APPENDIX C
ENLISTED PERSONNEL DINING FACILITIES AND TROOP ISSUE SUBSISTENCE ACTIVITIES (TISA)

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1. GENERAL AND SPECIFIC CRITERIA. The specific criteria contained in this appendix are applicable to the design of enlisted personnel dining facilities (EPDF) and troop issue subsistence activity (TISA) facilities. The general criteria contained in the preceding chapters are applicable where such criteria are not included in this appendix. Therefore, this appendix must be used with the chapters contained in this document.

2. ENLISTED PERSONNEL DINING FACILITIES.

a. General.

(1) Standardization. The Center of Standardization (COS) for enlisted personnel dining facilities is the Norfolk District Engineer Office.

(2) Previous AEI. Previous Architectural and Engineering Instructions issued by HQUSACE (CEMP-E) for enlisted personnel dining facilities are superseded by this appendix.

(3) Establishment. The establishment of central bakeries, central food preparation facilities, central kitchens, central pastry kitchens, and meat cutting facilities for the appropriated fund food service program on an installation will be subject to the policies contained in DoD Directive 1338.10 (reference C-1) and DoD Instruction 4100.33 (reference C-2).

(4) Policies and Procedures. The policies and procedures for Military Construction, Army (MCA), Operations and Maintenance, Army (O&MA),and minor construction programming established in DoD Directives and Instructions and applicable Army and engineer regulations will be followed for enlisted personnel dining facilities.

(5) Consolidation. Maximum effort will be directed in planning enlisted personnel dining facilities toward the consolidation and modernization of existing permanent facilities, and the replacement of existing temporary facilities with permanent consolidated facilities, when appropriate.

(6) New Facilities. New enlisted personnel dining facilities will not be planned solely to support an additional Unaccompanied Enlisted Personnel Housing (UEPH) increment but will be justified based on an evaluation of the capacities and projected use of existing dining facilities.

(7) Type of Service. Dining facilities for enlisted personnel will employ cafeteria-style service and will be equipped to allow for service of both full menu and short order, fast food types of meals, carry-out and ala carte.

b. Planning Guidance.

(1) Operational Criteria. The design of enlisted personnel dining and supporting food service facilities will be based on the DoD Food Service Program, DA Supply Bulletin 10-262 (reference C-3), and AR 30-1 (reference C-4).

(2) Serving Requirement. The maximum number of enlisted personnel to be served during a meal period will be determined by multiplying the maximum utilization UEPH housing capacity by the appropriate percentage(s) provided in table C-1 below; except, enlisted personnel on separate rations will not be included in the serving requirement when planning a new dining facility, or retaining and modernizing permanent existing dining facilities. Officers and civilians will not be included in the serving requirement when planning, retaining, or modernizing enlisted personnel dining facilities except in OCONUS or remote locations where support is authorized.

TABLE C-1 SERVING REQUIREMENT	
TYPE OF MISSION AND OPERATION	PERCENTAGE OF UNACCOMPANIED ENLISTED PERSONNEL IN UEPH TO BE SERVED DURING A MEAL PERIOD
Basic Training and Recruit Training	95 percent
Mobilization and Annual Training	95 percent
Advanced Individual Training (AIT)	90 percent
Service Schools and Recruit Reception Stations	85 percent
Permanent Party in Remote Locations	90 percent
Permanent Party Garrison (including TOE and TDA units), Support Units, Construction Battalions, Weapon Plants	70 percent
Personnel Transfer and Overseas Processing Centers	50 percent
Confinement [1]	110 percent

[1] The percentage of 110 should be applied against the maximum facility capacity for administrative, confinement, and security personnel to determine the serving requirement.

c. Space Criteria.

(1) Gross Floor Areas. The gross floor areas for the number of enlisted personnel to be served will conform to table C-2.

(2) Additional Spaces. Space for entry canopies for climate/comfort and loading dock are included in the DA Standard Design Package for Army Dining Facilities, DEF 722-10-01 (reference C-5). Aesthetic embellishments that add space to dining facilities are not justifiable.

d. Functional Requirements.

