

### 3) **ENLISTED PERSONNEL DINING FACILITY (WARRIOR RESTAURANT)**

#### 3.1. **GENERAL REQUIREMENTS**

- 3.1.1. **FACILITY DESCRIPTION:** Provide a complete and functional dining facility. Provide receiving, storage, preparation, serving, queuing, dining, dishwashing, and all support equipment and facilities. Facility shall be similar to a college or university meal plan cafeteria in general function and quality. Provide equipment that is of a standard typically recognized in the industry as heavy duty and appropriate for college/university use. Provide equipment and associated accessories typical to enable operations to closely monitor safety, reduce energy, and facilitate ease of operation, sanitation and maintenance. Particular care should be given to protection of wall surfaces in high traffic areas.

Interior design for the dining facility shall be based on an overall comprehensive, coordinated scheme and may utilize a theme for regional or organizational mission. The use of color, texture, and accents shall support the scheme and help create an inviting, cheerful and relaxed atmosphere. Design shall be appropriate for food service and eating activities. Incorporate visual and/or physical separations and transitions between major functions enhancing flow and circulation. Furniture style shall complement and enhance the overall scheme.

Army dining facilities must comply with applicable provisions of Army publication Technical Bulletin TB MED 530. If a conflict exists with other criteria in this RFP, the more stringent criteria apply.

To the extent possible specify hands-free fixtures, hardware, and controls in order to mitigate the risk of infectious disease transmission.

#### 3.1.2. **FACILITY RELATIONSHIPS: (NOT USED)**

#### 3.1.3. **ACCESSIBILITY REQUIREMENTS**

- A. **GENERAL:** The Architectural Barriers Act (ABA) requirements apply to dining facilities in accordance with the following:
- B. **FACILITY DESIGN AND CONSTRUCTION**
- 1) The dining facility shall be accessible to persons with disabilities. While kitchen and serving equipment shall not be required to be accessible, the pathways through these equipment and serving areas shall be accessible. The Staff and Patron Restrooms, Dining (including tray slides), and Administrative areas shall also be fully accessible.
  - 2) The main building entrance on the ground level and at least one emergency egress, designed per applicable code, shall be handicapped accessible. Electronic exterior door openers with push button control are required for handicapped accessibility for permanent party dining facilities (500PP, 800PP, 1300PP).
  - 3) Provide ABA clearances and door accesses in the building main entry and exit vestibule being used by patrons.

#### 3.1.4. **BUILDING AREAS**

##### A. **GROSS AREA**

- 1) **Definition:** Gross building area is measured to the outside face of exterior enclosure walls. Gross area includes floor areas, penthouses, mezzanines, and other spaces as follows:
- 2) **Limitations:** Maximum authorized gross building areas for each facility is included in this paragraph. Proposals that exceed authorized gross area limitations may be considered non-conforming.

- B. **HALF SPACE:** Areas calculated as half space. Gross building area shall be calculated in accordance with Appendix Q, with the following exceptions in accordance with TI 800-01 Design Criteria – Appendix B:

1) All stairs and elevator shafts count as half space for each floor they serve.

C. **EXCLUDED SPACE:** The following spaces are excluded from gross area calculations: Attic areas where average clear height does not exceed 7 feet, normal roof overhangs and soffits for weather protection, mechanical equipment platforms and catwalks.

D. **NET AREA :**

1) **Definition:** Net area is measured to the inside face of the room or finish walls.

2) **Net Area Requirements:** Net area requirements for programmed spaces are included in this RFP. If net area requirements are not specified, the space shall be sized to accommodate the required function and to comply with code requirements, overall gross area limitations, and any other requirement of this RFP (for example, area requirements for corridors, stairs, and mechanical rooms will typically be left to the discretion of the offeror).

**3.1.5. ADAPT BUILD MODEL: (IN DEVELOPMNET. CONSULT THE COS)**

**3.2. FUNCTIONAL AND OPERATIONAL REQUIREMENTS**

**3.2.1. FUNCTIONAL SPACES**

A. **PRIMARY SPACES:** Functional floor plans, equipment plans, equipment schedules, and conceptual site plans are provided for this facility in the applicable appendices. Use of these plans for the interior functional arrangement is mandatory. However, the plans may be modified to accommodate local, regulatory, engineering, architectural, life safety, and/or construction requirements. Finished ceiling heights in dining facilities shall not exceed 14 feet except in areas where clerestories or other daylighting is incorporated to enhance sustainability. All food service equipment shall be certified by the National Sanitation Foundation, International.

B. **DINING:**

I. Provide a minimum of four separate television ceiling- or wall-mounted locations dispersed throughout each main Dining area.

II. Provide one television wall mounted location in the private dining area (500PP, 800PP, 1300PP).

III. Provide power, CATV connection and mounting bracket capable of supporting a 60" flat screen television at all TV locations.

IV. Provide chair rails and impact resistant wainscot to protect wall surfaces.

V. Provide a dedicated place for trash cans alongside building circulation.

VI.

C. **KITCHEN:**

I. The kitchen shall be considered a wet location from the finished floor to 30" AFF for the selection of electrical enclosures.

D. **SERVING:**

I. Station feeding concept shall comply with the Army Food Service Program (DA 30-22) and deliver the full enterprise menu and new initiatives such as "Go for Green". Deep fat fryers will be limited or eliminated in favor of air fryers, combi ovens and other interchangeable equipment.

II. Provide a scatter style station concept that presents prepared (batch cooked entrees) , made to order items at each themed station. Traditionally, these themed stations radiated from a central self-serve soup/salad bar and included a main entrée station, a pizza/deli station, and a dessert

bar. Local cuisine may be integrated into these stations or added as an additional station, space permitting.

- III. To the extent possible Stations shall be arranged in a nutritional-based hierarchy in terms of patron flow through the servery; with foods of higher nutritional value (such as vegetables and fruit) preceding those of lesser nutritional value, with desserts and high calorie soda beverages being among the least visible/prominent. Signage and graphics shall accordingly be integrated into nutritional messaging, while lighting may further enhance by spotlighting healthier eating choices such as the salad bar. Menu selections at all stations shall also be electronic and programmable for daily update. Provide Salad Bar as close as possible to the Head Count System or in the center of the serving area. Provide visual aesthetic cues to highlight the Salad Bar, facilitated by targeted spot-lighting.
- IV. Provide minimum 2 order kiosks at locations convenient to patrons that do not obstruct through-traffic. Coordinate with User for power/data requirements to kitchen and serving stations. Provide conduit with pull string, and means of kiosk attachment (e.g. bolts, flange). Kiosk devices are generally GFGL.
- V. Dinnerware may be integrated into the station casework (preferred) or accessed from strategically located cart/rack dispensers in the servery. Tray slides shall accommodate a 14 inch deep tray.
- VI. Tray slides shall accommodate a standard 14" deep cafeteria tray full depth and may be stainless steel sections attached to serving line or solid surface extensions of the countertop.

Provide sneeze guards that are the adjustable tilting panel type, deployed with the front panel positioned as to ensure a min of 13" vertical clearance between the countertop and the bottom edge of the front panel. (refer to NSF ANSI 2 Food Shield 2019 para. 5.36.2.1). Lighting and sneezeguards shall be provided in all applicable locations in accordance with TBMED530 and the NSF

- VII. Provide waterless heat wells at the server stations

#### E. INTERIOR QUEUING AREA / CORRIDOR:

- I. Provide power, CATV connection, data, and mounting bracket for 60" flat panel monitor for menu display. Provide 1-1/2" empty conduit from menu display location to the Administrative Office with pull string.
- II. For Permanent Party Facilities (201-500 PP, 501-800 PP, and 801-300 PP), provide power and data receptacles for an Automated Teller Machine (ATM) in the patron entry vestibule. ATM to be provided and installed by others outside of this contract.

