm
	2.9	1100	350	240	690	400		2,780 SF
1001-1500	460	119	33	28	77	46		303 sm
		1285	360	300	825	500		3,270 SF
1501-2200	575	149	56	46	96	56		403 sm
	3.8	1600	600	500	1035	600		4,335 SF

Facility Size	Minimum Seats & Turnover Rate	Support Areas						
		Offices	Staff Toilets	Staff Lockers	Janitor's Closet	Can Wash	Loading Dock (compute @ 50%)	Total
1-80	62	21	24		2	4	19	70 sm
	1.3	230	260		25	40	200	755 SF
81-150	108	29	24		2	4	19	78 sm
	1.4	310	260		25	40	200	835 SF
151-250	116	37	24	11	2	4	19	97 sm
	2.2	400	260	120	25	40	200	1,045 SF
251-400	172	54	24	15	5	4	21	123 sm
	2.3	580	260	160	50	40	230	1,320 SF
401-650	288	65	33	24	5	4	28	159 sm
	2.3	700	360	260	50	40	300	1,710 SF
651-1000	345	65	40	35	7	6	28	181 sm
	2.9	700	430	380	75	60	300	1,945 SF
1001-1500	460	65	42	35	7	6	37	192 sm
		700	450	380	75	60	400	2,065 SF
1501-2200	575	84	46	46	9	6	37	228 sm
	3.8	900	500	480	100	60	400	2,440 SF

Note: The total area for any given project will vary with the number of special functional requirements added to the basic programs. The area required for storage should be based on an engineering analysis and include the following: refrigerated storage, dry stores, non-food storage, carbonated beverage storage, and janitorial storage.

TABLE 2-1C. NAVY SPACE PROGRAM

Facility Size	Minimum Seats & Turnover Rate	Summary		
		Gross Allowable Area*	Flight Kitchen	Unit
1-80	62	312	9	sm
	1.3	3,350	100	SF
81-150	108	427	9	sm
	1.4	4,605	100	SF
151-250	116	524	9	sm
	2.2	5,640	100	SF
251-400	172	744	9	sm
	2.3	8,000	100	SF
401-650	288	1,077	12	sm
	2.3	11,570	125	SF
651-1000	345	1,413	12	sm
	2.9	15,215	125	SF
1001-1500	460	1,713	14	sm
		17,900	150	SF
1501-2200	575	2,249	14	sm
	3.8	24,203	150	SF

Note: The total area for any given project will vary with the number of special functional requirements added to the basic programs. The area required for storage should be based on an engineering analysis and include the following: refrigerated storage, dry stores, non-food storage, carbonated beverage storage, and janitorial storage.

*** This gross area does not include the storage space requirement. This area must be added.**

2-5 BUILDING SITE.

This facility will be a focal point of the local community. It should be an open and inviting gathering place for service personnel. Consider the following factors in the site selection and design.

2-5.1 Location.

Locate the facility along the pedestrian paths to the existing barracks/dormitories and centralized support services. To accommodate patron access, consider the relationships to existing vehicular and pedestrian circulation patterns, bike trails, and bus stops. Consider providing a Porte Cochere for shuttle busses. Provide adequate parking as close to the facility as possible within antiterrorism (AT) requirements.

2-5.2 Natural Light.

Select a site to maximize the admission of natural light while minimizing heat gain through the glazing. Direct sunlight should not touch the glazing: Consider landscaping to avoid direct sunshine.

2-5.3 Separate Service Functions.

Separate service functions such as loading docks, maintenance yards, trash containers, on-grade mechanical equipment, and staff parking from the rest of the site by architectural screening, landscaping, or grading.

2-5.4 Patron Circulation.

Patrons arrive from many directions. Identify the various access points, both pedestrian and vehicular, and channel circulation to the entrance of the building. Encourage smooth circulation by landscaping and paving complementary to the building. Entry circulation begins as the patron enters the site and continues through the interior of the facility.

2-5.5 Outdoor Dining Area.

Consider providing an outdoor dining area, if the site and climate permits.

