

3.0 RELIGIOUS EDUCATION FACILITY (REF) <VER>(REV 1.1 – 31 AUG 2012)</VER>

3.1. GENERAL REQUIREMENTS:

- A. Provide an Army Standard Design Religious Education Facility as defined herein.
- B. SPECIAL COORDINATION SUBMITTALS: Provide the facility with a special list as a design submittal and again as an early construction submittal. This list will itemize the building features that are to be procured by the government to “fit” into the building fabric supplied by the constructor of the building. For example, a kitchen appliance that is not in the contract but is supported by casework, utilities, and similar features that are a part of the contract supplied “building fabric”. The list shall briefly describe the item and the depth/width/height being provided, the coordinating finishes/colors being provided, the utilities/capacities being provided and any other important note necessary for the government to properly select and purchase the item.

3.1.1. FACILITY DESCRIPTION

Religious Education Facility requirements are for a facility (in various sizes) intended to support the religious education, fellowship, and varied gathering needs of general military congregations and some specialized congregations. The associated floor plan (provided) has been specifically developed to provide certain required functional capacities and benefits to the Army for this type of religious facility (especially with regard to supporting a wide range of relatively different faith groups) and is mandatory. It includes multiple sizes and types of spaces to allow the facility to better support a diverse religious and general military community. The design allows small children and special-needs users to be accommodated as well as adults and older children.

A. FACILITY GOALS FOR THE SOLDIER COMMUNITY:

- 1) The facility is intended to support the worship services of all distinctive faith groups.
- 2) The facility is intended to support administrative activities necessary to operate and maintain the Religious Education Facility in a manner that ensures maximum support for the military community and the garrison. These goals will impact finish choices, quality and selection of features.
- 3) The facility is intended to provide the highest levels of personal safety, resource integrity and construction technology while also inspiring and encouraging the Army community and the individual user. These goals will also impact the layouts and designs of casework, hardware, decorating features, finish choices, quality and selection of features.

B. FACILITY GOALS FOR THE OPERATING STAFF:

- 1) All of the individual and group activities require support from the Unit Ministry Teams (the assigned group of Chaplain Staff defined for each garrison). In turn, these teams require support for religious education in the form of professional administrative and activity spaces. Team members will be seeking to support the military community members and their garrison in three basic ways.
- 2) The Unit Ministry Team is responsible for coordinating the use of all the different spaces by all the different users, many of which will be from the general garrison military community. Good coordination will ensure the most efficient and effective use of the facility and the greatest number of satisfied users.
- 3) The Unit Ministry Team is responsible for planning and producing a number of individual and group functions. These could range from counseling or instructing an individual to leading a large group religious activity.
- 4) The Unit Ministry Team is responsible for managing the maintenance and operation of the facility and its supporting equipment systems in a way that provides a safe, economical and nurturing environment within the facility and extends the life of the facility to the greatest extent practicable. This will allow the facility to fulfill its mission for many years to come in a very cost effective manner.

3.1.2. FACILITY RELATIONSHIPS

- A. This Army Standard Design Religious Education Facility type is intended to function in conjunction with and to coordinate with (on the same site when possible) a separate Chapel. Complete and appropriate support for Army congregations includes a long list of basic functions and ideally they should never be separated from one

another. In addition, this pair of facilities may relate to a wide variety of other Garrison facility types. Specific projects generally define the association preferences of individual Garrisons for each project. Sustainability and other community support considerations will also have an impact.

B. This facility should be located in proximity to other service facilities that large numbers of users will frequent on a regular basis. This could be near an exchange, headquarters building, or dining facility. This facility should not be located within purely residential areas because of the large number of vehicles that will be associated with the facility. This facilities location from the perimeter of the Garrison and from trash containers, roadways and parking lots will have an impact on what construction systems will be allowed (and vice versa) for the facility. This is described in UFC 4-010-01. Adjust the facility orientation on the selected site to take advantage of desirable views and according to recognized design principles. Parking acreage requirements for each facility will depend on the size of the facility, how the facility is used, and the availability of adjacent parking areas that may be used.

3.1.3. ACCESSIBILITY REQUIREMENTS: ~~The Religious Education Facility design allows small children and special needs users to be accommodated as well as adults and older children. This facility design allows the physically handicapped access to nearly all spaces outside of equipment rooms and closets. There are spaces for which normal handicapped access is wholly inappropriate and these should not be modified in a misguided effort to create blanket accessibility. This shape also creates some basic acoustic separation between different space types.~~

A. THE INFANT/TODDLER CLASSROOM TOILET ROOMS: No toddler will be operating an adult sized wheelchair. No handicapped person will be operating the toddler room alone or be called upon to assist a toddler in the toilet room. Modifying this space to provide blanket (adult-in-a-wheelchair) accessibility clearances and features only shows a lack of understanding. Provisions actually suitable for a handicapped toddler are quite appropriate.

B. COUNTERS: Setting all counter heights in a space or a facility to meet accessibility criteria as if they were the only users of the facility is wholly-very inappropriate. Counter heights for base cabinets and apron rails in all spaces may include appropriate portions for the independent use of the handicapped, but the rest (majority) of such features must be designed to accommodate typical adults without special needs.

3.1.4. BUILDING AREAS:

A. GENERAL: While this document includes considerable guidance regarding building area, the depth and scope of other competing criteria can lead to points of uncertainty. Contact the Center of Standardization for help clarifying any such questions that will assist in completing a specific design.

B. GROSS AREA: Provide gross building area as directed. For some solicitations an Appendix Q - AREA COMPUTATIONS will be provided and shall be used for this. Provide the gross building area as shown on the provided drawing. Note also that every building code, life safety code or similar document will want the gross and net areas of the building calculated a different way because they have to focus on specific issues. These other area computations are fine to include on design documents, per se, but must be included in the drawings and specifications with an appropriate label such as "Gross-Special Area for Exiting Calculations/Purposes Only:" The phrases "~~GROSS-SQUARE-FEET~~Gross Square Feet" or "~~GROSS-SQUARE-FOOTAGE~~Gross Square Footage" must be reserved for the definition herein if it is used on design or contract documents.

C. HALF SPACE: A comprehensive review of the drawings and associated calculations will reveal that there are features (canopies, for example) whose area is counted as one-half of actual in gross-area calculations and some features (inaccessible shafts and the thicknesses of partitions, for example) whose area is not specifically counted in net-area calculations.

D. NET AREA: Net space area is defined as the area measured to the inside face of the surrounding partitions or walls. Additional defining information will sometimes be included in an "Appendix Q - AREA COMPUTATIONS" section. Provide net area requirements for functional spaces as defined in the APPENDIX A – AREA COMPUTATIONS, a part of this document. If net area requirements are not specified in the Statement of Work or the AREA COMPUTATIONS, the space shall be sized to accommodate the required function, comply with code requirements, comply with overall gross area limitations and other recognized design principles.

3.1.5. ADAPT BUILD MODEL: When an Adapt-Build Model is available to use as a basis for design and/or construction, it will be posted on the Center of Standardization (CoS) web site, noted in solicitation documentation, or made available upon request as follows:

CoS Web Site address: <http://mrsi.usace.army.mil/cos/SitePages/Home.aspx>

CoS address: U. S. Army Corps of Engineers, Omaha District
CENWO-ED-DG
1616 Capitol Avenue
Omaha, NE 68102-4901

Attn: CoS Technical Representative

3.2. FUNCTIONAL AND OPERATIONAL REQUIREMENTS

3.2.1. FUNCTIONAL SPACES

A. GENERAL:

1) Each variation in size of Religious Education Facility includes individual offices for Directors of Religious Education. The major space of these Religious Education Facilities is a **Multi-Purpose Area** for use by a single or multiple groups as a meeting/event space. Other spaces include a Youth Ministry Center, a Resource Center with classroom space, small and large classrooms, a kitchen/pantry suite, a primary entry lobby (reception) area, an exterior covered area at the primary entry, a reception area, and a conference room.

2) In addition to these specific spaces each Religious Education Facility will include appropriate circulation spaces, toilet facilities, storage spaces and equipment spaces for mechanical, electrical, communication and electronic equipment to support the total building and all of its functions. Carefully compare all of the criteria sections (such as Architectural, Interiors, and Electrical) when planning a specific design project.

B. PRIMARY SPACES:

1) **Director of Religious Education Offices**: Provide Director of Religious Education (DRE) office space.