#### F. ENTRANCES / EXTERIOR QUEUING AREA:

- I. Provide lighted, weather resistant daily menu display case outside main entry door(s). Display case shall be a minimum of 36" x 72".
- II. Provide boot wash area consisting of hose bibs, mounted boot brushes, and trench drains near Entrances or prior to entering Exterior Queuing.
- III. All exterior canopies shall be constructed with an enclosed canopy to prohibit bird nesting.
- IV. For Training Dining Only, Exterior Queuing shall be fully covered and may be attached or detached from the building. Continuous cover shall be provided from the Exterior Queuing Canopy to the Entry Vestibule.
- V. Provide lighting under canopy at an average illuminance level of 5 foot-candles.
- VI. Exterior Stairs shall be covered for weather protection.

G. HEADCOUNT STATION:

- I. Provide custom-fabricated rectangular-shaped module, to house each station. Headcount station shall include a patron counter as well as means to attach a sneeze guard.
- II. Provide power and data receptacles at each station.

H. POINTS OF SALE (POS) STATIONS:

- I. Provide power and data receptacles for each station. POS equipment is generally not MILCON funded..

I. PATRON TOILETS:

- I. Provide standard toilet accessories including but not limited to: mirrors, combination paper towel dispenser /waste paper receptacle units, liquid soap dispensers, toilet tissue dispensers, sanitary napkin disposer, and other standard accessories. Accessories shall be touch-free to the extent practicable.
- II. Toilet partitions shall be solid color phenolic material with a minimum thickness of 3/4".
- III. Partition doors shall be provided with an overlapping door option at both vertical door edges for privacy.
- IV. Restroom doors shall be equipped with step pulls or similar hands-free device.

J. LOCKER ROOM:

- I. The intent of the locker room is to provide convenient and secure storage for staff personal effects – wallet/purse, keys, jewelry, etc.. It is not intended to support full locker room accommodation in the traditional sense. However, if such accommodation is required (examples may include OCONUS host nation requirements), then gender separation will be required and the locker room layout revised accordingly. Provide locker area with lockers - 12" wide x 15" deep x 72" tall, ventilated four-tier (18" high each) lockers. Quantity of lockers shall be a minimum of the quantity below. Lockers shall be mounted on locker manufacturer's base and have a sloped top. Provide manufactured bench(es) secured to floor in front of lockers.

Number of required lockers by facility size:

- 500 Permanent Party: 44
- 800 Permanent Party: 60
- 1300 Permanent Party: 64
- 1300 Training: 64
- 2600 Training: 112
- 720 ORTC: 42
- 1428 ORTC: 60

- II. Provide a 120V receptacle along with a telephone/data jack on each wall of the locker room unless the entire wall is covered by lockers.

K. JANITOR CLOSETS:

- I. Provide floor mounted stainless steel mop sink 33" x 25" x 10" high; service faucet; mop hangar; hose & bracket; one 18" deep x 60" long x 48" high four tier, heavy duty shelving unit for storage of cleaning supplies.

L. OFFICES:

- I. Provide a minimum of three telephone and data receptacles in each office (one telephone/data outlet centered on each wall without a door).
- II. Provide unobstructed visual monitoring of food preparation areas from the Offices. Provide commercial manually adjustable privacy shades.
- III. Provide 2 bulletin boards; mount one inside Administrative Office and one outside Administrative Office door.
- IV. Provide built-in shelving in Administrative Storage.
- V. Provide wall or floor mounted anchor for safe in Administrative Office.
- VI. Provide Public Address System in one of the offices.

M. REFRIGERATED STORAGE:

- I. Provide walk-in cooler and freezer floors at the same elevation as the kitchen floor. Ramped walk-ins are permitted in renovations only.
- II. RUN DRAIN LINES SUCH THAT THEY DO NOT PROTRUDE IN WORKING ISLES.
- III. Operating temperatures shall be as indicated in TB Med 530.
- IV. Provide Slab Frost Heave Protection in addition to the insulated slab for all freezers over 225 square feet.

N. FIELD FEEDING ROOM

- I. Ensure that the heating load calculations includes the high heat load of the ice machine located in this space. Ice machine condensing units shall be located outside (roof or on-grade), NOT inside the facility.

O. DRY FOOD STORAGE:

- I. Provide one telephone receptacle, one data receptacle, and a quad electrical receptacle at the desk location adjacent to the entry door.
- II. One door leaf shall be "Dutch" type with a minimum 10" deep shelf on the Dry Storage side.
- III. Provide bumpers or other protective feature to prevent wall damage from mobile racks.
- IV. Ensure the high density storage rack system is sufficiently anchored to the building and is a complete standardized system.
- V. Provide a ceiling throughout the Dry Storage room, in accordance with TB MED 530

P. RECEIVING VESTIBULE:

- I. Provide continuous stainless steel wall guards along hi and low locations of wall to prevent wall damage from mobile racks. All corners shall be continuous and radiused.

Q. NON-FOOD / PAPER STORAGE:

- I. Provide shelving for storage of paper/compostable container products. Provide bumpers or other protective feature to prevent wall damage from mobile racks.

R. REMOTE SODA ROOM:

- I. Room shall be air conditioned. Provide empty 8" conduits with pull string from the Remote Soda to EACH beverage station in the facility to support vendor provided soda "bag-in-box" syrup installation. Provide additional conduit to bulk CO2 tank.
- II. Provide hot and cold water connects for ice machine (if installed in this room)
- III. Provide water filters for the water to be distributed to the beverage stations.
- IV. Provide 3-20 amp dedicated 120V receptacles on each wall of the remote soda room mounted at 48" AFF, in addition to power for ice machine.

S. CARRY OUT AREA (AKA GRAB & GO):

- I. Provide power, CATV, data, and mounting brackets suitable for two 60" flat panel monitors above serving lines for menu display.
- II. Provide a 1-1/2" empty conduit with pull string from Menu Display locations to the Administrative Office. Provide additional conduit for kiosk ordering.
- III. Where a drive-through is indicated, provide remote speaker, menu board and order system with capability of being customized by the facility staff.
- IV. Provide sliding Drive-Thru window with integral NSF rated air curtain..
- V. Provide power and data for two POS stations

T. DISHWASHING:

- I. Ceiling heights in dish washing rooms will be compatible with the dish washing equipment, but not less than 10 feet 6 inches in new construction.
- II. Horizontal and vertical clearance is required for removal of the inspection doors on the dish washing machines.
- III. Dishwasher exhaust ductwork shall be insulated, watertight, and pitch a minimum of ¼ inch per foot to a drain connection. Drain shall terminate at code approved location. Exhaust fan shall be located at duct termination outside of the building and discharge a minimum of 30 inches from the roof or wall. Fan design shall prohibit the accumulation of condensation within the fan housing.
- IV. Provide a minimum of 10 air changes per hour or 25% greater than dishwasher exhaust requirement, whichever is greater. All exhaust greater than the dishwasher exhaust system shall be exhausted through a ceiling mounted exhaust located in the vicinity of the dishwasher. Dishwasher room shall be maintained at a negative pressure relative to surrounding spaces. Temperature and dehumidification control of the dishwashing area will be provided to maintain maximum of 80 degrees Fahrenheit with no greater than 60% relative humidity.
- V. Dishwash room exhaust must have a capture velocity of a minimum of 1,500 fpm throughout the ductwork against the resulting total static pressure of the system in order to adequately capture air droplets in the air stream. This is based upon guidance published by the American Conference of Governmental Industrial Hygienists (ACGIH).
- VI. Finishes, doors, door hardware, and frames must be corrosive resistance, mold, mildew and (for ceilings) sag resistant, due to the excessive heat and humidity of this space.