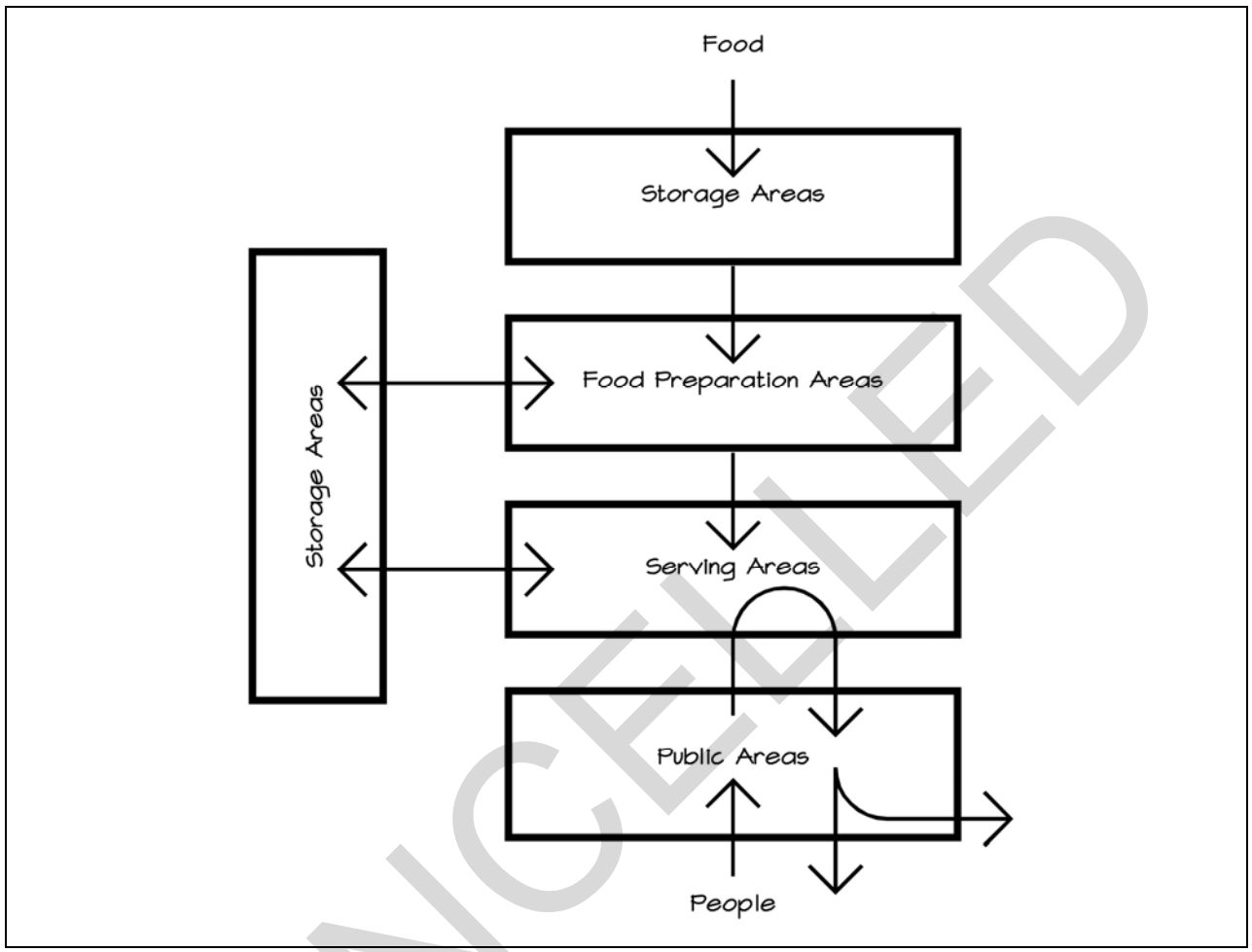
2-6 BUILDING LAYOUT.

The building should be laid out to foster efficient flow of people, materials, and work activities. It should also seek to visually and acoustically separate patron functions from food preparation and cleaning functions.

2-6.1 Flow Schematic.

Figure 2-1 schematically illustrates the building layout in terms of major functional areas and displays the flow of people and material. For **Air Force** facilities, also refer to their *Dining Facilities Design Guide.*

FIGURE 2-1. DINING FACILITY FLOW SCHEMATIC



2-6.2 **Functional Planning.**

The relationship among the various storage, preparation, cooking, serving, and cleaning functions must be carefully studied to provide the maximum flow and efficiency. Keep travel distances short and minimize crossover of circulation paths. Maintain open sight lines as possible and utilize mobile food service equipment for flexibility. Provide utility connections for mobile food service equipment. Plan for various serving styles.

2-6.3 **Separate the Dining Area.**

The dining area represents the conclusion of the patron process of arrival, queuing, identification, serving, and payment. To the extent possible, separate dining patrons from the congestion and movement of arriving and departing patrons. To avoid congestion within the dining facility, patron circulation space at bussing area should be as large as possible.

2-7 BUILDING DESIGN.

The planning and budgeting process shall include the following design considerations. Emphasis is placed on the design of functional and pleasant food service facilities that help attract and retain patrons.

2-7.1 Design for Flexibility.

Planners and designers should recognize that future renovations, additions and expansions of the facility are likely.

2-7.2 Aesthetics and Visual Image.

The dining experience represents a break in the patron's day. Its design should provide a visual respite as well. The designer should provide an aesthetic and visual image in keeping with the recreational functions of the facility.

2-7.2.1 **Develop Architectural Character.** Create an appealing environment through interesting plan areas, spatial volumes, and other design elements. If outdoor dining is provided, consider the affect on both the facility layout and design character.