2) **Multi-Purpose Area**: Provide a Multi-Purpose Area. Ceilings and lighting format shall be integrated with the ceiling/roof structure. Provide a power operated projection screen (sized for the volume of the space and vision clarity) behind/above the speaking area. As an alternative, the large screen may be integrated into the wall finishes in such a way as to appear to be part of the partition finishes, if this coordinates well with the interior design. Provide a mounted projector. Provide adjustable mountings for two (2) flat screen monitors midway on each side of the Multi-Purpose Room to assist viewers near the rear of the room and for additional space flexibility. ~~Provide wireless internet capability.~~ Special decorative features and effects for this space are encouraged. Provide an array of 8 substantial, permanently-mounted decorative hooks, 2 per wall, suitable for hanging religious banners at suitable places around the perimeter of the Multi-Purpose Area.

3) **Resource Center**: Provide a Resource Center

Special decorative features and effects for this space are encouraged. Provide ~~a digital or regular marker board,~~ a power operated (from a ceiling slot) projection screen (sized for the volume of the space and vision clarity), and a mounted projector. Provide a mounting for a television screen and space for additional media players. ~~Provide wireless internet capability.~~ **<REF_SMALL>**Provide at least 24 lineal feet of base cabinets, counter tops and wall cabinets. At minimum 10 lineal feet of the above listed counter space should have appropriate knee space and high counter heights for computer stations. **<REF_MEDIUM>**Provide at least 24 lineal feet of base cabinets, counter tops and wall cabinets. At minimum 13 lineal feet of the above listed counter space should have appropriate knee space and high counter heights for computer stations. **<REF_MEDIUM><REF_LARGE>**Provide at least 35 lineal feet of base cabinets, counter tops and wall cabinets. At minimum 20 lineal feet of the above listed counter space should have appropriate knee space and high counter heights for computer stations. **<REF_LARGE>** Provide appropriate materials and hardware for all casework features. Note that the fixture/casework arrangement shown is not intended to limit the designer. Variations that the designer feels will improve the functionality of the space are acceptable.

4) **Youth Ministry Center**: Provide a Youth Ministry Center ~~room~~space. Special decorative features and effects for this space are encouraged. Provide a power operated (from a ceiling slot), projection screen (sized for

the volume of the space and vision clarity) coordinated with the placement of the LCD Projector. ~~Provide wireless internet capability.~~ Provide at least 19 lineal feet of base cabinets, counter tops and wall cabinets. Provide appropriate materials and hardware for all casework features. Note that the fixture/casework arrangement shown is not intended to limit the designer. Variations that the designer feels will improve the functionality of the space are acceptable.

5) **Conference Room:** Provide a Conference Room space. Provide ~~a digital marker board~~, a large drop down screen and a mounted projector with visual teleconferencing capabilities. Provide wireless internet capability.

6) **Small Classrooms:** Provide Small Classroom spaces. Provide a digital or regular marker board, a large drop down screen and a mounted projector. Provide a mounting for a television screen and space for additional media players. ~~Provide wireless internet capability for all classrooms. Provide a tackboard or cork tack strip on at least one wall per classroom. Tackboards shall be placed at heights appropriate for the intended user group.~~ Provide at a minimum 10 lineal feet of base cabinets and counter tops, and provide wall cabinets as appropriate for user storage needs. Casework shall be equipped with locking hardware. Provide appropriate materials and hardware for all casework features. Note that the casework arrangement shown is not intended to limit the designer. Variations that the contractor feels will improve the functionality of the space are acceptable. The Infant and Toddler Classrooms shall have shelf cubbies for individual children's items. Infant/Toddler toilet rooms will have child appropriate sinks and toilets with half walls. Classrooms designated for Infants, Toddlers, Pre-K and Kindergarteners shall have additional sinks located in casework.

7) **Large Classrooms:** Provide Large Classroom spaces. Provide ~~a digital marker board~~, a large drop down screen and a mounted projector. ~~Provide wireless internet capability. Provide a tackboard or cork tack strip on at least one wall per classroom. Tackboards shall be placed at heights appropriate for the intended user group.~~ Provide a mounting for a television screen and space for additional media players. Provide a combination of base cabinets, counter tops and wall cabinets equal or greater than 6 lineal feet. Casework shall be equipped with locking hardware. Provide appropriate materials and hardware for all casework features. Note that the casework arrangement shown is not intended to limit the designer. Variations that the contractor feels will improve the functionality of the space are acceptable. Paired Large Classrooms shall be separated by a moveable wall partition.

C. SUPPORT SPACES:

1) **Kitchen:** Provide a Kitchen space. Provide base cabinets, counter tops and wall cabinets in the kitchen. Provide spacing/accommodation for appliances in kitchen, including the warming drawers and ice machine. The range with oven, microwave/ range hood, two refrigerators, and single dishwasher to be supplied shall be high grade residential kitchen type appliances. Provide one double sink. The ice maker shall be a commercial type appliance. Coordinate with the Contracting Officer's representative regarding the need for gas or electric ranges and provide all appropriate utilities to support the appliances. Provide appropriate materials and hardware for all casework features. Note that the appliance/casework arrangement shown is not intended to limit the designer. Variations that the contractor feels will improve the functionality of the space are acceptable. See paragraph 3.1.3 for Accessibility Requirements.

2) **Toilet Rooms:** Provide separate adult and children toilet facilities. Provide not less than 2 separate adult toilet facilities and not less than 1 separate children's toilet facility. Place plumbing in the inner partition.

3) **Recycling/Vending Area:** Provide a ~~recycling~~Recycling/vending-Vending area~~Area~~.

4) **Storage:** Provide Storage space. Provide one wall with built in shelves in each storage room where it is large enough to be practical.

5) **Vestibules:** Provide Vestibule space. Due to the nature of vestibules, their specific project characteristics must be coordinated with LEED and garrison requirements since these requirements change over time.

6) **Lobby:** ~~The lobby shall have wireless internet capability.~~ Provide Lobby space. Provide wall mounting for a flat screen LCD TV to serve as an electronic message board.

7) **Reception:** Provide Reception space. Provide the reception area with an unobstructed view to the Resource Center entry. ~~Provide wireless internet capability. Provide counterspace and infrastructure to support a child check-in system.~~ ~~-<REF_SMALL>~~ Provide a minimum of 23 lineal feet of base cabinets and countertops. ~~</REF_SMALL>~~ ~~<REF_MEDIUM>~~ Provide a minimum of 23 lineal feet of base cabinets and countertops.

</REF_MEDIUM> <REF_LARGE>Provide a minimum of 30 lineal feet of base cabinets and countertops.
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- 8) **Waiting Area:** Provide a waiting area~~The waiting area shall have wireless internet capability.~~
- 9) **Corridors:** Provide corridor space.
- 10) **Janitor's Closet:** Provide a Janitor's Closet. Janitor's closet shall include a floor mounted mop sink, shelving for supplies, and hanging racks for mops and brooms.
- 11) **Equipment Rooms:** Provide Equipment Rooms. Coordinate locations for the best integration with the equipment.
- 12) **Exterior Canopy Areas:** Provide an exterior canopy at the primary entrance with a weather, insect, bird, and vermin resistant ceiling material. Minimum height of canopy ceiling shall be 9'-0". Provide paved surface below with decorative accent and slip-resistant finish.

3.3. SITE FUNCTIONAL REQUIREMENTS

A. **GENERAL:** The ~~design Army Standard Design incorporated incorporates~~ typical features for threat protection. The level of threat is to be defined by the garrison and is included in the project design criteria. These criteria are to be referred to for specific definitions and the security measures required to resist a prescribed threat. If greater levels of threat are indicated than accommodated by the typical features of this document, additional features can be added.

B. BUILDING ORIENTATION:

- 1) Site limitations may preclude some building orientations, but whenever possible, the building should be oriented to optimize energy usage, sustainability and functionality. When possible, locating the entrance doors away from the prevailing winds will help to save energy during colder months in northern climates. Southern exposures of the main entrances are desirable in certain areas to help remove ice buildup on walks. Windbreaks, trees for shade, and preservation of existing landscaping should be considered when selecting a building site, parking areas and walkways.
- 2) Site specific features may have a significant impact on how the building is oriented and located on the site, how much parking is required, the layout and amount of sidewalks, type and amount of landscaping, fencing, etc. Adjacent parking areas may exist that can be used if conflicts in use can be resolved. Certain existing structures or site features may need to be screened from view. In any case the final layout of the building and site will vary from site to site with the best solution quite possibly being one quite different from the one presented in this document.

C. **PARKING:** The site should allow space for the building, a service drive, various walkways and necessary force protection distances from any indicated driveway or parking area. Parking acreage requirements for each facility will depend on the size of the facility, how the facility is used, and the availability of adjacent parking areas that may be used. Parking should be considered for overlapping groups of users who may be in separate areas of the facility.