- VII. Dishwash conveyor system at the tray drop area shall be compatible with the widest variety of dinnerware and tray sizes. This will often mean use of a belt conveyor rather than a band/cord conveyor for example, as the band conveyor can handle loose dinnerware and compartmented trays that other systems cannot. Confirm with the Food Service Manager

U. CAN WASH:

- I. Provide exterior, freeze-proof hose bibb inside can wash for wash down of containers prior to re-introduction into the facility.
- II. Floor shall slope to drain.
- III. Floor surface shall be free of curbs or other obstructions, which will prohibit rolling garbage cans /equipment into the space.
- IV. Provide can drying racks, mop and broom storage brackets out of range of spray cleaning equipment.
- V. Can Wash Room shall be maintained to at least 50 degrees Fahrenheit. Can Wash room shall be maintained at a negative pressure relative to surrounding spaces.

V. OUTDOOR DINING AREA:

- I. Provide fixed outdoor seating, tables, and trash containers.

W. HARDSTAND SERVICE AREA:

- I. At a minimum, the trash enclosure shall be sized to accommodate at least 4 front loaded trash dumpsters. (Two trash, One recycle, and One Cardboard)
- II. Ensure trash locations and enclosures meet AT/FP standoff distance requirements.
- III. Provide exterior freeze-proof hose bibb at all dumpster areas. Provide an accessible drain at the trash enclosure location.
- IV. Entire Hardstand Service Area shall be constructed of Portland cement concrete pavement and provide proper drainage. Pavement strength and maneuvering clearances will be based on a WB-62 tractor trailer. If the Hardstand Service Area is also to accommodate fire truck traffic, the more stringent requirements (maneuvering and vehicle weights) shall apply.

X. LOADING DOCK:

- I. Loading dock shall have a minimum depth of 15' and wide enough to accommodate the loading dock personnel ramp, stair, and delivery trucks (see below for number of truck locations required for each facility type).
- II. Loading dock will have dock bumpers for each truck location.
  - 500 Permanent Party: 2 Trucks
  - 800 Permanent Party: 2 Trucks
  - 1300 Permanent Party: 2 Trucks
  - 1300 Training: 3 Trucks
  - 2600 Training: 3 Trucks
  - 720 ORTC: 2 Trucks

- 1428 ORTC: 2 Trucks

- III. Roof/canopy must extend 4 feet beyond the edge of the Loading Dock and provide a minimum clear height of 14 feet 6 inches from grade.
- IV. One 25,000-pound dock leveler, bumpers, and truck restraints shall be provided at the commercial vehicle receiving platform. Locate dock leveler at truck location nearest to the receiving vestibule door.
- V. Dock leveler will have an integral loading dock “back-up” light signal system.
- VI. Loading Dock Platform shall be sloped at a one percent pitch away from the building. Platform surface shall have a broom finish. Provide intermittent 2 inch metal lip dock edge protection to mitigate carts rolling off of dock edge.
- VII. PROVIDE A PEDESTRIAN LOADING DOCK RAMP AND STAIR. Coordinate location of ramp and stair with adjacent site and trash enclosure location.
- VIII. The pedestrian loading dock ramp will be regularly used to transport trash and recyclables from the facility. The pedestrian loading dock stair is the normal means of entry/egress for staff employees.
- IX. Provide a lockable and insulated access hatch at the loading dock adjacent to the bulk CO2 storage tank(s) to allow refill of tanks from loading dock.
- X. Loading Dock shall have a minimum average lighting illumination of 5 foot-candles
- XI. **Provide 8'-0" tall double doors or overhead door connecting Loading Dock to Receiving Vestibule.**

### 3.3. SITE FUNCTIONAL REQUIREMENTS

#### A. GREASE INTERCEPTOR:

- 1) Grease interceptor shall be provided for collecting and containing grease from the waste drain line flows emanating from the kitchen food preparation and dishwashing and pot/can wash areas. The grease interceptor shall be located outside of the facility in a location that is accessible to a vacuum grease collection truck. The grease interceptor tank shall be cathodically protected.
- 2) Do not install a grease interceptor inside or underneath the building.
- 3) The grease interceptor shall be sized as stated below except where local requirements dictate a larger size:

500 PP and 800 PP and 720 ORTC: 2,000 gallons

1300 PP and 1300 TNG and 1428 ORTC: 3,000 gallons

2600 TNG: 4,000 gallons.

#### B. SOLIDS INTERCEPTOR:

- 1) If required, Solid interceptor shall be provided for collecting and containing solids from the waste drain line flows emanating from the kitchen food preparation and dishwashing and pot/can wash areas. The solids interceptor shall be located outside of the facility in a location that is accessible to a vacuum solids collection truck and be in-line before the grease interceptor. The solids interceptor tank shall be cathodically protected.
- 2) Do not install a solids interceptor inside or underneath the building.



- 3) The solids interceptor shall be sized as stated below except where local requirements dictate a larger size:

500 PP and 800 PP and 720 ORTC: 100 gallons

1300 PP and 1300 TNG and 1428 ORTC: 250 gallons

2600 TNG: 500 gallons.

#### 3.4. **NOT USED**

#### 3.5. **ARCHITECTURAL REQUIREMENTS**

- A. **GENERAL:** Provide durable and easily maintainable materials. Do not use exterior materials that require periodic repainting or similar refinishing processes. Material exposed to weather shall be factory pre-finished, integrally colored or provided with intrinsic weathering finish.

#### B. **OPENINGS**

##### 1) **Storefronts/Curtain Walls & Entrances:**

- a) **Storefronts (Main Entrance Doors):** Provide aluminum storefront doors and frames with Architectural Class 1 anodized finish, fully glazed, with medium or wide stile for entry. Provide doors complete with frames, framing members, subframes, transoms, sidelights, trim, applied muntins, and accessories. Framing systems shall have thermal-break design. Storefront systems shall be capable of withstanding area wind loads, thermal and structural movement required by location and project requirements, and shall comply with applicable codes and criteria.

##### 2) **Windows:** Material and installation shall comply with applicable codes and criteria.

- a) **Exterior Windows:** Provide insulated, high efficiency window systems, with thermally broken frames complying with applicable codes and criteria. Window sills shall be designed to discourage bird nesting. Provide operable window treatment (shades/blinds) for all window surfaces.

##### b) **Interior Windows:**

###### (1) **Laminated Glass:**

- (a) **Office Window:** Picture window glazing shall be laminated glass. Design-Build Contractor may propose an alternate solution that will provide visual monitoring of the Food Preparation Area in-lieu of using a picture window.

##### 3) **Doors and Frames:** Fire-rated and Smoke Control Doors and Frames: Comply with applicable codes, criteria and requirements of labeling authority. Provide a local alarm on emergency exit only doors including the exterior door by the staff locker room.

- a) **Exterior Insulated Hollow Metal Doors & Frames:** Provide insulated hollow metal exterior doors for entry to all spaces other than patron entrances. Doors and frames shall comply with applicable codes and criteria. Doors shall be minimum Level 3, physical performance Level A, Model 2. Frames shall be minimum 12-gauge, with continuously welded mitered corners and seamless face joints. Doors and frames shall be A60 galvanized, shall comply with ASTM A653 and shall be factory primed. Fire-rated openings shall comply with applicable codes, and the requirements of the labeling authority.

- b) **Interior Insulated Metal Doors:** Shall comply with applicable codes and criteria. Doors shall be minimum Level 3, physical performance Level A, Model 2; factory primed.

(1) Provide insulated metal doors at utility rooms, janitor closets, and stairwell doors.

- c) **Solid Core Wood Doors:** Provide flush solid core wood doors with Grade A hardwood face veneer for transparent finish. Stile edges shall be non-finger jointed hardwood compatible with face veneer.

(1) Provide flush solid core wood doors at patron restrooms.

- d) **Interior Hollow Metal Frames:** Comply with ANSI A250.8/SDI 100. Frames shall be minimum Level 3, 16 gauge, with continuously welded mitered corners and seamless face joints; factory primed.