2-7.2.2 **Signage.** Develop a comprehensive signage package for the facility that addresses both way-finding and information.

2-7.2.3 **Menus.** The main menu board is a focal point of the entry. Individual serving lines and stations will have their own menu, and the design and location of the menu board will depend on the serving methodology.

Design the entrance areas for flexibility to allow a variety of menu designs in terms of accessibility, space, power, and lighting.

2-7.3 Glazing.

The admission of natural light contributes significantly to the energy efficiency of the building and communicates a feeling of well-being and openness. Coordinate glazing design with the lighting design (see Paragraph 3-4.2).

Direct sunshine on dining patrons can be uncomfortable and distracts from a positive dining experience. In addition to the site issues noted in Paragraph 2-5.2, consider overhangs and other building features to preclude direct sunlight on the seating areas.

Skylights are prohibited in Navy and Marine Corps dining facilities.

2-7.4 Quality Work Environment.

Ensure quality building systems, adequate employee facilities, easily accessible safety devices, and prevention of entry by vermin and insects.

2-7.5 Design for Durability and Maintainability.

The materials proven to be the most durable are shown in Table B-1 and should be accommodated in the budget. The design should accommodate access for cleaning and maintenance in high-wear areas, including food preparation and dishwashing and pot- and pan-washing areas.

2-7.6 Sustainable Design.

Comply with UFC 3-400-01, *Design: Energy Conservation.* A new UFC addressing sustainable design is in draft form. When it is released, it will be referenced in this section and the criteria outlined in this section modified as necessary.

2-7.6.1 **Army.** Army projects shall comply with ECB 2006-02, *Sustainable Design and Development*, implementing LEED-NC for all projects from FY08 forward until replaced by further guidance.

2-7.6.2 **Navy and Marine Corps.** Use the United States Green Building Council (USGBC) LEED® Green Building Rating System to measure the sustainability of the completed project. This system can also be used during planning and design as a source of green building strategies. LEED® addresses sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. The minimum LEED® rating of "Certified" should be met within budgetary constraints. Actual certification is encouraged but not required.

2-7.6.3 **Air Force.** It is Air Force policy to apply sustainable development concepts in the planning, design, construction, environmental management, operation, maintenance, and disposal of facilities and infrastructure projects, consistent with budget and mission requirements.

Each Major Command should incorporate sustainable development using LEED criteria. The goal is to have all MILCON projects in the FY09 program capable of achieving LEED Silver certification. This policy does not apply to Host Nation- or NATO-funded projects.

Sustainable development concepts will benefit the Air Force by creating high-performance buildings with long-term value. They are to be integrated into the development process and balanced with all other design criteria to achieve best value for the Air Force. The economic analysis process need not change, but the elements to consider will now include sustainable technologies and their potential for long-term savings. Complete Air Force policies may be found in the *Air Force Sustainable Facilities Guide*.

CHAPTER 3 CODES AND DESIGN STANDARDS

3-1 GENERAL.

Comply with UFC 1-200-01, *General Building Requirements*, which provides guidance for the use of model building codes for design and construction of DoD facilities. Chapter 3 provides additional criteria for the design and construction of dining facilities.

3-1.1 Food Code.

Design facilities to meet U.S. Department of Health and Human Services, Public Health Service, Food and Drug Administration, *Food Code,* latest edition.

3-1.2 Design for OCONUS Installations.

Specific guidance for construction in OCONUS locations will be the subject of special consideration. The designer shall comply with Host Nation Agreements.

3-1.2.1 **Army.** Construction of OCONUS dining facilities must follow Department of the Army (DA) Standard Designs by the Army Center of Excellence, Subsistence and Corps of Engineers and conform to applicable codes and standards.

3-1.2.2 **Navy and Marine Corps.** All designs must conform to applicable codes and standards. OCONUS construction may comply with additional requirements based on location. The lead agency for Japan is the Army Corps of Engineers, which serves as project coordinators between the Government of Japan (GOJ) and the U.S. Government (USG). Facilities located in Hawaii will comply with OCONUS requirements.

3-1.2.3 **Air Force.** New construction of OCONUS dining facilities must comply with Overseas Environmental Baseline Guidance Document (OEBGD).

3-2 ANTITERRORISM AND SECURITY.

Design the facility to comply with UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings and UFC 4-020-01, DoD Security Engineering Planning Manual. Additional requirements may apply for overseas facilities or facilities in high-threat areas.

3-3 SITE WORK.

Comply with UFC 2-600-01, *Installation Design*.

3-3.1 Landscape.

Comply with UFC 3-201-02, *Design: Landscape Architecture* and the local Installation landscape standards. For **Air Force**, also refer to the USAF *Landscape Guide* and any Major Command standards.

3-3.2 Parking, Access Drives, and Other Site Features.

Comply with UFC 3-210-02, *POV Site Circulation and Parking*.

3-4 ARCHITECTURE AND INTERIOR DESIGN.

3-4.1 General.