1) **<REF_SMALL>**The average population of the Small Religious Education Facility building would be approximately 540 persons. **</REF_SMALL><REF_MEDIUM>**The average population of the Medium Religious Education Facility building would be approximately 836 persons. **</REF_MEDIUM><REF_LARGE>** The average population of the Large Religious Education Facility building would be approximately 1069 persons.
</REF_LARGE>

2) At any facility the number of parking stalls needed depends on how many people drive to the facility. If no traffic analysis were done to indicate otherwise, the number of stalls allocated per Religious Education Facility would be 30% of the seating capacity of the building. If an analysis is done, the number of parking stalls shall be determined based upon the number of users, the level of ride sharing, available public transport, future growth, average employee absence, and the availability of parking areas adjacent to the facility that may be used during those periods of time when conflicts will not occur. Parking stall widths shall never be less than 9 feet wide. 90 degree parking is the most space efficient parking style and can be used in two directional lanes. Angle parking is usually only one way and less efficient space wise, but quicker and easier to get in and out of. The parking area shall be based on 350 to 400 square feet per parking stall. This square footage accounts for the parking stall the adjacent drive aisle; adjacent parking islands and drive aisles adjacent to the end of the parking lot. Extended

drives for access to parking lots and service drives to maintenance areas and drop offs to the front doors, etc., are pavement areas that need to be calculated on a case by case basis depending upon the topography and location of the facility from existing transportation routes.

3) **<REF_SMALL>** The Small Religious Education Facility, with an average population of 540 persons would have a parking area with drive aisles totaling 164 parking stalls, or 7,200 square yards of paving.

</REF_SMALL><REF_MEDIUM> The Medium Religious Education Facility, with an average population of 836 persons would have a parking area with drive aisles totaling 251 parking stalls, or 11,160 square yards of paving.

</REF_MEDIUM><REF_LARGE> The Large Religious Education Facility, with an average population of 1069 persons would have a parking area with drive aisles totaling 321 parking stalls, or 14,524 square yards of paving.

</REF_LARGE>

4) Additional paving for extended entrance drives, maintenance areas and drop offs should be added to this. In addition, for functional completeness for the Army congregations being served this facility type should be co-located with an appropriately sized Chapel.

5) **<REF_SMALL>** The acreage area necessary for accommodating the Small Religious Education Facility is approximately 6 acres. **</REF_SMALL><REF_MEDIUM>** The acreage area necessary for accommodating the Medium Religious Education Facility is approximately 8 acres. **</REF_MEDIUM><REF_LARGE>** The acreage area necessary for accommodating the Large Religious Education Facility is approximately 9 acres.

</REF_LARGE>

D. ACCESS DRIVES AND LANES:

1) The site plan indicates a drive approaching the building offset from the main entry. This design prohibits a straight line of access for vehicles to the front of the building for force protection reasons. A drop off drive is shown at the main entrance to the ~~religious-Religious education Education facility~~ Facility. The necessity of this feature will vary at each garrison.

2) Normal access to the building is intended to be through the main entrance. ~~Parking should be considered for overlapping groups of users who may be in separate areas of the facility.~~

3) A service drive of minimal width may be installed on the side of the building for access to the mechanical room. This drive may also serve as an access drive for fire department vehicles. In any case this drive must have a lockable gate or chain to prevent unauthorized access to that side of the building.

3.4. SITE AND LANDSCAPE REQUIREMENTS

A. GENERAL:

1) Existing environmental cues and sustainability issues will be the primary “drivers” for developing the site for specific projects. Landscaping should be designed to be low maintenance, and compatible with the environment in which the facility is located. Consideration should be given to the offices and classrooms located around the perimeter of the structure when locating plant material. Specific views of the buildings should be appropriately landscaped i.e., to enhance the main entrances to screen mechanical electrical equipment and large parking areas.

2) Site grading is seldom considered early on in a project. However this is a very important aspect of the project. The site elevation of the building can determine the visual-importance of the building in relation to the adjacent features. The location and elevation of the building will determine the slope and grade of the adjacent walks, roadways, lawns and patios serving the building. The most appropriate grades for walkways to the building are 2%. Provide a smooth access (without resorting to ramps) for handicap access to the facility.

3) The amount and type of storm drainage will impact the site. Consider early on the type of roof drainage and how it will flow across the site. Avoid having downspouts spill out across walkways and main drives making them hazardous especially during freezing periods. Do not direct storm drainage across major walkways or into inlets near major pathways to or from the parking lot. Major drainage swales should not direct water near the main building. Avoid upward slopes near the main structure to avoid snow accumulation against the building and seepage of water into the structure.

B. SITE STRUCTURES: Provide screen walls and other site features as appropriate and where directed in other paragraphs.

C. SITE UTILITIES: Provide as appropriate. Adequate site lighting for pedestrians and cars should also be included in the design. Additional lighting for the facility to accent certain features of the building, landscaping or views should also be considered.

D. LANDSCAPING/HARDSCAPING:

~~1) Mounding and landscaping can be used to deflect or reduce noise from certain areas. Plantings should be held away from windows and entrances for security purposes. Thick shrubbery and dense plantings should be avoided. Provide as appropriate. Landscaping should be designed to be low maintenance, and compatible with the environment in which the facility is located. Consideration should be given to the offices and classrooms located around the perimeter of the structure when locating plant material. Specific views of the buildings should be appropriately landscaped i.e., to enhance the main entrances to screen mechanical electrical equipment and large parking areas. Mounding and landscaping can be used to deflect or reduce noise from certain areas. Plantings should be held away from windows and entrances for security purposes. Thick shrubbery and dense plantings should be avoided.~~

~~4)2) Provide outdoor activity spaces where requested for specific projects. These could range from an adjacent patio to expand an indoor activity into the outdoors, all the way to a more developed covered or fully outdoor space. Available resources and local climate may encourage the investigation of such features for a specific project. A bicycle parking area should be located near the front entry to the building.~~

~~D. SITE SPECIALITIES AND FURNISHINGS: Provide outdoor activity spaces where requested for specific projects. These could range from an adjacent patio to expand an indoor activity into the outdoors, all the way to a more developed covered or fully outdoor space. Available resources and local climate may encourage the investigation of such features for a specific project. A bicycle parking area should be located near the front entry to the building.~~

3.5. ARCHITECTURAL REQUIREMENTS

A. GENERAL:

1) This facility type is intended to be a key asset for the total garrison and the military community, not a closed asset only for the private use of the Chaplaincy. Visual appearance and exterior material selections shall coordinate well with the patterns set by the garrison and its existing adjacent facilities. The impact of climate, security and geography shall also be addressed appropriately. There may be reasons to control exterior noise from entering the facility that would require special treatment or STC ratings on major building components. ~~Providing-Provide~~ appropriate and adequate protection from the wind and wind driven precipitation for doors and entries ~~shall be considered~~. The development of interior design themes shall relate to the exterior design decisions made and it should receive a thoughtfully coordinated treatment throughout all interior spaces. These interior themes shall also be appropriate to the functions housed. Safety and security for all users will require incorporating features such as thoughtfully placed locking hardware, handrails and non-slip (a generally "smooth matt" finish that shall limit the risks of foot slippage when wet, but not try to eliminate them by presenting a protruding abrasive grit or highly textured surface) floor finishes. All public visitors should enter through the main entrance into the lobby. This allows for better monitoring of visitors for increased child safety. All other exterior doors shall be emergency exits only and shall have appropriate door hardware and security systems to accomplish this. Door hardware shall take into consideration the high volume of building users through the week. Interior doors shall be of solid core hardwood but a special STC rated design or the inclusion of complex or actuated sealing devices is not necessary or desired. Provide all appropriate (restroom, normally locked equipment room, normally-locked storage room, and very small closet doors are not appropriate) interior doors with narrow borrow lite windows. The ~~intent-goal~~ is to ~~allow-have no accessible space be or appear to be~~ observation ~~of all public areas free~~. This has been demonstrated to deter temptation to inappropriate behavior or the claim of inappropriate behavior. High borrow lite windows are recommended for the small and large classrooms for additional light and to potentially aid in natural cross ventilation. Provide an exterior building appearance and massing that coordinates with the plan of the facility. Provide appropriate windows for all appropriate spaces. Window sizes and placement are to integrate with the exterior design theme. Where porcelain tile is called for, install with epoxy grout.