- e) **Interior Lightweight, High-Impact Doors:** The doors between the Kitchen and the Servery, between the Kitchen and Receiving Vestibule and into the Dishwashing area, shall be lightweight, high impact resistant, double-swing doors with protective door plates, bumpers, pivots, and vision panels

4) **Hardware:**

- a) **Door Hardware:** All hardware shall be consistent and shall conform to ANSI/BMHA standards for Grade 1. Provide closers for all exterior doors, all doors opening to corridors and as required by codes. Provide hands-free opening hardware to the extent practicable. Exit devices shall be installed on all building egress doors.

- (1) **Finish Hardware (Master Keying System/Cores):** All requirements for hardware keying shall be coordinated with the Contracting Officer. Extension of the existing Installation keying system shall be provided. Cores shall have not less than seven pins; cylinders shall have key-removable type cores. Disassembly of knob or lockset shall not be required to remove core from lockset. Locksets for mechanical, electrical and communications rooms only shall be keyed to the existing Installation Master Keying System. HVAC terminal units that are accessed from a central corridor shall have a deadbolt to minimize protrusion into corridor. Plastic cores are unacceptable.

- (2) **Fire and Exit Door Labeling:** Hardware for fire doors shall be installed in accordance with the requirements of applicable codes. Exit devices installed on fire doors shall have a visible label bearing the marking "Fire Exit Hardware". Other hardware installed on fire doors, such as locksets, closers, and hinges shall have a visible label or stamp indicating that the hardware items have been approved by an approved testing agency for installation on fire-rated doors. Hardware for smoke-control door assemblies shall be installed in accordance with applicable codes.

- (3) **Auxiliary Hardware:** Provide other hardware as necessary for a complete installation

- (a) **Door Stops:** Provide wall or floor stops for all exterior doors that do not have overhead holder/stops.
- (b) **Foot pulls (or similar):** Provide on the pull side for all non-traffic doors to the extent practicable but at a minimum at all bathroom doors.

- b) **Non-Destructive Emergency Access System (KNOX Box):**

Provide at a location designated by the contracting officer.

- 5) **Roof Access:** Roof access hatches shall be a minimum of 16 square feet clear open area, with no dimension smaller than 4'-0". Equip roof hatches with lockable operating hardware.

- 6) **Roofing Membranes:** Provide grease-resistant membranes, such as chemically resistant PVC, that withstand the degradation of grease-contaminated exhaust.

- 7) **Louvers and Vents:**

- a) **Exterior:** Exterior louvers shall have bird screens and shall be designed to exclude wind-driven rain. Exterior louvers shall be made to withstand wind loads in accordance with the applicable codes. Wall louvers shall bear the Air Movement & Control Association (AMCA) International certified ratings program seal for air performance and water penetration in accordance with AMCA 500-D and AMCA 511. Louver finish shall be factory applied.

C. **EXTERIOR SPECIALTIES:**

- 1) **Bird Habitat Mitigation:** The Contractor shall provide details in the design necessary to eliminate the congregating and nesting of birds at, on, and in the facility.

D. **ELEVATORS/CONVEYING SYSTEMS (WHERE ELEVATORS ARE INDICATED ON DRAWINGS):**

- 1) **Elevators:** Elevators: Provide elevators for buildings that exceed three stories. Provide elevator system that complies with the most current editions of ASME A17.1 and ASME A17.2 in their entirety, and additional requirements specified herein. The first elevator shall be centrally located and shall have a minimum rated load capacity of 3500 lb (1588 kg), with center opening doors and interior dimensions sized to accommodate a fully extended Emergency Medical Services (EMS) gurney and

four average size adults. Gurney size shall be based on the "STRYKER Power-PRO XT" gurney. An additional elevator as specified above shall be provided for every additional one hundred (100) persons or fraction thereof, over the first two hundred (200) persons the building is designed to accommodate, unless a traffic analysis determines otherwise. Such traffic analysis shall be included in the Design Analysis.

- a) **Elevator Inspector:** The Elevator Inspector shall be certified in accordance with the requirements of the most current editions of ASME A17.1 and ASME QEI-1 and licensed in elevator inspection by the State where project is located. The Certified Elevator Inspector shall inspect the installation of the elevator(s) to assure that the installation conforms with all contract requirements. The Elevator Inspector shall be directly employed by the Prime Contractor and shall be independent of the Elevator System Manufacturer and the Elevator System Installer. The Elevator Inspector shall witness the acceptance inspections and tests, approve all results and sign and certify the successful results. The Elevator Inspector, after completion of the acceptance inspections and tests, shall certify in writing that the installation is in accordance with the contract requirements. The Elevator Inspector shall bring any discrepancy, including any safety related deficiencies, to the attention of the Contracting Officer in writing, no later than three working days after the discrepancy is discovered.

E. THERMAL REQUIREMENTS:

- 1) **Thermal Insulation:** Provide exterior wall, floor, and roof/ceiling assemblies with thermal transmittance (U-values) required to comply with the proposed energy calculations for the facilities. Insulation shall not be installed directly on top of suspended acoustical panel ceiling systems.

3.5.1. FINISHES AND INTERIOR SPECIALTIES

- A. GENERAL: Provide sustainable materials and furnishings that are easily maintained and replaced. Maximize use of day lighting. Provide interior surfaces that are easy to clean and light in color. Consider finishes that augment healthier food choices such as at the salad bar. Consider a combination of graphics, serving counters, and serving line 'fronts' to help to differentiate the different food stations and their respective offerings.
- B. FINISHES: Designers are not limited to the minimum finishes listed in this paragraph and are encouraged to offer higher quality finishes.
  - 1) **Minimum Finish Requirements:** Wall, ceiling and floor finishes shall conform to the requirements of the IBC, NFPA and UFC 3-600-01. Where code requirements conflict, the most stringent code requirement shall apply.
  - 2) COS provides an Interior Standards and furniture guidance package to be used in the development of the project interior CID/FFE package.