General guidance for architectural and interior design is provided in the following documents:

- UFC 3-120-10, *Interior Design.*
- **Navy and Marine Corps** use the appropriate Regional Architectural design guidance.
- **Army** uses the local installation design guide and MILCON transformation RFP Guidelines.
- **Air Force** uses AFMAN 32-1008, *Installation Design* and MAJCOM and Installation Architectural Compatibility/Facilities Excellence standards.

3-4.2 Coordination.

The following Items require coordination with the architectural design:

- Requirements for floor drains, wall recesses, stub walls, and any pads or piers needed for food service equipment.
- All bumpers, guards, and protective devices.
- The use of special materials such as nonslip quarry tile, noncorrosive ceiling grid, skim coat plaster on Concrete Masonry Unit (CMU) walls, metal acoustic ceilings, plaster ceilings, and smooth face lay-in tile.
- All roof, ceiling, floor, and wall penetrations for ducts, control lines, refrigerant tubing, etc.
- Floor elevation and slope requirements to ensure proper drainage of water in wet areas.
- Doors from the loading dock into kitchen shall be at least 2.4 meters (8 ft) tall in order to accommodate equipment.

3-5 ELECTRICAL DESIGN.

In addition to the criteria established in Section 3-1, comply with the following in the design of the electrical system:

- UFC 3-520-01, *Interior Electrical Systems*
- **Army** use Army will follow MILCON Transformation Model RFP guidelines.
- **Air Force** use Air Force Manual AFJM 32-1083, *Electrical Interior Facilities.* AFI 32-1063, *Electric Power Systems*, authorizes an emergency generator for one feeding facility per installation, with MAJCOM having authority to approve additional eating facilities.

3-5.1 Local Conditions.

Evaluate local conditions for their impact on facility design and backup power generation requirements.

3-5.2 Lighting.

Provide lighting and control systems throughout the facility in accordance with UFC 3-530-01, *Lighting Design and Controls.*

3-5.3 Special Systems.

Prewire for the following:

- Local Area Network for computerized communications, such as food service and payment management system
- Energy monitoring and control system when mandated or economically justifiable
- Public address and intercom systems
- Security systems, alarm systems, and Closed Circuit Television (CCTV) systems
- Cable television for dining areas

3-5.4 Lightning and Cathodic Protection.

Comply with applicable sections of MIL-HDBK-1004/6, *Lightning Protection* and UFC 3-570-02N, *Electrical Engineering Cathodic Protection.*

3-5.5 Coordination.

The following items require coordination with the electrical design:

- Location of all spot connections for equipment requiring electrical connection.
- All projected power requirements for food service equipment (coordinated with the food service designer as early as possible). In addition to the power characteristics, the type of electrical connection required (plug-in, junction box) for each piece of equipment must be determined.
- Special requirements for equipment, such as overload protection and control panels, located at the equipment being protected.
- Integration of food service equipment with fire suppression system controls.
- Integration of electrical requirements for equipment utility distribution system.
- Location of conduit required for computer and electronic cash register stations.
- Electrical service requirements for all equipment must be as specified in UFGS-11 46 01.00 10 or UFGS-11 40 00.00 20 *Food Service Equipment.*
- Potential future equipment upgrades.
- Floor-mounted flush receptacles and conduit stub-ups are not permitted in the kitchen area or serving line. For safety reasons, ceiling cord reels will be provided in these areas.

3-6 COMMUNICATIONS AND COMPUTER SYSTEMS.

General guidance for the design of telephone systems is provided in MIL-HDBK-1012/3, *Telecommunications Premises Distribution Planning, Design and Estimating*. Guidance pertinent to the design of dining facilities is as follows.

3-6.1 Telephones.

Provide telephones with a page intercom system in coordination with the local command.

3-6.2 Electronic Cash Registers and Computers.

In preparation for future computer systems, provide empty conduit from the array of register terminals to a location in the food service officer's office for linkage to a

computer in use by the food service officer. Install telephone receptacles at all register locations.

3-6.3 CCTV and Cable TV.

Wiring, conduit, routing devices, and equipment must be provided by local command and installed as directed.

3-7 HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) DESIGN.

In addition to the criteria established in Section 3-1, comply with following in the design of the mechanical system:

- UFC 3-400-02, *Engineering Weather Data* provides local climatic design conditions.
- National Fire Protection Association (NFPA) 96, *Ventilation Control & Fire Protection of Commercial Cooking Operation.*
- Underwriters Laboratories (UL) 710, *Exhaust Hoods for Commercial Cooking Equipment.*

3-7.1 Coordination.

The following items require coordination with the HVAC design:

- Location and size of all ventilated equipment such as exhaust hoods, dishwashing equipment, etc.;
- Special requirements for ductwork connecting to equipment such as drip pans and pitched or vented duct work;
- Ventilation of remote refrigeration condensers; and
- Balance of air supply systems so cooking and waste areas are under negative pressure, ensuring that odors are not carried into public areas.