(1) General. Designs will include scatter-style serving line (150-250 & 251-500 personnel facility) and dual serving lines (501-800 & 801-1300 personnel facility) for regular full menu and short order or fast food meals, ala carte and self-service areas for beverages, desserts, and salads. The major functional areas to be provided in dining facility designs are dining, dish washing, employee lockers and toilets, food preparation and cooking, garbage and trash disposal, non-provision storage, patron toilets, office(s), pot and pan washing, receiving platform, refrigerated and dry storage, serving, and signature-head count, cashier station(s), and staging area.

(2) Standard Designs. DEF 722-10-01 (reference C-5) prepared by the Norfolk District Engineer Office will be used when developing designs for dining facilities.

TABLE C-2 SPACE CRITERIA FOR ENLISTED PERSONNEL DINING FACILITIES		
SERVING REQUIREMENT (NUMBER OF ENLISTED PERSONNEL TO BE SERVED)	GROSS AREA [1]	
	square meters	(square feet)
Up to 149	Note [2]	
150 to 250	762	(8,202)
251 to 500	1536	(16,534)
501 to 800	1847	(19,881)
801 to 1300	2272	(24,456)

[1] Mechanical, electrical, electronic equipment room space, entry canopies and loading dock as required has been be added to the gross areas shown. Additional space will not be added when determining a single gross area figure for each facility. The gross area computations shown are based on a 305 mm exterior wall and 152 mm interior partitions. Adjustments must be made for other construction.

[2] The U.S. Army Quartermaster Center and School, Army Center of Excellence, Subsistence (ATSM-CES-OE), will develop special designs based on DEF 722-10-01 (reference C-5) for projects serving these requirements.

e. Coordination. Coordination with the Proponent (ATSM-CES-OE) and Center of Standardization is required at all stages of design development to include design review of new and modernization dining facility projects. Upon request, Army Center of Excellence, Subsistence, U.S. Army Quartermaster Center and School, ATTN: ATSM-CES-OE, 1201 22nd Street, Bldg. P-5000, Ft. Lee, VA 23801-1601 will furnish technical advice and assistance at any stage of project development.

f. Design Requirements.

(1) The DA Standard Design package for Enlisted Personnel Dining Facilities, DEF 722-10-01 (reference C-5) will be used when designing EPDF. Design Guide 1110-3-135 (reference C-6) is obsolete and is superseded by the EPDF standard design.

(2) Provisions for Physically Handicapped Individuals. Enlisted personnel dining facilities are required to be designed for physically handicapped individuals. See Chapter 7 of the AEI.

(3) Interior Design. The interior decor should be a part of the basic building design. Dining facility interior designs will be commensurate with first-class commercial cafeterias.

(a) Design Guide. DG 1110-3-136 (reference C-7) will be used as a guide when developing interior designs for enlisted personnel dining facilities.

(b) Items of Decor.

1/ Chairs, tables, booths, banquettes, bulletin boards, banners, decorative accessories, draperies, menu boards, planters, portable room dividers, signature head count desks with chair(s), and signs are items of decor that will not be MCA funded. However, the preparation of a comprehensive interior design package (including necessary purchasing information) will be prepared by the project designer in accordance with ER 1110 345-122 Design Guide for Interiors and all facility specific interior guidance. Preparation of this documentation will be closely coordinated with the Installation Food Service Advisor and ACES.

2/ O&MA or other funds for items of decor are centrally managed by ATSM-CES-OE. Army installations with dining facility construction projects should contact ATSM-CES-OE in a timely manner to ensure that items of decor are requisitioned and delivered prior to the building occupancy.

3/ Dining areas will be provided with a combination of 4-person and 2-person tables, wall booths, and banquettes. Chairs will be provided as required. Round tables for six persons may be provided if the number of chairs does not exceed 10 percent of the total seating.

4/ Wall booths will be utilized to create the proper traffic flow and to divide large dining areas into small seating groups.

5/ A flexible dining area environment will be provided that contains a mixture of "open" and "private" spaces.

(4) Floors and Flooring Materials.

(a) All penetrations through floors will be properly sealed in order to prevent entry or harborage by vermin.

(b) Floors with floor drains will be properly but not excessively sloped to the drains without causing a safety hazard.

(c) The standard floor material for dining areas is Vinyl Composition Tile (VCT). However, carpet may be used in lieu of VCT when approved by the installation and MACOM, except in basic trainee dining facilities.