~~2) SPATIAL INTEGRATION: A key concept of this design involves the integration of two elements. First, there is the inherent value of a relatively simple roof form for cost efficiency and a long roof life with few problems. Secondly, there is the relationship between spaces where the function requires greater room height and spaces~~

~~where the function requires only conventional room height. The optimum arrangement of spaces for this facility in plan requires that the former spaces be placed at the core of the plan and the latter spaces be placed on four sides of the core.~~

B. WALLS:

The intent of the Army Standard Design for this facility type is to allow for the fullest possible range of exterior wall choices, particularly so that the facility can coordinate optimally with the Aesthetic themes of the Garrison upon which it is constructed.

C. ROOF SYSTEMS: The intent of the Army Standard Design for this facility type is to allow for the fullest possible range of roof choices particularly so that the facility can coordinate optimally with the Aesthetic themes of the Garrison upon which it is constructed.

D. OPENINGS: The intent of the Army Standard Design for this facility type is to allow for the fullest possible range of exterior opening choices particularly so that the facility can coordinate optimally with the Aesthetic themes of the Garrison upon which it is constructed.

1) Director of Religious Education Offices: Provide Director of Religious Education (DRE) office space entry doors with locksets. Coordinate with the Contracting Officer's representative on the preferred location and provide one of the exterior entry doors for the building with a mechanical push-button or other special keyless entry device for staff use when the facility is closed for regular business.

2) Multi-Purpose Area: Provide the Multi-Purpose Area entry doors with locksets.

3) Resource Center: Provide the Resource Center entry doors with locksets. The doors to the Resource Center shall have glass viewing panels to allow full visual access to the space.

4) Youth Ministry Center: Provide the Youth Ministry Center room entry doors with locksets. The door to the Youth Ministry Center shall have glass viewing panels to allow full visual access to the space.

5) Conference Room: Provide Conference Room entry door with lockset. The door to the Conference Room shall have a glass viewing panel to allow full visual access to the space.

6) Small Classrooms: Provide Small Classroom entry doors with locksets. The door to each Small Classroom shall have a glass viewing panel to allow full visual access to the space. Provide finger guards for doors specifically adapted for the care of small children. Infant and Toddler Classroom locksets shall be of a type operable by staff but not by small children. The Infant and Toddler Classroom wing shall be separated from the rest of the facility by a security door. The door shall be cipher/keypad locked or key-card locked with access limited to only the staff working with those children. Children will be checked in and out at the reception desk.

7) Large Classrooms: Provide Large Classroom entry doors with locksets. The doors to each Large Classroom shall have a glass viewing panel to allow full visual access to the space.

8) Kitchen: Provide Kitchen entry doors and pantries with locksets.

9) Toilet Rooms: Provide Toilet Room entry doors for adult Toilet Rooms. Toilet Rooms designated for children may choose between providing entry doors or by providing space privacy through partition layouts that limit sightlines into the spaces. Coordinate with the end user for their preference.

8)10) Storage: Provide Storage space entry doors with locksets.

9)11) Vestibules: Provide vestibule entry doors (from the exterior) with locksets. Provide interior facing doors with appropriate push-pull devices.

40)12) Reception: Provide the Reception area entry door with a lockset. The door to the Reception area shall have glass viewing panels to allow full visual access to the space.

44)13) Janitor's Closet: Provide janitor's closet entry door with a lockset.

42)14) Equipment Rooms: Provide equipment room entry doors with locksets (coordinate the keying of these spaces with the garrison groups responsible for maintenance and operation).

E. SPATIAL INTEGRATION:

A key concept of this design involves the integration of two elements. First, there is the inherent value of a relatively simple roof form for cost efficiency and a long roof life with few problems. Secondly, there is the relationship between spaces where the function requires greater room height and spaces where the function requires only conventional room height. The optimum arrangement of spaces for this facility in plan requires that the former spaces be placed at the core of the plan and the latter spaces be placed on four sides of the core.

E.F. EXTERIOR SPECIALTIES:

1) **Exterior Signage:** Provide electrical conduits and communication conduits for a ~~future~~-lighted and substantial exterior building sign ~~with a~~(that will accommodate a future electronic message board) at an appropriate area on the site.

G. ACOUSTICAL REQUIREMENTS:

Acoustics is an important consideration in the design of Religious Education Facilities. The following shall be provided:

- 1) **Multi-Purpose Area:** Partition construction shall supply an STC rating of 45 or better.
- 2) **Resource Center:** Partition construction shall supply an STC rating of 45 or better.
- 3) **Youth Ministry Center:** Partition construction shall supply an STC rating of 45 or better.
- 4) **Conference Room:** Partition construction shall supply an STC rating of 45 or better.

3.5.1. FINISHES AND INTERIOR SPECIALITIES

A. GENERAL:

1) The facility interior shall be a warm, comfortable, and professional environment through the appropriate use of building materials, furniture, finishes, fabrics, color, texture, and the generous use of wood. Coordinate wood finish, such as stain or paint, on a per project basis. Materials and features shall be of high quality, functional, easily maintained and furnished as described herein. In regions where similar materials such as natural stone tiles or other special flooring tiles are competitive in price and provide the same appearance and performance characteristics, these materials are also generally acceptable wherever porcelain tile is specifically called for herein. Recommend the use of several coordinating carpet patterns within the same color-way within the facility to provide variety and continuity between different functional areas. Recommend using variation of color or floor patterns to visually shorten long corridors and add interest. Provide wall and/or floor tile patterns using several coordinating colors in the toilets as appropriate. Tile patterns shall be appropriate to size and shape of rooms. Building finishes and details and furniture style, finish and fabrics shall be complementary and provide a completely coordinated interior design. The interior building appearance shall coordinate with the exterior building appearance. Consider spaces that open up to one another when selecting furniture and building finish and color selections. The criteria within this document identifies the level of quality and special requirements for finishes and furniture, yet provides flexibility for the designer to make creative and appropriate selections to meet User requirements.

2) All interior finishes and specialties shall conform to applicable federal and military regulations. Interior and exterior building finishes and colors shall be coordinated with the user and garrison; refer to Section 01 10 00, paragraph 6 for additional guidance. In addition, the exterior building design shall comply with garrison exterior building guidance.

3) Unless otherwise noted, items in this section shall be Contractor Furnished/Contractor Installed (CF/CI). Dimensions provided are approximate. When a finish has not been included in this paragraph, finish selection will follow applicable standards and User requirements. Designers are not limited to minimum finishes listed in this section and are encouraged to offer higher quality finishes in addition to materials that aid in meeting LEED requirements.

B. FINISHES:

1) **Director of Religious Education Offices:** Provide carpet tile for the floor finish, resilient base for the wall/floor trim, and painted wallboard protected with chair rails (from moving furniture or carts) for the wall finish.

Provide suspended acoustic tile with recessed light fixtures in a typical grid pattern type exposed suspension system for the ceilings. The ceiling heights shall be at minimum 9'-0" above the finished floor.

2) **Multi-Purpose Area:** Provide porcelain tile for the floor finish, porcelain tile base for the wall/floor trim, painted wallboard protected with chair rail and accented with some form of high quality above-door-height-trim (such as an exaggerated picture molding, a continuous door head molding, a high-on-the-wall plate-rail type molding or a cornice molding) for the wall finish. The ceiling heights shall be at least 4 inches above all clerestory windows.

3) **Resource Center:** Provide carpet tile for the floor finish, wood base for the wall/floor trim, and painted wallboard protected with chair rails and accented with some form of high quality above-door-height-trim (such as an exaggerated picture molding, a continuous door head molding, a high-on-the-wall plate-rail type molding or a cornice molding) for the wall finish. Provide suspended acoustic tile with recessed light fixtures in a typical grid pattern type exposed suspension system for the ceiling finish and lighting format. The ceiling heights shall be at minimum 9'-0" above the finished floor.

4) **Youth Ministry Center:** Provide carpet tile for the floor finish, wood base for the wall/floor trim, and painted wallboard protected with chair rails and accented with some form of high quality above-door-height-trim (such as an exaggerated picture molding, a continuous door head molding, a high-on-the-wall plate-rail type molding or a cornice molding) for the wall finish. Provide suspended acoustic tile with recessed light fixtures in a typical grid pattern type exposed suspension system for the ceiling finish and lighting format. The ceiling heights shall be at minimum 9'-0" above the finished floor.

5) **Conference Room:** Provide carpet tile for the floor finish, wood base for the wall/floor trim, and painted wallboard protected with chair rails and accented with some form of high quality above-door-height-trim (such as an exaggerated picture molding, a continuous door head molding, a high-on-the-wall plate-rail type molding or a cornice molding) for the wall finish. Provide suspended acoustic tile with recessed light fixtures in a typical grid pattern type exposed suspension system for the ceiling finish and lighting format. The ceiling heights shall be at minimum 9'-0" above the finished floor.