3-7.2 Heat Recovery Equipment.

Economic analysis of heat recovery equipment, particularly from ventilation, cold storage, and central HVAC refrigeration, must be per the following "Life Cycle" guidelines:

- **Army** use TI-800-01, *Design Criteria*.
- **Navy and Marine Corps** use NAVFAC P-442, *Economic Analysis Handbook*.

- **Air Force** use AFH 32-1089, *Economic Analysis Guidance Manual*.

3-7.3 **Controls.**

Specify direct digital control (DDC) system per UFGS 23 09 23.13 20, *BACnet Direct Digital Control Systems for HVAC* or UFGS 23 09 23, *Direct Digital Control for HVAC and other Local Building Systems*. Coordinate DDC specification to ensure proper interface to existing or planned base-wide DDC/EMCS system.

3-8 **PLUMBING DESIGN.**

In addition to the criteria established in Section 3-1, comply with following in the design of the plumbing system:

- **Army** use TI-800-01, *Design Criteria*.
- **Air Force** use Air Force Handbook AFI 32-1066, *Plumbing Systems*.

3-8.1 **Waste Systems.**

Give special consideration to the following:

- Grease traps and other interceptors shall be easily accessible for cleaning.
- Local jurisdiction or waste management program will determine the type of waste permitted from food grinders and waste pulping system.
- Apply an air gap of two pipe diameters to all kitchen equipment drains not having other backflow protection. Navy projects also use Cross-Connection Control and Backflow Prevention Program Implementation.
- Coordinate floor sinks of adequate size and non–splash receptor design with drained equipment requirements. Prime floor drains are not used as indirect waste receptors or provided with deep seal traps.
- Avoid locating waste piping above kitchen and storage area.
- Coordinate drain requirements for HVAC, cold storage refrigeration equipment, and the can wash.

3-8.2 **Water Supply Systems.**

Give special consideration to the following domestic water requirements:

- Specialized food service equipment needs such as hard/soft water and pressure.

- Provide high-temperature water supply for the dishwasher, pot and pan wash, can wash, and field feeding area (if provided).

- Diversity factors for water heating based on food service equipment usage. Dining facilities may require two or more different hot water temperatures zones. Public and employee handwashing sinks require either temperature-limiting devices or different incoming hot water temperature than food equipment.

- Hot water storage and recirculation. Note: where limited flow fixtures are required, piping and recirculation system adjustments may be required to ensure hot water at fixture.

- Backflow protection is required on all water connections, including connections to beverage machines that may include internal backflow prevention, in accordance with the references provided in this UFC.

3-8.3 **Coordination.**

Items requiring coordination with the plumbing design are as follows:

- Food service designer determines the locations and specifications for all food service equipment (fixed and relocatable). Food service equipment layout and specifications must be coordinated with the facility mechanical designer for coordination of facility plumbing design.

- The locations of all water, waste, steam and steam condensate, refrigeration condensate, floor drains, and gas lines. These lines must be concealed but readily accessible for maintenance.

- Unavoidable exposed vents for island or freestanding equipment must be coordinated with the architect for enclosure.

- All special or custom-made equipment must be installed by the plumbing contractor. Design and location of required grease traps will require coordination among the mechanical, plumbing, architectural, and, possibly, the structural designers.

- If under-floor conduits are used for routing of beverage system, ensure that they are sealed conduits with cleanout.

- Provide floor drains and hose bibb in beverage storage area.

- Plumbing to the automatic wash-down system for exhaust hoods.

- Special requirements for plumbing connections to utility distribution systems.

- Flexible connections must be stainless steel, 300 series finish.

- Provide easy access to waste traps and collectors for cleaning.

3-9 EQUIPMENT.

3-9.1 Walk-In Refrigeration/Freezer.

To retain refrigerated air and reduce insect infestations per Navy Bureau of Medicine and Surgery P-5010 (BUMED P-5010), Provide vinyl slatted curtains hanging inside the doors or provide a blower type air curtain outside the doors of walk-in refrigerators and freezers. For the **Army** and **Air Force** use TB MED 530.

Provide a window in the door of walk-in refrigerators and freezers to permit views of anyone entering or exiting.