3) **Finish Table:**

| INTERIOR FINISHES             |                    |             |                |                 |                          |                |             |                |                          |                    |              |                          |                        |                          |         |                         |
|-------------------------------|--------------------|-------------|----------------|-----------------|--------------------------|----------------|-------------|----------------|--------------------------|--------------------|--------------|--------------------------|------------------------|--------------------------|---------|-------------------------|
|                               | FLOORS             |             |                |                 |                          | BASE           |             |                |                          | WALLS              |              | CEILING                  |                        |                          | REMARKS |                         |
|                               | RESILIENT FLOORING | QUARRY TILE | PORCELAIN TILE | SEALED CONCRETE | RESINOUS FEPOXY (NOTE 7) | RESILIENT BASE | QUARRY TILE | PORCELAIN TILE | RESINOUS FEPOXY (NOTE 7) | GYPSUM BOARD PAINT | CERAMIC TILE | RESINOUS FEPOXY (NOTE 7) | GYPSUM BOARD AND PAINT | SCRUBBABLE CEILING TILE* |         | ACOUSTICAL CEILING TILE |
| ENTRY VESTIBULE               |                    |             | •              |                 |                          |                |             | •              |                          | •                  |              |                          |                        | •                        | 9'-0"   | NOTE 2                  |
| EXIT CORRIDOR / VESTIBULE     |                    |             | •              |                 |                          |                |             | •              |                          | •                  |              |                          |                        | •                        | 9'-0"   | NOTE 2                  |
| CORRIDOR / INTERIOR QUEUING   |                    |             | •              |                 |                          |                |             | •              |                          | •                  |              |                          |                        | •                        | 9'-0"   | NOTE 2                  |
| DINING                        |                    |             | •              |                 |                          |                |             | •              | •                        |                    |              |                          |                        | •                        | 9'-0"   | NOTE 2 AND 6            |
| KITCHEN                       |                    | •           |                | •               |                          | •              |             | •              |                          | •                  | •            |                          | •                      |                          | 9'-0"   | NOTE 1 AND 2            |
| DISHWASHING                   |                    | •           |                | •               |                          | •              |             | •              |                          | •                  | •            | •                        |                        |                          | 10'-6"  | NOTE 2, 3, AND 8        |
| TRAY DROP-OFF AREA            |                    |             | •              | •               |                          |                |             | •              | •                        | •                  | •            |                          |                        | •                        | 9'-0"   | NOTE 2                  |
| FOOD SERVICE AREA             |                    | •           |                |                 |                          | •              |             |                |                          | •                  |              |                          | •                      |                          | 9'-0"   | NOTE 1 AND 2            |
| JANITOR                       |                    | •           |                | •               |                          | •              |             | •              |                          | •                  | •            |                          | •                      |                          | 9'-0"   | NOTE 1 AND 2            |
| WOMEN                         |                    |             | •              | •               |                          |                |             | •              | •                        | •                  | •            |                          |                        | •                        | 9'-0"   | NOTE 2                  |
| MEN                           |                    |             | •              | •               |                          |                |             | •              | •                        | •                  | •            |                          |                        | •                        | 9'-0"   | NOTE 2                  |
| SERVING LINE                  |                    | •           |                |                 |                          | •              |             |                |                          | •                  |              |                          | •                      |                          | 9'-0"   | NOTE 1 AND 2            |
| REFRIGERATED STORAGE          |                    | •           |                | •               | •                        |                |             | •              |                          | •                  |              |                          |                        |                          |         | PREFAB                  |
| THAW                          |                    | •           |                | •               | •                        |                |             | •              |                          | •                  |              |                          |                        |                          |         | PREFAB                  |
| RECYCLE                       |                    | •           |                | •               |                          | •              |             | •              |                          | •                  | •            |                          | •                      |                          | 9'-0"   | NOTE 1 AND 2            |
| POT / PAN WASH                |                    | •           |                | •               |                          | •              |             | •              |                          | •                  | •            |                          | •                      |                          | 9'-0"   | NOTE 1, 2, AND 5        |
| REMOTE SODA                   |                    | •           |                | •               |                          | •              |             | •              |                          | •                  | •            |                          | •                      |                          | 9'-0"   | NOTE 1 AND 2            |
| INSULATED CONTAINER           |                    | •           |                | •               |                          | •              |             | •              |                          | •                  | •            |                          | •                      |                          | 9'-0"   | NOTE 1 AND 2            |
| FIELD FEEDING                 |                    | •           |                | •               |                          | •              |             | •              |                          | •                  | •            |                          | •                      |                          | 9'-0"   | NOTE 1 AND 2            |
| RECEIVING VESTIBULE           |                    | •           |                |                 |                          | •              |             |                |                          | •                  |              |                          | •                      |                          | 9'-0"   | NOTE 1 AND 2            |
| CAN WASH                      |                    | •           |                |                 |                          | •              |             |                |                          | •                  |              | •                        |                        |                          | 9'-0"   | NOTE 2, 3, 4, AND 8     |
| STAIRS                        |                    |             |                | •               |                          | •              |             |                | •                        |                    |              | •                        |                        |                          | 8'-0"   |                         |
| CARRY OUT - SELF SERVICE AREA |                    |             | •              |                 |                          |                |             | •              |                          | •                  |              |                          |                        | •                        | 9'-0"   | NOTE 2                  |
| CARRY OUT – FOOD SERVICE AREA |                    | •           |                |                 |                          | •              |             |                |                          | •                  |              |                          | •                      |                          | 9'-0"   | NOTE 1 AND 2            |
| OFFICE                        | •                  |             |                |                 |                          | •              |             |                | •                        |                    |              |                          |                        | •                        |         |                         |
| DRY STORAGE                   |                    | •           |                | •               |                          | •              |             | •              |                          | •                  | •            | •                        |                        |                          | 9'-0"   | NOTE 2                  |
| NON-FOOD / PAPER STORAGE      |                    | •           |                | •               |                          | •              |             | •              |                          | •                  | •            | •                        |                        |                          | 9'-0"   | NOTE 2                  |
| BREAD STORAGE                 |                    | •           |                | •               |                          | •              |             | •              |                          | •                  | •            |                          | •                      |                          | 9'-0"   | NOTE 1 AND 2            |
| LOCKER ROOM                   |                    |             | •              | •               |                          |                |             | •              | •                        | •                  | •            |                          |                        | •                        | 9'-0"   | NOTE 2                  |
| MECHANICAL                    |                    |             |                | •               |                          | •              |             |                | •                        |                    |              |                          |                        |                          | -       |                         |
| ELECTRICAL                    |                    |             |                | •               |                          | •              |             |                | •                        |                    |              |                          |                        |                          | -       |                         |
| TELECOMMUNICATIONS            |                    |             |                | •               |                          | •              |             |                | •                        |                    |              | •                        |                        |                          | 9'-0"   |                         |

| <b>FINISH SCHEDULE NOTES</b> |  |
|------------------------------|--|
| 1.                           | SUSPENDED ALUMINUM CEILING GRID WITH 2'X2' ACOUSTICAL CEILING TILE. TILE SHALL HAVE WASHABLE AND SCRUBBABLE SURFACE MEETING USDA/FSIS GUIDELINES FOR FOOD PROCESSING USE.  |
| 2.                           | ALL GROUT SHALL BE AN EPOXY GROUT  |
| 3.                           | PROVIDE A POLY MEMBRANE BEHIND THE CEMENT BOARD TO CREATE A CONTINUOUS WATER BARRIER.  |
| 4.                           | PROVIDE GWB CEILING WITH MILDEW RESISTANT EPOXY PAINT  |
| 5.                           | PROVIDE NON-FIBROUS, VINYL WRAPPED WASHABLE GYPSUM-BASED USDA/FSIS CERTIFIED LAY-IN CEILING TILE WITH MOLD, MILDEW, AND SAG RESISTANCE, IN STAINLESS STEEL GRID. EQUIVALENT SOLUTIONS SHALL BE REVIEWED BY THE COS |
| 6.                           | CEILING SHALL BE A MINIMUM OF 9 FEET, BUT 10 FEET IS PREFERRED.  |
| 7.                           | PREFERENCE IS FOR RESINOUS EPOXY FINISHES IN WET AREAS, BUT PREDICATED ON SKILLED INSTALLER  |
| 8.                           | USE WATER RESISTANT GYPSUM BOARD CEILING WITH WATERBORNE LIGHT INDUSTRIAL SEMI-GLOSS COATING. (MPI 153 OVER MPI 50)  |

C. INTERIOR SPECIALTIES:

- 1) **Signage & Directories:** A comprehensive signage package shall be provided.. Signage shall be provided and clearly define the major areas of this facility, identify different service areas and types of food served, identify food items over the kiosks, provide directional information and traffic flow where appropriate, and compliment the interior design scheme. Illumination of signage is not required but can enhance its visibility. Ensure general building lighting does not conflict or detract from the signage design.
- 2) **Wall Protection:**
  - a) **Chair Rail:** Chair rails shall be installed in dining areas. Certain kitchen spaces shall have stainless steel wall guards.
  - b) **Corner Guards:** 72 inch high corner guards are required for all outside corners of walls and columns throughout the facility except in restrooms. Corner guards in kitchen, servery, dishwashing and other utility/service areas shall be stainless steel. Corner guards in Dining Area and other patron/public spaces shall be surface mounted, high impact resistant, integral color, snap-on type resilient corner guards and be part of the SID. Factory fabricated end closure caps shall be furnished for top and bottom of surface mounted corner guards.
- 3) **Storage Shelving:**
  - a) **Janitor's Closet:** Provide 18 inch deep, heavy duty, stainless steel shelving for storage of janitorial supplies.
- 4) **Fire Extinguisher Cabinets & Mounting Brackets:** Furnish and install fire extinguisher cabinets and fire extinguisher mounting brackets as required by applicable codes and criteria. Furnish a list of installed fire extinguisher cabinets and mounting brackets (including location, size and type) to the Contracting Office Representative.