6) **Small Classrooms:** Provide carpet tile for the floor finish, resilient base for the wall/floor trim, and painted wallboard protected with chair rails for the wall finish. Provide suspended acoustic tile with recessed light fixtures in a typical grid pattern type exposed suspension system for the ceiling finish and lighting format. The ceiling heights shall be at minimum 9'-0" above the finished floor.

7) **Large Classrooms:** Provide carpet tile for the floor finish, resilient base for the wall/floor trim, and painted wallboard for the wall finish. Provide suspended acoustic tile with recessed light fixtures in a typical grid pattern type exposed suspension system for the ceiling finish and lighting format. The ceiling heights shall be at minimum 9'-0" above the finished floor.

8) **Kitchen:** Provide porcelain tile for the floor finish, porcelain tile base for the wall/floor trim, and painted wallboard for the wall finish. Provide ~~suspended~~ painted wallboard for the ceiling finish and lighting format. The ceiling heights shall be at minimum 9'-0" above the finished floor.

9) **Toilet Rooms:** Provide porcelain tile floor finish, porcelain tile base for the wall/floor trim, and painted wallboard with porcelain tile wainscots for the wall finish. Provide suspended painted wallboard for the ceiling finish and lighting format. The ceiling heights shall be at minimum 9'-0" above the finished floor. Provide solid surface shower units.

10) **Recycling/Vending Area:** Provide vinyl composition tile for the floor finish, resilient base for the wall/floor trim, and painted wallboard for the wall finish. Provide suspended acoustic tile with recessed light fixtures in a typical grid pattern type exposed suspension system for the ceiling finish and lighting format. The ceiling heights shall be at minimum 9'-0" above the finished floor.

11) **Storage:** Provide vinyl composition tile for the floor finish, resilient base for the wall/floor trim, and painted wallboard for the wall finish. Provide suspended acoustic tile with recessed light fixtures in a typical grid pattern type exposed suspension system for the ceiling finish and lighting format. The ceiling heights shall be at minimum 9'-0" above the finished floor.

12) **Vestibules:** Provide porcelain tile for the floor finish (integrate with floor mats), porcelain tile base for the wall/floor trim, and painted wallboard for the wall finish. Provide ~~suspended-acoustic~~ ~~painting~~ ~~allboard~~ tile with recessed light fixtures in a typical grid pattern type exposed suspension system for the ceiling finish and lighting format. The ceiling heights shall be at minimum 9'-0" above the finished floor.

13) **Lobby:** Provide porcelain tile for the floor finish (integrate with floor mats), porcelain tile base for the wall/floor trim, and painted wallboard for the wall finish. Provide suspended painted wallboard for the ceiling finish and lighting format, or appropriate alternative. The ceiling heights shall be appropriate to integrate clerestory windows into the spaces and as appropriate to integrate with the ceiling roof structure. Coordinate the lobby and fixed counter finishes.

14) **Reception:** Provide carpet tile for the floor finish, resilient base for the wall/floor trim, and painted wallboard for the wall finish. Provide suspended acoustic tile with recessed light fixtures in a typical grid pattern type exposed suspension system for the ceiling finish and lighting format. The ceiling heights shall be at minimum 9'-0" above the finished floor.

15) **Waiting Area:** Provide porcelain tile for the floor finish, porcelain tile base for the wall/floor trim, and painted wallboard for the wall finish. Provide suspended acoustic tile with recessed light fixtures in a typical grid pattern type exposed suspension system for the ceiling finish and lighting format. The ceiling heights shall be at minimum 9'-0" above the finished floor.

16) **Corridors:** Provide carpet tile for the floor finish, resilient base for the wall/floor trim, and painted wallboard for the wall finish. Provide suspended acoustic tile with recessed light fixtures in a typical grid pattern type exposed suspension system for the ceiling finish and lighting format. The ceiling heights shall be at minimum 9'-0" above the finished floor.

17) **Janitor's Closet:** Provide exposed concrete for the floor finish, resilient base for the wall/floor trim, and painted water-resistant wallboard for the wall finish. Provide suspended painted wallboard for the ceiling finish and lighting format. The ceiling height shall be at minimum 9'-0" above the finished floor.

18) **Equipment Rooms:** Provide exposed concrete for the floor finish, resilient base for the wall/floor trim, and painted wallboard for the wall finish. Provide suspended painted wallboard or exposed structure for the ceiling finish and lighting format. The ceiling height shall be as appropriate to the space and equipment.

19) **Minimal Finish Requirements:**

- a) **Carpet:** Commercial 100% branded (federally registered trademark) nylon continuous filament, permanent static control, loop pile with multi-color (geometric, bold, directional or floral patterns shall not be used), broadloom carpet - minimum finished yarn weight of 24 oz./sq. yd, carpet tile - minimum finished yarn weight of 20 oz./sq. yd, 1/8" gauge minimum, minimum pile weight density of 4725, synthetic backing. Carpet tile installation shall be with release adhesive.
- b) **Porcelain Tile:** Porcelain tile shall conform to ANSI A137.1, minimum commercial heavy grade only. Porcelain tile and trim shall be unglazed with the color extending uniformly through the body of the tile or glazed with body color consistent with glaze color.
- c) **Sheet Vinyl:** Sheet vinyl flooring shall be commercial grade with heat or chemical weld. Type shall be appropriate for intended use. Integral cove base is recommended.
- d) **Vinyl Composition Tile:** Vinyl composition tile shall conform to ASTM F 1066, Class 2 (through pattern tile), Composition 1, asbestos-free and 1/8 inch thick, with color and pattern uniformly distributed through the thickness of the tile.
- e) **Wood Base, Cornice, Chair Rail and Other Wood Trim Items:** Shall be of same wood type, character and finish.
- f) **Resilient Base:** Base may be vinyl or rubber, 4 inches high and minimum of 1/8 inch thick.
- g) **Vinyl Wall covering:** Vinyl wall-covering shall be vinyl coated woven or nonwoven fabric, contain bactericides and mildew inhibitors and be Type II.

C. **INTERIOR SPECIALTIES:** Provide the following Interior Specialties.

1) **Toilet Rooms Items:**

a) Provide multiple robe hooks, a water resistant seat (inside the shower) and curtain rod for the shower in the group toilet compartments.

b) Provide a completely integrated accessory set, shelves for hand-carried items and hooks for clothing. ~~Provide a pre-manufactured "pull-down" wall mounted baby changing station in each of the adult group toilet rooms.~~ Provide child scaled features and fixtures in the children toilet rooms. Consider providing a counter with inset lavatories where individual wall mounted lavatories are shown.

~~b)c) Provide one pre-manufactured diaper changing unit for each of the public adult restrooms. The unit shall be wall mounted and designed to self-store up against the wall it is mounted on when not in the open position. Unit shall have safety features normally required for this type of unit. Depth in the closed position shall be 3".~~

2) **Signage:** Provide a complete interior signage system that coordinates with the interior design. The facility interior signage system shall be standardized throughout the building and shall be flexible to allow for the addition and deletion of signs and information. Room signs and building directories shall be provided. Room signs for spaces in which the room name, function of the room, or personnel within a room may change shall have a changeable paper insert that can be changed by the User in the future. This applies to rooms such as offices, classrooms, the Multi-Purpose Area, the Resource Center, and the Youth Ministry Center. A directory shall be located in the Lobby and at a minimum shall identify the location of the Multi-Purpose Area, Resource Center, Youth Ministry Center, Classrooms, Conference Room, and Restrooms.

3) **Window Treatment:** Provide ~~devices~~ room darkening shades to fully block natural light from entering the Multi-Purpose Area, Conference Room, Youth Ministry Center and Resource Center. All other exterior windows, with the exception of windows at building entrances and Lobby clerestory windows, shall have horizontal blinds. Provide blinds in Infant/ Toddler Classrooms that have an operable cord or hardware that can be adjusted in length to be out of the reach of children and be strangle-proof.

~~a) Small Classrooms: Windows will be equipped with room darkening features.~~

~~b) Large Classrooms: Windows will be equipped with room darkening features.~~

~~c) Multi-Purpose Area: Windows will be equipped with room darkening features.~~

~~d) Conference Room: Windows will be equipped with room darkening features.~~

4) **Marker Boards:** Provide one marker board in each DRE Office, ~~each Large and Small Classrooms~~, the Resource Center and the Conference Room. Coordinate with the end user whether marker boards shall be digital marker boards. Marker boards shall be wall mounted with a marker tray. Dry erase markings on marker board shall be removable with a felt eraser or dry cloth. Marker board size shall be 4'-0" wide x 3'-0" high for the DRE Offices. All other marker boards shall be 6'-0" wide x 4'-0" high.