APPENDIX A REFERENCES

AFH 32-1084, *Facility Requirements,* HQ United States Air Force, https://www-r.afsv.af.mil

AFH 32-1089, *Economic Analysis Guidance Manual,* HQ United States Air Force, https://www-r.afsv.af.mil

AFI 32-1063, *Electric Power Systems,* HQ United States Air Force, https://www-r.afsv.af.mil

AFI 32-1066, *Plumbing Systems,* HQ United States Air Force, https://www-r.afsv.af.mil

AFJM 32-1083, *Electrical Interior Facilities,* HQ United States Air Force, https://www-r.afsv.af.mil

AFMAN 32-1008, *Installation Design,* HQ United States Air Force, https://www-r.afsv.af.mil

AR 30-22, *Army Food Service,* U.S. Army Engineering and Support Center, Huntsville, http://www.hnd.usace.army.mil/

Dining Facilities Design Guide, U.S. Air Force Center for Environmental Excellence www.afcee.brooks.af.mil/

Food Code, U.S. Department of Health and Human Services, Food and Drug Administration, http://www.fda.gov/

LEED® Green Building Rating System, The United States Green Building Council, www.usgbc.org

Overseas Environmental Baseline Guidance Document, Department of Defense (DOD), http://www.wbdg.org/ccb

Membership Directory, Foodservice Consultants Society International, http://www.fcsi.org/

MIL-HDBK-1004/6, *Lightning Protection,* Naval Facilities Engineering Command (NAVFAC), https://portal.navfac.navy.mil/

MIL-HDBK-1012/3, *Telecommunications Premises Distribution Planning, Design and Estimating,* Naval Facilities Engineering Command (NAVFAC), https://portal.navfac.navy.mil/

NFPA 96, *Standard for the Installation of Equipment for the Removal of Smoke and Grease Laden Vapors from Commercial Cooking Equipment,* National Fire Protection Association (NFPA), http://www.nfpa.org

P-80, *Planning Criteria for Navy and Marine Corps Shore Installations,* Naval Facilities Engineering Command (NAVFAC), https://portal.navfac.navy.mil/

P-442, *Economic Analysis Handbook,* August 1993, Naval Facilities Engineering Command (NAVFAC), https://portal.navfac.navy.mil/

P-5010, *Manual of Navy Preventive Medicine,* Navy Bureau of Medicine and, Surgery, http://navymedicine.med.navy.mil/

TB MED 530, *Food Service Sanitation,* U.S. Department of the Army, http://www.army.mil/

TI-800-01, *Design Criteria,* U.S. Army Engineering and Support Center, Huntsville, http://www.hnd.usace.army.mil/

UFC 1-200-01, *General Building Requirements,* Department of Defense (DOD), http://www.wbdg.org

UFC 3-120-10, *Interior Design,* Department of Defense (DOD), http://www.wbdg.org

UFC 2-600-01, *Installation Design,* Department of Defense (DOD), http://www.wbdg.org

UFC 3-201-02, *Landscape Architecture,* Department of Defense (DOD), http://www.wbdg.org

UFC 3-210-02, *POV Site Circulation and Parking,* Department of Defense (DOD), http://www.wbdg.org

UFC 3-400-01, *Energy Conservation,* Department of Defense (DOD), http://www.wbdg.org

UFC 3-400-02, *Engineering Weather Data,* Department of Defense (DOD), http://www.wbdg.org

UFC 3-520-01, *Interior Electrical Systems,* Department of Defense (DOD), http://www.wbdg.org

UFC 3-530-01, *Lighting Design and Controls,* Department of Defense (DOD), http://www.wbdg.org

UFC 3-570-02N, *Electrical Engineering Cathodic Protection,* Department of Defense (DOD), http://www.wbdg.org

UFGS 11 46 01.00 10, *Food Service Equipment,* Department of Defense (DOD), http://www.wbdg.org

UFGS 11 40 00.00 20, *Food Service Equipment,* Department of Defense (DOD), http://www.wbdg.org

UFGS 23 09 23.13 20, *BACnet Direct Digital Control Systems for HVAC*, Department of Defense (DOD), http://www.wbdg.org

UFGS 23 09 23, *Direct Digital Control for HVAC and other Local Building Systems,* Department of Defense (DOD), http://www.wbdg.org

UL 710, *Exhaust Hoods for Commercial Cooking Equipment,* Underwriters Laboratories, www.ul.com

USAF Landscape Design Guide, U.S. Air Force Center for Environmental Excellence www.afcee.brooks.af.mil/

U.S. Department of Agriculture, http://www.usda.gov/

APPENDIX B BEST PRACTICES

B-1 INTRODUCTION.

The following material identifies current good design practices for each functional area as outlined in the space program. The designer is expected to interpret this guidance and configure the functional areas according to the needs of the project.

B-2 GENERAL BUILDING DESIGN.

B-2.1 Interior Materials and Finishes.

Approved finishes for functional areas are located in Table B-1. For deviation requests see Paragraph 1-3. Floors that are slip resistant, drain well, and clean easily are of paramount importance. Floors must be able to endure cleaning by high-pressure spray equipment. All finishes shall be coordinated with the interior designer.