(d) Carpet will not be installed in work areas and areas subject to heavy traffic (such as, food preparation areas, foyers, self-service, serving lines, signature head count stations and similar type areas). Carpet will conform to the technical requirements contained in Guide Specification, CEGS 09682 (reference C-8) and provided from MCA funds. Carpet will be provided with patterns or textures that do not readily show food and other stains. Solid or light colored carpet, or both, that readily show stains will not be provided.

(e) Quarry tile floors will be provided in dish washing areas, kitchen areas, pot and pan washing areas, serving line work areas, self-service areas, and field food service equipment staging areas, and dry storage rooms, but not in dining areas. The project specification will require that quarry tiles be installed in an even manner and without edges that cause safety hazards.

(f) The quarry tile will be the abrasive surface type as stated in the Tile Council of American Standard 137.1, paragraph 5.2.1.2.8. (reference C-9). Epoxy coatings, linoleum, vinyl, and vinyl composition are not acceptable substitutes for quarry tile.

(g) Ceramic tile floors will be provided in patron toilet rooms and employee toilet and locker rooms. All other floor finishes will be the minimum necessary to provide complete, functional, and sanitary facilities.

(h) Crawl Space. Floor slabs in all areas, except dining areas, will be provided with a crawl space for

ready access to utilities. The crawl space should be a minimum of 900 mm (3 ft) high.

(5) Interior Partitions.

(a) Designers of dining facilities should anticipate building and equipment abuses and provide protective devices as necessary to minimize such damage. Attention to details, coordination between the various architectural and engineering disciplines and local food service operators, as well as complete and detailed design reviews will minimize the problem.

(b) All exposed corners of Glazed Structural Units (GSU) and Concrete Masonry Unit (CMU) partitions and columns subject to damage from portable food service equipment will be provided with metal guards or other protective measures. The protective guards will extend to a height not less than 6 ft [1.8 m] above the finish floor.

(c) Walls and columns immediately adjacent to portable food service equipment in serving line and self-service areas will be protected from damage. Metal, plastic, or rubber plastic horizontal rails securely fastened to the columns and walls or other adequate protective measures will be provided at heights above the finish floors necessary to prevent damage when the equipment is moved for cleaning purposes.

(d) Partition bases, corners, and junctions with other partitions will be coved to facilitate cleaning operations.

(e) Gypsum wallboard on steel studs will not be used in dish washing areas, kitchen areas, serving areas, self-service areas, storage areas, pot and pan washing areas, and toilet areas, or other areas subject to water damage or high humidity. Gypsum wallboard will not be used in areas where mobile food service equipment is located.

(f) Wall and ceiling joints, exhaust hood and ceiling joints, and openings for pipes will be properly sealed in order to prevent entry or harborage by vermin.

(g) Glazed Structural Units (GSU) or Ceramic Tile (CT) will be provided in dish washing areas, kitchen areas, pot and pan washing areas, serving line work areas, and field food service equipment staging areas. Painted Concrete Masonry Units (CMU) is not an acceptable substitute for GSU.

(h) Dropped partitions will be provided above serving lines. The bottom of the partition will be 2 030 mm (6 ft 8 inches) above the finish floor.

(I) A cased opening will be provided for pass-through refrigerators between kitchen areas and serving line work spaces.

(6) Doors and Hardware.

(a) The selection of doors and hardware will receive careful attention in order to prevent future maintenance problems. The hard use and frequent abuse of dining facility doors can result in excessive maintenance problems, unless the doors and hardware are properly selected, specified, and installed for the desired functions.

(b) Doors between dish washing areas, dry storage areas, kitchen areas, serving areas, and receiving platforms will not be less than 16-gage steel with applied metal bumpers, 4060 mm (16-inch) high kickplates, and door closures. These doors will be provided with see-through safety glass lights. Other frequently used doors will be provided with kick plates and closures. Patron entrance and exit doors will be provided with door closures.

(c) Double acting doors will be provided between kitchen and serving line work areas. These doors will have a 1525 mm (60-inch) clear opening width.