5) **Tackboards:** Provide one tackboard or cork tack strip in each Large and Small Classroom. Tackboards shall be placed at heights appropriate for the intended user group. Tackboard size shall be 4'-0" wide x 3'-0" high.

~~5)6) **Entry Mats:** Provide entry mats at all entry vestibules and lobbies. Entry mats shall be of the shallow built-in type, classified for heavy commercial use and of dirt-hiding construction. Provide entry mats at all entry vestibules and lobbies. Entry mats shall be of the shallow built-in type, classified for heavy commercial use and of dirt-hiding construction.~~

~~6) **Diaper Changing Units:** Provide one pre-manufactured unit specifically designed for diaper changing for each of the public adult restrooms. The unit shall be wall mounted and designed to self-store up against the wall it is mounted on when not in the open position. Unit shall have safety features normally required for this type of unit. Depth in the closed position shall be 3".~~

7) **Range Hood:** Contact local suppliers for advice on selection. This range hood unit is to be the kind of unit that can be combined with a microwave in a coordinated assembly or be separate from microwave. If upon coordination with the Garrison it is determined that range hoods shall be separate from the microwave, the range hood shall be CF/CI. Range hoods shall be designed to vent away fumes from food being heated or reheated. Units shall include control switches for selection/adjustment of functions and fan speed. A variety of additional options are available, as are a range of quality and performance characteristics. Locate above range in kitchen. See additional requirements for M13 Microwave in the Equipment section. Coordinate range hood type required with microwave being specified.

8) **Adjustable TV Wall Mounts:** Provide adjustable TV wall mounts for all flat screen TVs. Contact local suppliers for advice on selection. Coordinate with TVs being purchased as much as possible, but provide a relatively universally designed product so that the TV may be changed out over time. Wall mount shall have the ability to adjust for tilt, angle, horizontal and vertical placement of TV screen.

9) **Adjustable Media Player Mounts:** Provide adjustable media player wall mounts for media players where desired by end user. Coordinate with end user whether wall mounted media players are desirable and for locations. Non-wall mounted media players are assumed to be moveable and freestanding. Contact local suppliers for advice on selection. Coordinate with media players being purchased as much as possible, but provide a

relatively universally designed product so that the players may be changed out over time. Wall mount shall have the ability to adjust in relation to the TV screen.

10) **Fire Extinguisher Cabinets:** Provide fire extinguisher cabinets where fire extinguishers are required by UFC 3-600-01, NFPA 10, and NFPA 101. Provide semi-recessed cabinets in all finished areas. Fire extinguisher cabinets shall be capable of housing a 10 lb ABC portable fire extinguisher. Fire extinguisher door panels shall not be locked.

3.6. STRUCTURAL REQUIREMENTS

A. GENERAL:

A wide variety of structural systems may prove suitable for this facility. The design of structural systems shall be based upon applicable criteria. The foundation system shall be designed according to site specific soil conditions which will require a geotechnical site investigation. The local availability of building materials may be the deciding factor on the type of structural systems chosen. The longer than normal spans in the large seating areas is an aspect of the design that must be given careful consideration. Structural features shown on the Army Standard Design drawings try to reflect a sense for how the structure may function. However, they are not based upon a full design and are essentially arbitrary. Any project design is certain to vary from what is shown. Variations to the structural features will in turn cause slight variations in the spaces they enclose. Such variations are expected and do not imply failure to comply with the Army Standard Design.

B. DESIGN LOADS:

- 1) **Live Loads:** Live loads (including floor and roof live loads, snow loads, wind loads and seismic loads) shall be as specified in the most recent edition of the International Building Code (IBC).
- 2) **Dead Loads:** Dead loads shall consist of the weight of all materials of construction incorporated into the building including but not limited to walls, floors, roofs, ceilings, stairways, built-in partitions, finishes, cladding and other similarly incorporated architectural and structural items, and fixed service equipment including the weight of cranes.
- 3) **AT/FP Requirements:** UFC 4-010-01 provides guidance on project planning in conjunction with establishing standoff distances for buildings to parking, roadways, trash containers and Garrison perimeters. Minimum standoff distances cannot be encroached upon. These setbacks will establish the maximum buildable area. All standards in Appendix B of UFC 4-010-01 (9 February 2012) must be followed. In addition to the UFC cited in this paragraph UFC 4-020-02FA, (2005) Security Engineering: Concept Design; UFC 4-020-03FA, (2005) Security Engineering: Final Design; UFC 4-020-04FA, (2005) Electronic Security Systems: Security Engineering; and UFC 4-021-01, (9 April 2008) Mass Notification Systems also apply to the facility. The Religious Education Facility Standard design facilities meet the requirements of this paragraph provided the minimum standoff distances are achieved.
- 4) **Foundations/Slabs-on-Grade:** The foundation system shall be designed according to site specific soil conditions which will require a geotechnical site investigation.
- 5) **Construction Materials:** The local availability of building materials may be the deciding factor on the type of structural systems chosen.
- 6) **Design Analysis:** The Design Analysis shall include lists of design criteria, structural design loads, structural materials with stress grades and/or ASTM designations, and calculations. A copy of the Foundation Analysis shall be included as an appendix to the Design Analysis.

C. **MODIFICATIONS TO EXISTING STRUCTURES:** Structural requirements for modifications to existing structures shall comply with IBC 2006 Chapter 34 Existing Structures. Implementation AT/FP requirements of UFC 4-010-01 (9 February 2012) is mandatory for existing buildings when triggered by UFC 4-010-01 paragraph 1-8.2 Existing Buildings.

3.7. SEE PARAGRAPH 6.7 THERMAL PERFORMANCE – NOT USED

3.8. PLUMBING REQUIREMENTS

A. **GENERAL:** Provide appropriate underground and above ground domestic water supply, storm, sanitary sewers and gas distribution. Toilet facilities, kitchen facilities and floor drains make up the majority of the plumbing requirements in this facility. Provide a below sink garbage disposal for one side of each kitchen sink.

B. **DOMESTIC WATER:** Domestic hot water for the Kitchen and various sinks, and showers shall be provided. Domestic water heating system shall comply with the requirements of the Energy Independence and Security Act of 2007 with respect to the use of solar water heating.

C. **PLUMBING FIXTURES:** Provide "WaterSense" certified plumbing fixtures where available. Starting in FY14 all buildings' plumbing systems will be required to have a maximum of 0.025% lead in the fixtures and piping.

D. **GAS PIPING:** Gas should be utilized where feasible and available as main source of heating for domestic water heaters.

3.9. COMMUNICATIONS AND SECURITY SYSTEMS

A. **AV SYSTEM:**

1) **General Audio/Visual (AV) System:** Provide ~~(the offerer (for design-build contracts))~~ a complete A/V System design, including a component list with brands, models, pricing, and a detailed functional description of how the system is intended to operate. Private sector or other designers (for design-bid-build contracts) provide essentially the same thing, but within the format limitations required by this different contract form. For example, specifications may include generic information instead of specific makes and models. The specific details of this will be provided when specific projects are initiated for design. This A/V system shall be a high quality, fully integrated audio-visual system for the facility that allows for all currently common media activities including the ability to integrate ~~DVD~~media, private and commercial television broadcasts. The system shall have some ability to be controlled by portable computer. The system may consist of component sub-systems, so long as all are fully integrated for operation throughout the facility. The system shall have the ability to transmit separate media to the Multi-Purpose Area, each Classroom, Resource Center, Youth Ministry Center, and Conference Room. The system shall also have the ability to allow the Multi-Purpose Area, each Classroom, Resource Center, Youth Ministry Center, and Conference Room to function together and share a single media presentation. From this A/V System design, also provide a complete supporting raceway system in the construction.

2) **AV System Control:**

a) The "primary" control point for the A/V system shall be located in the Multi-Purpose Area in a CFCI lockable media control console at the rear of the Multi-Purpose Area, fully set up to control all media items and equipment. This console shall be placed so that it does not create line-of-sight problems. Contractor shall provide additional control points for the A/V system in the following locations:

(1) In the Resource Center: Along one sidewall

(2) In the Youth Ministry Center: Along one sidewall.

b) All secondary control points shall have basic control functions for on/off/volume-of-each-speaker-grouping-in-the-space/microphone-on-off. Each secondary control point shall also have inputs points for a portable type computer and television quality camera. In rooms with operable projector mounts, the secondary control shall be able to raise and lower each projector. Each secondary control point shall have a lockable cover and be integrated into the supporting features.