TABLE B-1. ARCHITECTURAL FINISHES

Space	Finishes				
	Floor	Base	Walls	Protect	Ceiling
Entry/Vestibule	QT or VCT	QT, Vinyl or Rubber	Note 1		Note 3
Queue	QT or VCT	QT, Vinyl or Rubber	Note 1		Note 3
Public Toilets	CT	CT	CT		MR ACT
Check-in	QT or VCT	QT, Vinyl or Rubber	Note 1		Note 3
Dining Area	Carpet, VCT, or QT	Vinyl or Rubber	Note 1	Note 2	Note 3
Serving, Patron Side	QT	QT	CT or GSU	Wall, Corners	MR ACT
Serving, Server Side	QT	QT	CT or GSU	Wall, Corners	MR ACT
Dishwashing	QT	QT	GSU	Wall, Corners	Metal Pan
Food Preparation Area	QT	QT	GSU	Wall, Corners	Metal Pan
Utensil Wash	QT	QT	GSU	Wall, Corners	Metal Pan
Storage, Freezer	QT		MIP		MIP
Storage, Chilled	QT		MIP		MIP
Storage, Dry	VCT	QT, Vinyl or Rubber	GWC on CMU	Corners	ACT
Storage, Non Food	Concrete	Vinyl or Rubber	GWC on CMU	Corners	Exposed or ACT
Storage, Carb. Beverage	QT	QT, Vinyl or Rubber	GWC on CMU		ACT
Offices	VCT	Vinyl or Rubber	Painted CMU		ACT
Staff Toilets	CT	CT	GWC on CMU		MR ACT
Staff Lockers	VCT	Vinyl or Rubber	GWC on CMU		MR ACT
Janitor Closet	VCT	Vinyl or Rubber	GWC on CMU	Corners	Exposed
Can Wash	Acid Resist	QT	GWC on CMU	Wall, Corners	MR ACT
Loading Dock	Concrete		Exterior		Exterior
Mechanical	Concrete		Panted CMU		Exposed

Note 1: Walls in public areas may be a variety of durable materials such as brick, split block, exposed concrete, plaster, vinyl wall covering on approved substrate, or other materials as approved.

Note 2: Provide wall guard protection at locations subject to cart traffic.

Note 3: Ceilings in public areas may be a variety of suspended acoustic ceiling materials.

Abbreviations: ACT–acoustic ceiling tile; CMU–concrete masonry unit; CT–ceramic tile; GSU–glazed structural unit; GWC–glazed wall coating; MIP–metal insulated panel; QT–quarry tile; VCT–vinyl composition tile; MR–moisture resistant

Also note the following:

- Provide protective guards in all areas subject to cart traffic; i.e., walls, doors, and corners. Locate equipment to minimize cart damage.

- Door systems between kitchen/dishwashing areas and dining area must be sound resistive. Where feasible, design doors for wheeled traffic without raised thresholds. Doors should have windows to permit views of someone entering or exiting.

- All joints and intersections of materials must be sealed, free of pocketed or porous materials, and accessible for cleaning.

B-2.2 **Acoustics.**

All facilities should be designed or treated to provide a comfortable acoustical environment.

B-2.2.1 **Finishes.** In key areas, use finishes that absorb sound, reduce noise reflection, and minimize the generation and impact of noise. These finish materials have a high Noise Reduction Coefficient (NRC) rating.

- Ceilings in the dining area should have a minimum .6 NRC rating. Ceilings in the kitchen should have a minimum.6 NRC rating, be washable, and be United States Department of Agriculture (USDA) listed for this application.

- Wall treatments in the dining area should be implemented above wainscot height, located away from high traffic areas, and have a minimum .8 NRC rating. If located near high-traffic areas, incorporate an abuse-resistant finish.

- Floor finishes in the dining area should be selected to minimize noise generation. If carpeting is used, it should have a minimum .35 NRC rating. If carpeting is not used, consider other floor finishes that reduce impact noise generation and generally incorporate a synthetic rubber or cork base.

B-2.2.2 **Partitions.** The partitions separating noisy areas (such as the kitchen, dishwashing, and pot and pan wash) from sound-sensitive areas (such as the dining area and offices) should have a partition assembly with a minimum 50 sound transmission coefficient (STC) laboratory rating.

Openings between the kitchen and the dining area should incorporate baffles or screens, where possible, to minimize a direct noise path between these spaces

B-3 **QUEUE.**

Dining facilities that accommodate large training commands or functions will experience surge conditions and require a larger queue than comparable facilities that do not. When the queue is adjacent to the dining area, use a screen to separate queued patrons from the dining area.

B-4 **DINING AREA.**

The dining area provides one of the principal facility functions. Issues of particular importance are as follows:

- **Space Division.** Dining areas should be capable of being subdivided by plan or partition to close off portions during offpeak serving periods.
- **Visual Separation.** Visually separate the eating area from all other facility functions.
- **Seating.** Provide a variety of table sizes and seating options. Use nonfixed and easily cleanable furnishings.

B-5 **SERVERY.**

Design the lines and stations for flexibility and good traffic flow. Beverage station locations should accommodate patron refills without disrupting the serving line flow. Locate beverage and CO_2 tanks remotely. Secure CO_2 tanks with safety straps or in a cage designed for the application. Consider providing space at the loading dock area for refilling and bulk storage of CO_2 tanks.