(d) Walk-in refrigerator doors will be provided with cylinder locks and interior safety release handles. These doors will be 915 mm (3 ft) wide by 2135 mm (84 inches) high. Door stops will be provided to prevent walk-in refrigerator doors from striking adjacent food service equipment, plumbing fixtures, or walls.

(e) The clear width of doors to dish washing rooms will not be less than 1016 mm (40 inches).

(f) Raised thresholds will not be installed at doorways between dish washing areas, dry storage areas, kitchen areas, serving line areas, refrigerated areas, and receiving platform areas.

(7) Windows. Windows in dining areas will be provided with blinds.

(8) Ceilings.

(a) Ceiling Heights. Ceiling heights in dining facilities will not exceed 4.5 m (14 ft). Ceiling heights in dish washing rooms will be compatible with the dish washing equipment, but not less than 3.2 m (10 ft 6 inches). Clearance is required for removal of the inspection doors on the dish washing machines.

(b) Materials. Plastic laminate Suspended Accoustical Ceiling Tile (SACT) is the required ceiling material in dish washing areas, dry storage areas, kitchen areas, pot and pan washing areas, serving line work areas, and field food service equipment staging areas. Coordinate with COS for availability of systems.

(9) Acoustical Treatment. Acoustical consideration will be given in the design of dish washing, kitchen, mechanical equipment rooms, and other , in order that noise levels will not exceed the requirements of TB MED 501 (reference C-10) and the Occupational Safety and Health Act (OSHA) of 1970 (reference C-11).

(10) Exhaust Ventilation.

(a) Mechanical exhaust ventilation will be provided in dish washing areas, dry storage areas, enclosed can washing areas, kitchen areas, pot and pan washing areas, serving areas, toilet and locker rooms, utility rooms, and staging areas.

(b) Make-up air for serving line areas will be taken from areas adjacent to the serving lines. Separate make-up air will be provided for dish washing areas, kitchen areas, and pot and pan washing areas. Make-up fans will be interlocked electrically with exhaust fans.

(c) Grease extracting hoods will be installed at 2 m (6 ft 8 inches) above the finish floor.

(d) Dish washing and pot and pan washing areas will be provided with exhaust ducts and registers in the ceilings to provide ventilation to clear moist air near the ceilings. The systems will be designed as an integral part of the machine exhaust system.

(e) The ventilation rate in dish washing and pot and pan washing rooms will be not less than 20 air changes per hour or as recommended by the machine manufacturer, whichever is greater.

(f) Enclosed can washing areas will be heated to 15.6 °C (60 °F) and ventilated with not less than 20 air changes per hour.

(g) Evaporative cooling is authorized where effective. Spot air-conditioning or air-conditioning may also

be provided to keep the work areas at 29.4 °C (85 °F) in accordance with ASHRAE recommendations, if the main portion of the facility is eligible for air-conditioning and the criteria for exhaust ventilation are met.

(11) Refrigeration.

(a) Walk-in prefabricated refrigerators and freezers will be provided with emergency quick-release hardware and an emergency signal system. The signal system will consist of a buzzer alarm on the exterior of the walk-in refrigerator or freezer. Activation of the buzzer alarm must be possible from inside the refrigerator or freezer.

(b) Refrigeration equipment will be designed to maintain the temperatures and relative humidities shown in table C-3

TABLE C-3 REFRIGERATION EQUIPMENT

TYPE OF FOOD	TEMPERATURE		RELATIVE HUMIDITY (RH)
	°C	°F	
Chilled Fruit and Vegetables	3.3	38 +/- 2	90 percent +/- 5 RH
Dairy	1.7	35 +/- 2	80 percent +/- 5 RH
Freezer	-23.3	-10 +/- 2	
Meat	0.0	32 to 35	
Prepared Foods and Ingredients	3.3	38 +/- 2	

(c) A minimum of 50 mm (2 inches) of rigid insulation will be provided under walk-in prefabricated refrigerators and freezers. The insulation will be turned up 90 degrees around the perimeter of the refrigerator or freezer.

(d) Cold storage refrigeration systems will use the unregulated HCFC-22 as refrigerant. Depending on the applications, either single stage or two-stage HCFC-22 systems may be used. The selection will be based on equipment availability, the lowest life cycle cost, and system operation, maintenance, and repair requirements.