**3.6. STRUCTURAL REQUIREMENTS**

- A. **GENERAL:** Design and construct as a complete system in accordance with APPLICABLE CRITERIA.

**3.7. THERMAL PERFORMANCE**

- A. No additional requirements in this paragraph.

**3.8. PLUMBING REQUIREMENTS**

- A. **DOMESTIC WATER:**

- 1) **Water Quality:**
  - i. Perform a water quality analysis to determine the need for water softening equipment, piping requirements, equipment filtering requirements, etc. Provide filtering for equipment where the water quality analysis is outside of the recommended range of the equipment manufacturer.

- ii. Individual equipment items may also require filtering per manufacturer's recommendations.
- 2) **Exposed Piping:** In accordance with TB Med 530, all piping shall be concealed to the greatest extent possible. Where metallic piping cannot be concealed it shall be stainless steel or chrome-plated. Chrome Plating shall be in accordance with ASTM B 650.
  - 3) **Hot Water:** In the kitchen and dishwashing area, hot water shall be designed to provide 140 degree Fahrenheit at the equipment. General purpose, hand washing sinks and lavatories shall be provided with 110 degree Fahrenheit hot water. Provide tempering of the hot water drains in accordance with APPLICABLE CRITERIA.
  - 4) **Sinks:** All sinks shall be UL and NSF approved/certified/listed. Hand wash sinks in food service areas shall have foot operated faucets. Generally, all sinks shall be hands-free. Patron sinks and water coolers shall be foot or knee operated, or include automatic proximity sensors activation.
  - 5) **Drains:** Plumbing drains shall be provided at each sink area and shall be provided with trap primers. Provide non-slip floor drains and troughs with strainers and stainless steel grating throughout the facility in locations indicated in the 'Functional Spaces', the standard design drawings, and the standard design specifications, and other areas required by codes and standards. Coordinate locations with food service equipment.
    - i. For safety reasons, locate drains where personnel do not ordinarily stand while operating equipment or impose a slip hazard.
    - ii. Locate drains for accessibility without removal/disassembly of equipment. Ensure pipe terminations above drain locations (eg from dishwashing machine) provide for sufficient vertical clearance to ensure drain cover and strainer can be removed for periodic cleaning.
    - iii. Grating and Floor slope should not pose a slip hazard or unintentioned rolling of mobile carts/trolleys.
  - 6) **Eyewash Stations:** Provide eyewash stations as required by OSHA (29 CFR 1910.151(c) and 29 CFR 1926.50(g)) in location(s) where chemicals – such as cleaning agents – are dispensed. Eyewash may be stand-alone or plumbed.

### 3.9. **COMMUNICATIONS AND SECURITY SYSTEMS**

- A. **TELECOMMUNICATION SYSTEMS:** Telecommunications outlets shall be provided per the applicable criteria based on functional purpose of the space within the building.
  - 1) **DATA:** Data receptacles shall be included in the Offices, Points of Sale, Headcount Area, Dry Storage Room, Locker, Mechanical, Electrical, and Telecommunications Room.
  - 2) **TELEPHONE:** Telephone receptacles shall be included in the Offices, Dry Storage Room, Locker, Mechanical, Electrical, and Telecommunications Room.
  - 3) **CATV:** The facility shall include a cable television system. Where not indicated otherwise, Contractor shall provide all power, cable and mounting hardware suitable for 60" minimum flat panel televisions. All CATV outlet boxes, connectors, cabling, and cabinets shall conform to APPLICABLE CRITERIA unless noted otherwise. All horizontal cabling shall be homerun from the CATV outlet to the telecommunications room unless indicated otherwise. See paragraph 6 for possible additional requirements.
- B. **MASS NOTIFICATION SYSTEMS:** MNS shall be integrated into the installation's area wide MNS (Giant Voice). See Paragraph 6 for further requirements. Locate the mass notification system point of origin microphone as directed by the contracting officer.

### 3.10. **ELECTRICAL REQUIREMENTS**

- A. **GENERAL:** Select electrical characteristics of the power system to provide a safe, efficient, and economical distribution of power based upon the size and types of loads to be served. Electrical systems, including, but not limited to, interior power, exterior and interior lighting, communication systems, cable television (CATV), public address (PA), audio visual systems, fire alarm system, mass notification system, lightning protection and grounding system, and cathodic protection system shall be designed to comply with the documents listed in APPLICABLE CRITERIA. Use distribution and utilization voltages of the highest level

that is practical for the load to be served. Voltage drop shall not exceed the maximum allowed per ASHRAE 90.1. Transient voltage surge protection shall be provided on service equipment.

- B. **POWER:** Power shall be provided for all installed equipment requiring power to include convenience receptacles and government furnished government installed equipment. Provide 15% spare electrical load capacity throughout the building electrical system. This shall include capacity for switchboards, feeders, panelboards, transformers, branch circuits, etc
- 1) **Panels:** Panelboards located in accessible areas, shall be lockable and keyed to one master key. Panelboards installed in the kitchen/serving areas of the building shall be flush mounted.
  - 2) **Outlets:**
    - I. In addition to other receptacles required by this RFP, provide 120 volt duplex wall receptacles in all spaces. The maximum receptacle spacing in offices shall be 12 feet with at least one receptacle on each wall. The maximum spacing between receptacles in other locations shall be 25 feet.
    - II. In addition to receptacles required for specified pieces of equipment along the serving and salad bar lines and soda stations, provide 3-20 amp dedicated 120V spare receptacles at each soda station and 2-20 amp dedicated 120V spare receptacles along each serving and salad bar line.
    - III. For portable/movable equipment installed in the kitchen, provide ceiling-mounted, retractable drop cords rather than floor “stub-up” receptacles which get damaged by equipment legs.
  - 3) **Intrusion Detection:** For the space(s) where the safe is located; Provide an empty conduit and junction box system for intrusion detection components. The intrusion detection components shall be provided and installed by others. Conduit shall be 1” and route back to the communications room.
  - 4) **Emergency Generator:** An emergency generator is not in contract, but provide an exterior electrical disconnect and a mechanical/electrical interlock on the SWBD for connecting a portable generator to support the full building load. The contractor shall test this electrical disconnect, interlock and cabling by performing a full building load test using a portable generator.
  - 5) **Faucet Sensors:** Hardwire flush and faucet sensors (where provided) to eliminate the need for batteries.
- C. **LIGHTING LEVELS, FIXTURES & CONTROLS:** Interior lighting controls shall be provided in accordance with ASHRAE 90.1. Electronic ballasts for linear florescent lamps shall be the high efficiency programmed start type. Provided lighting levels shall be within +/- 10% of required lighting levels. Provide general area lighting as well as task and decorative lighting in service and public areas. The use of a variety of fixtures – pendant, surface, sconce, direct, and/or indirect – with occupancy sensors is encouraged. See TB MED 530 for specific lighting requirements including, but not limited to intensity and protective shielding.

### **3.11. HEATING VENTILATING AND AIR-CONDITIONING (HVAC) REQUIREMENTS**

#### **A. HVAC DESIGN CRITERIA:**

- 1) **General:** The facility shall be air conditioned except that the storage and service areas may be ventilated and heated as required by code. The Kitchen, Dishwash, Pot/Pan Washing shall be cooled not to exceed 85 degrees Fahrenheit and heated to maintain temperature no less than 68 degrees Fahrenheit. The Kitchen, Dishwash, Pot/Pan Washing, service spaces, and Restrooms shall maintain a negative pressure while the Dining, Point of Sale and Interior Queuing areas shall have a positive pressure.
- 2) **Kitchen Hoods:** Install Demand Controlled Kitchen Ventilation (DCKV) for all hoods. Demand Control Ventilated Kitchen hood systems shall be a packaged system utilizing variable frequency drives and electronically commutated motors (ECMs) on supply and exhaust fans. Hoods shall be stainless steel all welded construction and shall include lights, filters, grease troughs and fire protection systems. Hoods shall be UL and NSF approved/certified/listed. Hoods shall be certified to meet the International Mechanical Code required velocities for the service application. If face discharge hoods are utilized, they shall be provided with tempered makeup air. Makeup air shall be tempered to 85 degrees Fahrenheit for cooling and 60 degrees for heating. Indicate kitchen hood functions by designating “Type II Condensate Laden Air Hood” and “Type I Grease Laden Air Hood” in the hood schedule. Kitchen

hood systems shall be designed and installed in compliance with NFPA 96. Kitchen hoods shall be UL rated in accordance with UL 710.