B-6 **FOOD SERVICE AREAS.**

Food service areas include receiving, storage, preparation, and cleaning areas.

- **Loading Dock.** Include a can wash area with high temperature water supply and drain connected to the sanitary line. Confirm loading platform heights with the majority of trucks servicing the facility. Dock levelers may be provided to accommodate varying truck platform heights. Provide bumpers at the dock to prevent impact damage. In locations with extreme weather conditions, the loading dock may need to be enclosed. Provide a ramp to connect the loading dock with the vehicular area to facilitate the use of hand trucks/carts and provide cart stops and the edge of the dock to prevent rolloff. Provide a canopy that extends 1,220 mm (48 in.) beyond the edge of the platform. Confirm canopy heights with the majority of trucks servicing the facility, and confirm door widths with common delivery item sizes.
- **Refrigerator/Freezer.** The floor under the box should be depressed and insulated so its finished height is level with the surrounding kitchen floor.

Provide an exterior exit to the loading dock. Access to the freezer should be through the refrigerator. Consider providing a backup generator for the refrigerator/freezer. Provide safety handles.

- **Nonfood Storage.** Separate cleaning product storage from food product storage.

- **Kitchen.** Provide individual or continuous floor grates with drains to facilitate cleaning and catch discharge from cooking equipment such as steam kettles and tilting frying pans. Provide sufficient separation between steam-generating cooking equipment and other open-type cooking equipment.

- **Vegetable Preparation Area.** In some facilities, this area may be a separate, refrigerated room with its own dedicated walk-in refrigerator, sinks, slicers, choppers, mixers, worktables, and other equipment.

- **Bakery.** Some facilities may include a bakery.

- **Flight Kitchen.** Flight kitchens should have direct exterior access.

- **Field Feeding/Vat Chow.** Provide adequate power and amenities for food preparation. Provide direct access to the loading dock.

- **Takeout/Meal Replacement.** Provide adequate power and amenities for food preparation and packaging/storage. This area may have a separate entrance/exit and its own point-of-sale station.

- **Dishwashing Area.** The dishwashing area should be located as close to the dining area exit as possible to permit self-bussing by the patron. A tray conveyor bussing system or a cart bussing system may be incorporated into the design.

- **Utensil/Pot and Pan Wash.** Ensure adequate moisture control and ventilation.

B-7 **FOOD SERVICE EQUIPMENT.**

All design work relating to kitchen equipment shall be separately presented for review and must include all information required for fabrication and installation of all kitchen equipment. See reference below for equipment schedules:

- **Army.** http://www.quartermaster.army.mil/aces/garrison/equipment/equip_schedules.html

- **Navy and Marine Corps.** http:www.navsup.navy.mil. Add Navy Knowledge Online (NKO); click on Organization and Communities,

Systems Commands, NAVSUP, Food Services, Food Service Resources and Links, Navy Recipes.

- **Air Force.** https://www-r.afsv.af.mil/FD/Standards.htm

B-7.1 **Vibration.**

Mount vibration-producing equipment on vibration isolators. Provide vibration-resistant pipe mounting and joints for equipment requiring plumbing.

B-7.2 **Utilities.**

Coordinate utilities with equipment selection.

B-8 **STAFF FACILITIES.**

B-8.1 **Staff Toilets.**

Both Government and contract personnel use staff toilets. Designer shall consult with the local command to determine staffing figures and shift population.

B-8.2 **Staff Lockers.**

Provide separate facilities for male and female personnel. Locate locker facilities adjacent to the toilets. Equip locker rooms with showers, lockers, benches, and coat hooks to facilitate the changing of clothes. Locker quantities must be as indicated in Table B-2. All lockers should be half height except for facilities for 1,001 patrons and over, where three-tier lockers must be used. The number of lockers scheduled for each space exceeds the projected number of workers for each category. This is to accommodate the likely shifting balance of male to female workers. If equipment costs prohibit this number of lockers, provide space for the number of lockers in Table B-2. In this case, a portion of the lockers should be freestanding so that they can be shifted from space to space as the staffing balance changes. All lockers must have sloped tops.

NOTE: **Army** shall follow MILCON Transformation Model RFP guidelines. Lockers are not for showering or changing, only for storage of personal items. Male and female lockers need not be separate and may be combined with a break area. Adjacency with staff toilets is encouraged.

TABLE B-2. STAFF LOCKER COUNT

No. of Staff	Military		Contract	
	Male	Female	Male	Female
40 to 80	(combined facilities, 10 male, 6 female)			
81 to 150	(combined facilities, 16 male, 10 female)			
151 to 250	18	6	6	12
251 to 400	24	8	12	24
401 to 650	30	10	30	48
651 to 1000	48	12	44	70
1001 to 1500	64	16	64	96
1501 to 2200	96	24	88	132