(e) To prevent the unnecessary release of refrigerant into the atmosphere, the design will include provisions to retain, reuse, and reclaim refrigerants during maintenance.

(12) Air Curtain Fly-Control Machines.

(a) Air curtain fly-control machines will be installed over personnel entrance and exit doors, including receiving platform vestibule doors, but not over emergency exit doors from dining areas.

(b) The machines will extend the full width of the doors and be installed on the building exterior immediately above the door headers. The machines will be activated automatically when the doors are opened. The air current will be directed away from the door entrance at approximately 15 degrees, or as recommended by the manufacturer. The air velocity, measured at 900 mm (3 ft) above the finish floor, will be at least 3 m/s (600 ft per minute) for personnel entrance doors and at least 8.1 m/s (1,600 ft per minute) for service entrance doors. Close coordination with placement of doors/windows (ie., transoms) is critical.

(13) Electrical Criteria.

(a) Electrical Receptacles and Outlets.

1/ Electrical receptacles mounted on conduit stub-ups extending above or flush mounted with the finish floor WILL NOT be installed in kitchen areas, serving line work areas, or self-service areas. However, for safety reasons, ceiling cord reels will be provided in these areas rather than flush floor or stub-up receptacles.

2/ Waterproof electrical receptacles will be provided in all areas subject to wet cleaning methods, such as in kitchens, serving line, self-service, dish washing, pot and pan washing, and cart and can washing areas. These receptacles will be installed not less than 4 ft [1.2 m] above the finish floor, except in areas where serving line tray slides are installed since they are less than 4 ft [1.2 m] high. Ground fault circuit interrupting protection will be provided in accordance with the National Electrical Code (reference C-12).

(b) Lighting.

1/ Regular or deluxe warm-white fluorescent lamps will be provided for general lighting in areas where it is desirable to emphasize the color and attractiveness of food, such as dining areas, display counters, salad bars, self-service areas, and serving lines.

2/ Cool-light, such as regular or deluxe cool-white fluorescent lamps, will be provided in all areas where discrimination between colors is essential, such as dessert, meat, salad and vegetable preparation areas; main cooking areas; and pastry and roll baking areas. Cool-white lighting will be provided in dish washing, pot and pan washing, and can washing areas.

3/ Incandescent light fixtures may be used only for architectural effect and in refrigeration and freezer areas. Incandescent light fixtures will not be used for general lighting.

4/ Light fixtures in dish washing areas, cart and can washing areas, and pot and pan washing areas will be gasketed, vapor-proof. Lenses for light fixtures in areas where food is cooked will be shatterproof glass. In areas where food is served or stored, lenses will be acrylic plastic with protective shields. Light fixtures in walk-in prefabricated refrigerators and freezers will be gasketed, vapor-proof type with protective shields that automatically turn off when the doors are closed.

5/ Lighting levels will be in accordance with the ranges contained in DEF 722-10-01 (reference C-5).

(c) Communications and Sound Systems.

1/ Dining facilities with a serving capacity of 100 or more persons will be provided with a public address and sound system in dining areas for the transmission of announcements and broadcast of recorded material. The entire system (components, conduit, cables, microphones, receivers, speakers, tape recorders/players, CD players, turntables, etc) will be MCA funded and provided in the base bid of construction contracts. These systems are exempted from the coordinated Audiovisual Equipment and Systems Program and will not be issued on hand receipts to the dining facility by the installation training and audiovisual support officer. The controls for the intercommunications, public address, and sound system will be located in the administration office.

2/ An intercommunication system with paging capability will be provided at the signature head count station.

3/ Administrative telephones will be provided as required. Telephone requirements must be coordinated with the user and the local Director of Information Management.

(14) Sinks and Waste Disposal.

(a) Hand Lavatories. Hand lavatories in all work areas will be stainless steel and be equipped with blade-type wrist-operated lever faucets. Hand lavatories will not be provided with foot- or knee-operated controls.