- 3) Thermostats: Locate thermostats and other wall mounted equipment to minimize damage from mobile carts.
- 4) Ductwork: Do not install exposed ductwork in kitchen/serving areas
- 5) Air Curtains: Air curtain fans shall be provided over all unscreened openings including: drive-thru windows, personnel entry/exit doors and receiving vestibule doors, except for mechanical/electrical rooms. Fans shall be full width of door/window and mounted on the interior side immediately above the opening. Emergency exit only doors do not require air curtain fans. Air curtain fans shall be NSF rated and meet the velocity requirements of TB MED 530.
- 6) Mechanical Room: Provide a Hose bib in the mechanical room.
- 7) Ventilation for Dining Area: Install DCV for the dining areas. DCV is an automatic adjustment of ventilation equipment according to occupant levels based on CO<sup>2</sup> levels. DVC is a control method that modulates the volume exchange of fresh or outside air into an enclosed space by mechanical air conditioning equipment. Design engineers reference a codified standard when determining ventilation set point for sensors or time schedules and control. The amount of air supplied is determined by the building owner standards, along with the designer and ASHRAE Standard 62.1.
- 8) Dishwash Room: The capture velocity of the dishwasher exhaust ductwork shall be a minimum of 1500 feet per minute times the dish machine exhaust connection square footage. Refer to Appendix A, Drawing Sheet M-1, Standard DFAC Dishwash Room Cooling and Exhaust for detailed information on design criteria and a sample design.

### **3.12. ENERGY CONSERVATION REQUIREMENTS:**

- A. ENERGY PERFORMANCE: Design projects to fully comply with UFC 1-200-02 and include life cycle cost effective energy enhancements below to the extent practicable.

#### **1) Energy Enhancements:**

- i. Optimize building orientation (East-West Axis with Passive Solar shading geometry)
- ii. Tight construction with Infiltration less than .15 cfm per square foot of exterior envelope area at 75 PA
- iii. Added insulation to high performance 'Passivhaus' levels (See the Insulation Requirements and Window Characteristics Table per climatic zone below)
- iv. Design detailing to avoid thermal bridges that allow heat to bypass insulation
- v. Windows: Triple-pane, Energy Star, with low-E coatings appropriate to climatic zone.
- vi. Lighting: lower lighting consumption to average 0.75W/ft<sup>2</sup> or less. To achieve this performance, consider the following:
- vii. Low maintenance, low wattage-per-lumen technologies, e.g. SSL/LED fixtures
- viii. Occupancy, Vacancy, and Daylighting sensors for active ambient light control
- ix. Increase vertical glazing by 50% over standard designs
- x. Increase Skylight to Floor Area (SFA) fraction to 3% over corridors, admin areas and office areas
- xi. Use digital multi-zone lighting controls with individually addressable fixtures
- xii. 'Cool Roof' finishes where cooling load exceeds heating (e.g. Climate Zones 1-5)
- xiii. Top Tier Energy Star or FEMP rated appliances and equipment
- xiv. Demand/user controlled High Efficiency HVAC equipment per ASHRAE 189.1
- xv. Optimize HVAC zones with respect to user schedules and occupancy
- xvi. Include Energy Recovery Ventilation (ERV) systems with >75% efficiency



- xvii. Dedicated Outside Air System (DOAS) for ventilation with heat recovery for assembly and heat/fume generating activities
  - xviii. Indirect Evaporative Pre-Cooling (IEPC or IDEC) for Dry Climates (Climate Zones xB)
  - xix. HVAC equipment efficiency ratings (e.g. COP) that exceed ASHRAE 189.1 (C) requirements
  - xx. High Efficiency condensing boilers with >90% efficiency and/or incorporate Ground-Source Heat Pump technology
  - xxi. NEMA MG1 Premium Efficiency/ Electronically Commutated Motors (ECM) motors
  - xxii. Variable Air Volume (VAV) or hydronic distribution; consider:
    - 1. radiant heating systems, especially in maintenance bays, and
    - 2. "Radiant" cooling systems in ceilings
  - xxiii. Measurement and Verification (M&V) systems
  - xxiv. On-site Renewable Energy elements:
    - 1. Transpired Solar Collectors in Climate Zones 2A to 8.
    - 2. SSL/LED parking and street lighting; site-specific light distribution patterns
    - 3. Prepackaged pole-mounted solar site lighting solutions
    - 4. Include 30% demand solar water heating in areas where the average sun exposure is equal or greater than 4.0 kWh/m<sup>2</sup> per day according to the National Renewable Energy Lab (<http://www.nrel.gov/gis/solar.html>) in accordance with the SDD policy (Reference d.)
  - xxv. Maximum flow rates for plumbing fixtures per ASHRAE 189.1
    - 1. Dual-flush toilets
    - 2. Waterless Urinals: urinals that use either no water or no potable water (e.g. may use harvested rainwater or reclaimed greywater)
  - xxvi.** Stormwater management: Meet local codes and Low Impact Development (LID) best practices (e.g. pervious pavement, rainwater harvesting, swales, bioretention ponds)
- 2) **Solar Water Heating:** In addition, new buildings shall be designed and constructed to provide 30% of domestic hot water by use of solar hot water system if life cycle cost effective, in accordance with EISA 2007 Section 523.

| Insulation Requirements and Window Characteristics by Climate Zone |                 |                 |                                     |                                   |                 |              |            |
|--|-----------------|-----------------|-------------------------------------|-----------------------------------|-----------------|--------------|------------|
| Climate Zone   | Wall Insulation | Roof Insulation | Slab-on-Grade (Unheated) Insulation | Slab-On-Grade (Heated) Insulation | Windows U-Value | Windows SHGC | Windows VT |
| 1A<br>Miami, FL  | R-19 + R7.5ci   | R-25            | NR                                  | R-7.5 for 12 in. +R-5ci below     | 0.26            | 0.25         | > 0.50     |
| 2A<br>Houston, TX  | R-19 + R15ci    | R-30            | NR                                  | R-10 for 24 in. +R-5ci below      | 0.26            | 0.25         | > 0.50     |
| 2B<br>Phoenix, AZ  | R-19 + R15ci    | R-30            | NR                                  | R-10 for 24 in. +R-5ci below      | 0.26            | 0.25         | > 0.50     |
| 3A<br>Memphis, TN  | R-19 + R20ci    | R-35            | R-10 for 24 in.                     | R-15 for 24 in. +R-5ci below      | 0.26            | 0.39         | > 0.50     |
| 3B<br>El Paso, TX  | R-19 + R20ci    | R-35            | R-10 for 24 in.                     | R-15 for 24 in. +R-5ci below      | 0.26            | 0.39         | > 0.50     |
| 3C<br>San Francisco, CA  | R-19 + R10ci    | R-25            | NR                                  | R-15 for 24 in. +R-5ci below      | 0.26            | 0.39         | > 0.50     |
| 4A<br>Baltimore, MD  | R-19 + R25ci    | R-45            | R-15 for 24 in.                     | R-20 for 24 in. +R-5ci below      | 0.18            | 0.39         | > 0.50     |
| 4B<br>Albuquerque, NM  | R-19 + R25ci    | R-45            | R-15 for 24 in.                     | R-20 for 24 in. +R-5ci below      | 0.18            | 0.39         | > 0.50     |
| 4C<br>Seattle, WA  | R-19 + R20ci    | R-35            | R-10 for 24 in.                     | R-20 for 24 in. +R-5ci below      | 0.18            | 0.39         | > 0.50     |
| 5A<br>Chicago, IL  | R-19 + R30ci    | R-55            | R-20 for 24 in.                     | R-20 for 48 in. +R-5ci below      | 0.18            | 0.49         | > 0.50     |
| 5B<br>Colorado Springs, CO   | R-19 + R30ci    | R-55            | R-20 for 24 in.                     | R-20 for 48 in. +R-5ci below      | 0.18            | 0.49         | > 0.50     |
| 6A<br>Burlington, VT   | R-19 + R40ci    | R-70            | R-20 for 48 in.                     | R-20 for 48 in. +R-5ci below      | 0.18            | 0.49         | > 0.50     |
| 6B<br>Helena, MT   | R-19 + R40ci    | R-70            | R-20 for 48 in.                     | R-20 for 48 in. +R-5ci below      | 0.18            | 0.49         | > 0.50     |
| 7A<br>Duluth, MN   | R-19 + R50ci    | R-80            | R-20 for 24 in. +R-5ci below        | R-25 for 48 in. +R-5ci below      | 0.18            | 0.49         | > 0.50     |
| 8A<br>Fairbanks, AK  | R-19 + R60ci    | R-90            | R-20 for 24 in. +R-5ci below        | R-25 for 48 in. +R-5ci below      | 0.18            | 0.49         | > 0.50     |