3) **AV System Input:** The system shall be able to process input from all microphones, musical instruments as defined, portable computers, and television cameras. Provide connections/accommodations for wired and wireless, hand-held, mounted, lapel clip and belt clip types of microphones. The contractor shall provide a minimum of 4 plug-in type microphone connection points along the rear edge of the presentation area in the Multi-Purpose Area. The contractor shall provide a minimum of 1 plug-in type microphone connection points evenly distributed in both the Resource Center and Youth Ministry Center. The contractor shall provide a booster device (if needed) to accommodate wireless microphone input to the A/V system. Contractor shall also provide CATV input to the A/V system.

4) **AV System Output:** The system shall include a low-level distribution loudspeaker system that provides uniformity of coverage between the frequencies of 100-12,000 Hertz. The system shall be capable of producing an intelligible signal at a minimum of 75 dB throughout the spaces. Speakers may be wall and/or ceiling

mounted. Speakers shall also have volume-on-off control. Contractor may install volume control at each speaker, or have one control per room. Speaker arrays shall be designed for and located in the following rooms: Multi-Purpose Area, each Classroom, Resource Center, Youth Ministry Center, Conference Room, Lobby, Corridors and Restrooms.

5) **AV System Projectors** The system shall include LCD projectors. The Multi-Purpose Area shall have one (1) permanently mounted LCD projector on an operable projector mount that allows for raising and lowering the projector. The Resource Center, Youth Ministry Center, all Classrooms, and Conference Room shall each have one (1) accommodation for permanently mounted LCD projector on a fixed projector mount facing the screen in these areas.

6) **AV System Certifications:** The system shall be National Systems Contractors Association (NSCA) certified with R-ESI credentials for the system coordinator and C-EST credentials for the installing staff.

B. TELECOMMUNICATION SYSTEMS:

1) **Community Antenna Television (CATV):** A CATV system shall be installed in accordance with the Technical Guide for Installation Information Infrastructure Architecture (I3A). A minimum of one (1) CATV outlet shall be located in the following rooms: DRE Offices, Classrooms, Resource Center, Youth Ministry Center and Conference Room. A minimum of two (2) CATV outlets shall be distributed along the rear edge of the performance area in the Multi-Purpose Area.

2) **Telephone and Data:** Telephone and data outlets shall be installed in accordance with the Technical Guide for Installation Information Infrastructure Architecture (I3A), with the following exceptions. ~~The DRE Offices, Classrooms and Conference Room shall each have a minimum two (2) combination telephone and data outlets available for workstations. The Multi-Purpose Area shall have a minimum three (3) combination telephone and data outlets available for workstations. The Kitchen shall have a minimum of one (1) combination telephone and data outlet. The Resource Center shall have a minimum of one (1) combination telephone and data outlet for each workstation and one (1) data outlet for each copier/fax. The Youth Ministry Center shall have a minimum four (4) combination telephone and data outlets located around the room and one (1) combination telephone and data outlet for each workstation. The Reception area shall have a minimum of one (1) combination telephone and data outlet for each workstation and one (1) data outlet for each copier/fax. The Waiting Area shall have a minimum of two (2) combination telephone and data outlets.~~

a) **DRE Offices:** Provide a minimum two (2) combination telephone and data outlets available for workstations.

b) **Classrooms:** Provide a minimum two (2) combination telephone and data outlets available for workstations.

c) **Conference Room:** Provide a minimum two (2) combination telephone and data outlets available for workstations.

d) **Kitchen:** Provide a minimum one (1) combination telephone and data outlet.

e) **Multi-Purpose Area:** Provide a minimum three (3) combination telephone and data outlets available for workstations.

a)f) **Resource Center:** <REF_SMALL> Provide at a minimum four (4) combination telephone and data outlets for learning lab computers. </REF_SMALL> <REF_MEDIUM> Provide at a minimum four (4) combination telephone and data outlets for learning lab computers. </REF_MEDIUM> <REF_LARGE> Provide at a minimum six (6) combination telephone and data outlets for learning lab computers. </REF_LARGE> Provide at a minimum one (1) combination telephone and data outlet for copier/fax.

b)g) **Youth Ministry Center:** <REF_SMALL> Provide at a minimum four (4) combination telephone and data outlets located around the room and one (1) combination telephone and data outlet at the workstation. </REF_SMALL> <REF_MEDIUM> Provide at a minimum four (4) combination telephone and data outlets located around the room and one (1) combination telephone and data outlet at the workstation. </REF_MEDIUM> <REF_LARGE> Provide at a minimum four (4) combination telephone and data outlets located around the room and two (2) combination telephone and data outlets for workstations, one per workstation. </REF_LARGE>

e)h) **Reception:** Provide at a minimum three (3) combination telephone and data outlets for workstations. Provide at a minimum one (1) combination telephone and data outlet for copier/fax.

d)j) **Waiting Area:** Provide at a minimum two (2) combination telephone and data outlets.

3) **Public Address (PA) System:** The contractor shall make provisions to connect the phones to the A/V system audio for use as a PA system.

4) **Wireless Internet:** ~~Wireless Infrastructure for wireless~~ internet shall be installed in accordance with the Technical Guide for Installation Information Infrastructure Architecture (I3A). ~~Design of infrastructure for wireless internet shall provide coverage of the areas: Wireless internet coverage shall be provided for the Multi-Purpose Area, Resource Center, Youth Ministry Center, Lobby, Reception, Waiting Area, conference rooms, and all classrooms.~~

- a) Multi-Purpose Area
- b) Resource Center
- c) Youth Ministry Center
- d) Lobby
- e) Reception
- f) Waiting Area
- g) Conference Room
- h) Small Classrooms
- i) Large Classrooms

~~The installation of wireless internet equipment is recommended, but not required. Installation of wireless equipment shall be coordinated through the installation specific approval process, and the installation NEC. Wireless internet may require internet service from a local Internet Service Provider (ISP).~~

4)5) **Closed Circuit Television (CCTV) System:** The CCTV system shall include CCTV monitoring of all Infant/Toddler classrooms, Pre-K and K classrooms, Lobby, hallways, and exterior entrances. The CCTV system design shall include overlapping view areas to ensure complete coverage. The CCTV system shall include cameras and camera support equipment including a viewing monitor at the reception area and in the space where the processing equipment is housed. It shall also provide for an auditable historic record.

C. SECURITY SYSTEMS:

- 1) **Door Alarms:** All exterior doors except the main lobby entrance shall be exit only and shall set off an alarm when opened.
- 2) **Limited Access Areas:** The Infant and Toddler Classroom wing shall be separated from the rest of the facility by a security door. The door shall be cipher/keypad locked or key-card locked with access limited to only the staff working with those children.

D. MASS NOTIFICATION: Provide a mass notification system designed in accordance with UFC 4-021-01.

3.10. ELECTRICAL REQUIREMENTS

A. GENERAL: Lighting for this facility shall be according to all applicable criteria and shall take into consideration the functional needs of the spaces. This, along with fans and fractional horsepower motors, will make up the majority of the electrical loads for the facility.

B. LIGHTING REQUIREMENTS:

1) General: Lighting for most spaces with suspended acoustic ceilings shall be of the recessed type. Lighting for the Multi-Purpose Area, Resource Center and the Youth Ministry Center shall receive special attention as to color accents in lighting, fixture type, and flexibility. Creative lighting techniques are encouraged. High lighting shall include some accommodation for maintenance and the changing of lamps. ~~Some past religious projects have made very successful use of light fixtures that can be lowered to the main floor level for maintenance. While keeping the operating hardware secure is important, these system should provide automatic lowering to floor level and raising to ceiling height without manually holding a key for the entire process. Address how light fixtures in high-above-the-floor locations will be maintained when this ASD is applied to a specific project. A dimming system shall be installed to control the Multi-Purpose Area, Conference Room, Resource Center, Youth Ministry Center, and Classrooms. The dimming system shall be capable of controlling lighting~~

~~down to 1%, and shall have a minimum of 3 presets. All illumination levels shall be based on IESNA recommendations.~~

~~4)2) **Dimming Controls:** A dimming system shall be installed to control the Multi-Purpose Area, Conference Room, Resource Center, Youth Ministry Center, and Classrooms. The dimming system shall be capable of controlling lighting down to 5%, a minimum of 3 presets, and manual raising/lowering of the light levels. All illumination levels shall be based on IESNA recommendations.~~

~~a) **Multi-Purpose Area:** Provide a moveable overhead directional stage track lighting system. Provide a light dimmer system for all Multi-Purpose Area lighting. Lights shall have automatic dimming controls with manual override.~~

b) **Resource Center:** Lights shall have manual dimming controls.

c) **Youth Ministry Center:** Lights shall have manual dimming controls.

d) **Conference Room:** Lights shall have manual dimming controls.

e) **Small Classrooms:** Lights shall have manual dimming controls.

f) **Large Classrooms:** Lights shall have manual dimming controls.