(b) Pot and Pan Washing Areas. A four-compartment sink will be provided with 60 °C (140 °F) hot water supplied to three compartments, and 82.2 °C (180 °F) hot water supplied to the fourth compartment. Each compartment will be a minimum of 600 mm (2 ft) by 600 mm (2 ft). Soiled ware counters will be provided with flexible prewash faucets and heavy-duty disposal machines or scraping troughs with basket strainers if disposal machines cannot be installed because of inadequate sanitary sewer systems. Prewash faucets will be protected against back siphonage. Stainless steel wire baskets will be provided for immersion in the fourth compartment. Booster heaters will be provided to deliver the proper water temperatures. An under-sink heater with an indicating thermometer will be provided under the fourth compartment. An automatic chemical sanitizing agent feeder will be provided for the fourth compartment to be used, as needed, in lieu of hot water. The sink unit and counters will be mounted against the walls and sealed and provided with a sound deadening undercoating.

(c) Vegetable Preparation Areas. A two-compartment sink with counter will be provided in vegetable preparation areas and mounted against the walls and sealed. The sink and counter will be provided with a sound deadening undercoating. A waste disposal machine will also be provided.

(d) Field Feeding Equipment Staging Areas. A pot and pan sink booster heater will be provided to deliver 82.2 °C (180 °F) hot water through a hose-bib for field feeding equipment staging areas.

(15) Water Supply.

(a) 37.7 °C (100 °F) water. Hand lavatories will be provided with 37.7 °C (100 °F) water.

(b) 82.2 °C (180 °F) and 60 °C (140 °F) water. Mechanical dish washing, and pot and pan washing equipment will be provided with booster heaters sized to provide an adequate quantity of 82.2 °C (180 °F) hot water. Pot and pan washing areas will also be provided with 60 °C (140 °F) water. Cart and can washing areas will be provided with 60 °C (140 °F) hot water, and pressure spray cleaning and sanitizing equipment. An 82.2 °C (180 °F) hot water outlet will be provided in field food service equipment staging areas.

(c) Hot water lines exposed in work areas will be insulated and protected with stainless steel metal jackets, in particular, exposed lines to dish washing machines.

(16) Floor Drains.

(a) Floor drains will be provided in cart and can washing areas, dish washing areas, kitchen areas, pot and pan washing areas, self-service areas, serving line work areas, pot rack storage areas, and toilet rooms. The floors will be sloped to the drains to facilitate cleaning operations.

(b) Floor drain troughs will be provided in front of compartment and hand sinks, doors to walk-in prefabricated refrigerators and freezers frying and braising pans, rinse-sanitizers, and steam kettles.

(c) Floor drain troughs in front of frying and braising pans, steam kettles, and other grease producing equipment will drain into a central grease trap and not into the main sewer system.

(d) Floor drain troughs for steam kettles, and twin five-gallon kettle and steam kettle will be positioned directly under the drain-out faucets. Floor drain troughs for frying and braising pans will be located so that the contents will spill directly into them.

(17) Gas. Gas supplied food service equipment will be provided with flexible connectors and quick-disconnect couplings. Gas lines will not be permanently attached to gas supplied equipment.

(18) Steam.

(a) Steam generated by building boiler equipment SHALL NOT be permitted to come in direct contact with food.

(b) Steam lines exposed in work areas will be insulated and protected with metal jackets, in particular, exposed lines to steam kettles.

(19) Health and Sanitation.

(a) The current Food Service Sanitation Regulations established by the Food and Drug Administration, U.S. Department of Health and Human Services (reference C-13), applicable National Sanitation Foundation Standards (reference C-14), and AR 40-5 (reference C-15) will be used as minimum standards for all facets of design, including the selection of food contact surfaces, interior surfaces, and food service equipment, as well as the installation of the equipment.

(b) Sanitary sewer lines SHALL NOT be installed above eating areas, kitchen areas, serving areas, or storage areas, either covered or exposed, in new or existing dining facilities.

(c) Unnecessary horizontal surfaces and ledges, and inaccessible spaces will be avoided to facilitate cleaning and provide sanitary conditions.

(20) Receiving Platforms.

(a) Receiving platforms will be 1.2 m (4 ft) high and 3 m (10 ft deep). The vertical distance between the truck maneuvering areas at the platform and the canopy above will not be less than 4.4 m (14 ft 6 inches). The platform canopy will extend approximately 1.2 m (4 ft) beyond the edge of the platform. The platform area will be free of columns. Dock levelers will be provided. Placement of levelers will be in such a manner as to allow more than one vehichle in loading dock area at once. (Ie., do not center on loading dock).