Notes for Insulation Requirements and Window Characteristics:

- 1) **ci** = continuous insulation
- 2) **NR** = No Requirement
- 3) **SHGC** = Solar Heat Gain Coefficient
- 4) **VT** = Visible Transmittance

**3.13. FIRE PROTECTION REQUIREMENTS**

A. **FIRE DETECTION AND ALARM SYSTEMS:** The fire alarm system installation shall be supervised by a National Institute for Certification of Engineering Technologies (NICET) Level 3 (minimum) technician.

- 1) **Software:** All software, software locks, special tools and any other proprietary equipment required to maintain, add devices to or delete devices from the system, or test the Fire Alarm system shall become property of the Government and be furnished to the Contracting Officer's Representative prior to final inspection of the system.
- 2) **Fire Pump:** The fire protection system shall be designed based on the available water source. If the hydraulic calculations based on water flow test for each sprinkler system exceed that of the water supply, a fire pump shall be provided in accordance with applicable criteria.
- 3) **Loading Dock:** The loading dock shall be classified as a NFPA ordinary hazard group 2.

**3.14. SEE PARAGRAPH 6.14 SUSTAINABLE DESIGN – NOT USED**

**3.15. SEE PARAGRAPH 6.15 ENVIRONMENTAL – NOT USED**

**3.16. SEE PARAGRAPH 6.16 PERMITS – NOT USED**

**3.17. SEE PARAGRAPH 6.17 DEMOLITION – NOT USED**

**3.18. SEE PARAGRAPH 6.18 ADDITIONAL FACILITIES – NOT USED**

**3.19. EQUIPMENT AND FURNITURE REQUIREMENTS:**

A. **EQUIPMENT:**

Government furnished equipment will be delivered prior to final completion of the building. Where indicated, the Contractor shall provide an optional bid to provide all Government Furnished equipment items. In all cases, Contractor shall plan for and coordinate installation of this equipment as well as for Vendor provided equipment, and shall provide clearances, space, power, data, water, drains, conduits, etc as required for equipment to be operational. The Contractor shall consider the heat generated by this all equipment in determining cooling loads. See enclosed kitchen equipment plans for identification of Contractor furnished versus Government and Vendor furnished equipment. In addition, all movable furnishings will be based on the Contractor's CID and Government furnished unless otherwise indicated as an optional bid item.

Furniture and décor items shall be modern, varied, and inclusive, reflecting a wide variety of seating options and group activities for a diverse patron base that may include reserve and civilian in addition to active duty members. Differentiated seating areas and a modern ambience is encouraged. Refer to the Standard CID/FF&E template provided by the COS.

IT/AV equipment will include but not be limited to order kiosks, pay station locations, programmable menu boards, and other food displays. The Designer shall locate those items and provide the specifications in accordance with guidance from the COS and JCCOE

**3.20. FACILITY SPECIFIC REFERENCES:**

A. **ARMY PUBLICATION TECHNICAL BULLETIN (TB MED 530) – “OCCUPATIONAL AND ENVIROMENTAL HEALTH FOOD SANITATION”**

|                 |
|-----------------|
| DESIGN CRITERIA |
| SAMPLE DESIGN   |

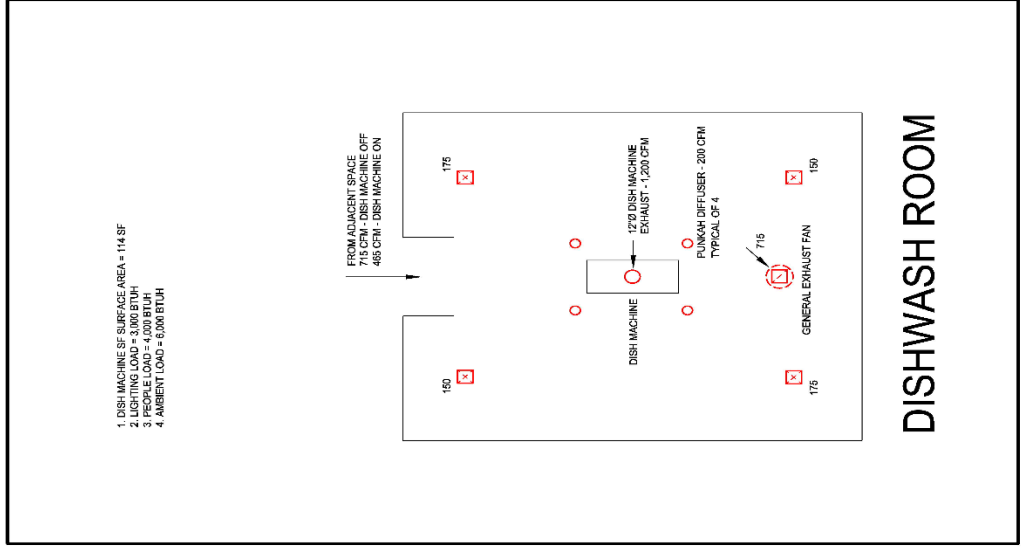
APPENDIX A

STANDARD DFAC  
DISHWASH ROOM  
COOLING & EXHAUST

|          |           |
|----------|-----------|
| SCALE    | AS NOTED  |
| DATE     | 5/28/2019 |
| REVISION |           |

|              |     |
|--------------|-----|
| SHEET NUMBER | M-1 |
|--------------|-----|

SAMPLE DESIGN



DESIGN CRITERIA

Room Supply =  $\frac{\text{Lighting Sensible Load (btuh)} + \text{People Sensible Load (btuh)} + \text{Ambient Load (btuh)}}{20}$

Dish Machine Adjacent Supply (cfm) = 7 cfm per SF of Machine Metal Surface Area

Dish Machine Exhaust (cfm) = Dish Machine Exhaust Connection SF x 1,600 fpm

General Exhaust = The Greater of  $\left\{ \begin{array}{l} \text{Room Supply} + \text{Dish Machine Adjacent Supply} - \text{Dish Machine Exhaust} \\ \text{OR} \\ \text{Room Supply} \times 1.1 \end{array} \right.$

Dish Machine Adjacent Supply and Exhaust Operation Interlocked with Operation of Dish Machine

Dish Machine Adjacent Supply By (4) Punkah Diffusers