(b) A recessed cleaning area with a floor drain will be provided for mop cleaning. Hot water and pressure spray cleaning equipment will be provided for cleaning garbage cans, mops, racks, and the receiving platform. An enclosed and secure area will be provided for storing spray cleaning equipment.

(21) Trash Removal. The design agency will coordinate with the using service to determine the number and type of garbage and trash receptacles required to adequately serve the facility. Garbage and trash receptacles will be located in an area adjacent to the receiving platform, but not less than 50 ft [15.2 m] from the platform or entrance doors to the facility. Concrete hardstands with wash down capabilities will be provided.

g. Modernization.

(1) General.

(a) The objective for all modernization projects for enlisted personnel dining facilities will be to achieve,

approximately, new space criteria and construction standards. However, the cost of dining facility modernization should not exceed 75 percent of the unit cost of new construction. Each project will be based on sound architectural and engineering judgment to ensure the maximum use of existing assets within authorized funds. It is recognized, however, that due to the building configuration, partition locations, pipe chases, structural columns, window locations, and other considerations it will not be possible in all cases to meet new space criteria and construction standards.

(b) All improvements to existing dining facilities to achieve the required new construction standards and modern food service operations and service will be accomplished as a single project. Phased construction over a period of years will not be used to bring a facility up to new construction standards and modern food service operations and service. All improvements, including repairs and replacement work normally O&MA funded, should be included in the MCA project scope of work by the Army installation preparing the DD Form 1391.

(2) Functional and Equipment Requirements. Dining facilities to be modernized will be based on DEF 722-10-01 (reference C-5) and equipment lists prepared and furnished by ATSM-CES-OE and this document.

h. Food Service Equipment.

(1) Types of Equipment. Food service equipment that is permanently built-in or attached to the facility, including items with fixed utility connections, will be provided from construction funds as part of a construction contract. Equipment that is portable or can be detached from the facility without tools will be government furnished and installed with other than construction funds. All equipment will be coordinated with ACES.

(2) Industry Consensus Standards. The design and installation of food service equipment will conform to the standards of the National Sanitation Foundation (reference C-14). The design and installation of electrically-operated equipment will conform to the standards of the Underwriters' Laboratories, Inc. (reference C-16). The design and installation of gas-operated equipment will conform to the standards of the American Gas Association (reference C-17).

(3) Classes of Food Service Equipment.

(a) Class A Equipment. Class A equipment is installed equipment that is affixed to or built into a dining facility as an integral part of the facility. The equipment will be provided as a part of construction contracts and included as a part of the primary cost estimate for the facility. Class A equipment will be contractor furnished and contractor installed, and MCA funded.

(b) Class B Equipment. Class B equipment is government furnished and contractor installed equipment. The cost of the equipment will not be included as a part of construction contracts. The cost of the contractor to install the equipment will be MCA funded and included as a part of the primary cost estimate for the facility. Normally, in new dining facility construction programs, most of the installed food service equipment is Class A equipment, rather than Class B equipment.

(c) Class C Equipment.

1/ Class C equipment is movable in nature and not affixed or built into a dining facility as an integral part of the facility. The cost of the equipment and installation will not be included as a part of the primary cost estimate for the dining facility. The equipment will be government furnished and installed, and not MCA funded.

2/ The design agency should furnish to the using service a list and description of all Class C equipment to be government furnished and installed in each dining facility construction project. The list and description must be provided to the using service in a timely manner to ensure that the equipment is requisitioned

and delivered prior to the building occupancy.

(4) Funding. O&MA and Other Procurement, Army (OPA) funds for food service equipment in support of MCA construction are centrally managed by ATSM-CES-OE. Army installations with dining facility construction projects should contact ATSM-CES-OE in a timely manner to ensure that Class B and Class C equipment are requisitioned and delivered prior to the building occupancy.

(5) Guide Specifications. CEGS 11400 (reference C-18) will be used in conjunction with master equipment schedules furnished by ATSM-CES-OE during the design of dining facilities.

(6) Special Requirements.

(a) Serving and self-service lines will be equipped with fixed non-removable tray slides and sneeze guards. Sneeze guards will be at a height that permits the server direct access for passing plates to the patrons at any point on the line.

(b) The exterior surfaces of walk-in prefabricated refrigerators will be provided with protective horizontal rails to prevent damage from mobile food preparation tables.

(c) The dish washing system will be the double tank straight-through type in accordance with MIL-D-1390 (reference C-19) for use in both modernization and new construction projects.

3. TROOP ISSUE SUBSISTENCE ACTIVITIES (TISA)

a. Standardization. The Center of Standardization (COS) for TISA facilities is the Norfolk District Engineer Office.

b. Provisions for Physically Handicapped Individuals. The administrative and warehouse office areas and their support spaces will be accessible to handicapped individuals.

c. Functional Areas.

(1) Administrative Area. Space will be provided for offices, general administrative space, conference room, break and training room, storage, and toilet facilities.

(2) Warehouse Office Area. Space will be provided for warehouse offices, driver waiting room, inspection room, veterinary office, and janitor's closet.

(3) Storage Areas. Space will be provided to accommodate the various products stored: dry storage, sensitive vegetable and fruit cooler, hardy vegetable and fruit cooler, perishable cooler, onion and potato cooler, and the freezer.

(4) Support Areas. Space will be provided for a circulation zone, cart and material handling equipment storage, and battery charging. Also, space will be provided for dry and chilled docks, receiving and issuing, staging and holding, unit piles, veterinary inspection, and salvage areas.

d. Standard Design. The DA Standard Design Package for TISA, DEF 432-11-01 (reference C-20) prepared by the Norfolk District Engineer Office will be used when developing designs for TISA projects.

e. Standard Size Facilities. DEF 423-11-01 (reference C-20) is comprised of three baseline sizes for TISA facilities. The sizes are small 4,358 m^2 (46,914 ft^2) gross area, medium 5,533 m^2 (59,627 ft^2) gross area, and large

8,316 m^2 (89,519 ft^2) gross area. The appropriate baseline size for a project will form the basis from which the total storage gross square area requirement is determined.

4. REFERENCES.

C-1 DoD Directive 1338.10, Department of Defense Food Service Program, June 12, 1979 or latest version.

C-2 DoD Instruction 4100.33, Operation of Commercial and Industrial-Type Activities, September 9, 1985 or latest version.

C-3 DA Supply Bulletin 10-262, 42-Day Armed Forces Menu, published quarterly

C-4 AR 30-1, The Army Food Service Program, 14 November 1986 or latest version.

C-5 DEF 722-10-01, Department of the Army Standard Design Package for Army Dining Facilities, February 1996 or latest version.

C-6 DG 1110-3-135, Design Guide for Enlisted Personnel Dining Facilities, September 1984 or latest version.

C-7 DG 1110-3-136, Design Guide for Interiors of Enlisted Personnel Dining Facilities, October 1985 or latest version.

C-8 Guide Specification, CEGS 09682, Carpet, 1 June 1982 or latest version.

C-9 Tile Council of America Standard 137.1-1976, paragraph 5.2.1.2.8. or latest version.

C-10 TB MED 501, Occupational and Environmental Health: Hearing Conservation, March 1988 or latest version.

C-11 Occupational Safety and Health Act (OSHA) of 1970 or latest version.

C-12 NFPA 70, National Electrical Code, National Fire Protection Association, Batterymarch Park, Quincy, MA 02269

C-13 Food Service Sanitation Regulations, U.S. Department of Health and Human Services

C-14 National Sanitation Foundation Standards, P.O. Box 1468, Ann Arbor, MI

C-15 AR 40-5, Preventive Medicine, 1 June 1985 or latest version.

C-16 Underwriters' Laboratories, Inc. Standards, 818 18th Street, N. W., Washington, DC

C-17 American Gas Association Standards, 1515 Wilson Blvd, Arlington, VA

C-18 CEGS 11400, Guide Specification for Military Construction Food Service Equipment, 7 August 1987 or latest version.

C-19 MIL-D-1390, Dish Washing Machine, Single Tank and Double Tank Commercial, 17 October 1984 or latest version.

C-20 DEF 432-11-01, Department of the Army Standard Design Package for TISA Cold/Dry Storage Facilities, October 1988 or latest version.