B.C. POWER

1) **Mechanical Equipment:** Requirements for heating, ventilation, and air conditioning system shall be determined by the project criteria package. Heating, ventilation, and air conditioning system may be distributed into several smaller units throughout the building because of difficulty in running duct systems through the building. Mechanical and Electrical rooms shall be separate. Each room shall have exterior access. Mechanical / Electrical rooms are not to be used for any other purpose unless agreed to by the appropriate mechanical / electrical designers. All exterior on-grade mechanical and electrical equipment shall be located within an enclosed area. Access around equipment shall be provided for service and air flow. In cold climates provide features that will protect plumbing, water lines, and other lines from freezing.

2) **Support Facilities:** Power outlets and microphone outlets will be located in close proximity to give the maximum amount of flexibility.

3) **Miscellaneous Equipment:** ~~Contractor shall provide~~ Provide power for all CFCI and GFGI equipment that is identified in this document. This equipment includes, but is not limited to, ranges with ovens, warming drawers, full size refrigerators, stand-alone ice-makers, automatic dishwashers, garbage disposals, and microwaves in the kitchen.

4) **Kitchen:** Countertop outlets shall be provided per NEC 210.52 for kitchens. Countertop outlets shall be served by a minimum of 3 circuits. The design ideal/intent is to provide many outlets very close together to support an entire "fleet" of crock-pots, coffee-pots, warming dishes, etc.; all filled with pre-prepared food items that congregation members have brought in for a really large "pot-luck" event. The same is true for a center island in the kitchen. If the local customer representatives strongly desire a commercial grade piece of equipment (not at all intended or recommended by the Office of the Chief of Chaplains), provide these with the increased amount of power necessary for operation.

5) ~~Infant/Toddler Classrooms~~ **Child Dominant Spaces:** ~~Infant/Toddler Classrooms shall have~~ Provide tamper resistant receptacles installed in the Infant/Toddler Classrooms.

3.11. HEATING VENTILATING AND AIR CONDITIONING (HVAC) REQUIREMENTS

A. GENERAL:

1) The facility shall normally be heated and air-conditioned except that the storage and service areas may be ventilated and heated as required by code. The Kitchen shall be cooled not to exceed 85 degrees Fahrenheit and heated to maintain temperature no less than 68 degrees Fahrenheit. The janitor closet and restrooms shall be maintained at a negative pressure relative to adjacent areas. Mechanical rooms shall accommodate space for equipment maintenance access without having to remove other equipment. Mechanical, electrical and telecommunications rooms shall be keyed separately for access by garrison maintenance personnel and fire department.

2) With the exception of exhaust fan dedicated for restrooms and janitor closet, all primary equipment of the HVAC, and plumbing system(s) shall be located in the mechanical equipment room. This includes equipment such as air handling units, dedicated outside air system units, energy recovery units, pumps, central water heaters and water-to-water heat pumps. Air tempering equipment dedicated to provide zone control to different essential areas should typically be located in proximity to the areas served. This includes equipment such as variable air volume boxes, and water-to-air heat pumps. Accessibility for future maintenance to the mechanical equipment shall be taken in account in the design, selection and location of all mechanical equipment. Intake, relief and exhaust louvers shall be provided at the exterior of the building. Each louver shall be provided with a 2-position, parallel blade isolation damper located at or near the louver. Additional modulating flow control damper(s) shall be provided as required by the system equipment and control sequence.

B. HVAC DESIGN: The Heating, Ventilating, and Air Conditioning system(s) shall be based on geographical location, climate and applicable criteria listed in this document.

C. MECHANICAL SYSTEM SELECTION: Selection of ~~mechanical systems and the~~ energy sources ~~for these systems and mechanical system(s)~~ shall be based on local availability, ~~climate, building occupancy,~~ energy consumption, maintainability, reliability and life cycle cost. In addition, all mechanical system(s) design and selection(s) shall comply with the requirements of applicable criteria listed in this document.

D. CONCEALED ELEMENTS:

Conceal all mechanical systems, including the ductwork, in occupied spaces. Coordinate such that concealed shafts or pathways are provided where mechanical system(s) require them. Outdoor intake and relief or return louvers shall be designed in such a way that general public access to these components is restricted. Heating, ventilating, and air conditioning (HVAC) control system shall be easily accessed by staff, but relatively secure from the general public.

~~1) Heating, ventilating, and air conditioning (HVAC) control system shall be easily accessed by staff, but relatively secure from the general public. This facility will be used in many different ways. Some spaces will be filled to capacity at the same time that other spaces will be empty.~~

E. ZONING:

Provide carefully considered zoning to accommodate the optimum number of use combinations. Interior spaces should typically be in separate zones from exterior spaces. Zones separation shall be also based on systems isolation and operation. Areas such as the Classrooms and Multi-Purpose ~~Room~~ Area shall be served by systems that will provide individual temperature control in each space and should provide for economy of operation when only a few of these spaces are occupied. Air distribution systems may include, but are not limited to, systems such as variable air volume, water-to-air heat pumps and variable refrigerant flow systems.

~~1)~~

F. HVAC CONTROL SYSTEM: Provide a direct digital control (DDC) system for control of the heating, ventilating, and air conditioning system equipment. The control system shall provide automatic operation of the HVAC equipment, but shall also allow for override of system programming in order to accommodate varied uses of the facility. The HVAC control system shall be easily accessed by staff, but relatively secure from the general public. This facility will be used in many different ways. Some spaces will be filled to capacity at the same time that other spaces will be empty. For spaces where the number of occupants varies from just a few to a large number (such as the Worship Center), consideration should be given to the use of CO2 sensors to control the volume of outside air supplied to the space, based on the actual need in lieu of constantly supplying the volume of outside air required for maximum occupancy during all occupied hours. Provide densely-populated rooms (as defined by codes or LEED) with CO2 sensors to control the volume of outside air supplied to the space. Outside air should not be supplied to spaces during unoccupied periods or when spaces are in the warm-up or cool-down mode prior to occupancy. The requirement for integration into a Garrison-wide EMCS shall be investigated and appropriate provisions made. Integration of the building HVAC control system into the Garrison-wide EMCS shall be provided unless specific guidance is provided to the contrary.

G. ACOUSTICS: Acoustics is an important consideration in the design. Provide mechanical equipment items placed outside and adjacent to the building with screening and appropriate acoustic control. Also ensure that operating noises do not intrude into inhabited areas. Air distribution system(s) shall be designed to be less

than or equal to 20 NC. Access clearances for servicing and proper airflow shall be provided when developing the screening and acoustic control of equipment located outside the building.

3.12. ENERGY CONSERVATION REQUIREMENTS

A. GENERAL:

- 1) Provide all appropriate energy conservation features. Coordinate issues such as siting, sustainability, and meeting all energy conservation requirements listed in other sections.
- 2) Mandated federal criteria are regularly being revised to decrease such energy consumption by increasing energy efficiency. Documents, such as ASHRAE 189.1-2009, have been developed to focus building design on steadily improving their levels of energy efficiency.
- 3) ~~An Energy-energy~~ analyses for ~~the~~ Religious Education Facility ~~type-were~~was performed in accordance with ECB Number 2010-14 (28 June 2010), ECB Number 2011-1 (19 January 2011), and the U. S. Department of Energy (DOE) guidance issued in the Federal Register (NARA 2006) which states that savings calculations should not include "plug loads" (process loads) and implies that savings shall be determined through energy reduction cost savings. The energy analysis showed that this facility could meet the targeted energy reduction goals of ECB 2010-14. The target was 40% actual energy reduction from the base-line energy use defined in the criteria of ASHRAE 90.1-2007.
- 4) As a result of this energy analysis, it is recommended that facilities provided for climate zones 1a & b, 2a & b and 3a, b & c have horizontal shades above the windows, shading grills, or other devices or building geometry (like being deeply recessed) techniques (clerestories close to the roof line may accomplish the same benefit with overhangs) to allow for meeting the required energy reduction savings.
- 5) ECB 2012-13 has been issued since the energy ~~analyses-were~~analysis was conducted. This document states that when applying ASHRAE Standard 189.1 energy performance standards, ensure that the minimum energy savings to be achieved, through performance or prescriptive paths, is at least 30 percent better than ASHRAE Standard 90.1-2007 (including process and plug loads). The U. S. Army has decided to include/use site energy for the HVAC, lighting, and hot water loads to determine the energy savings. The previously conducted energy analysis results meet the minimum levels outlined by this new ECB.
- 6) It is assumed that both the governing criteria and the energy target (as defined by the U. S. Government and organizations such as the United States Green Building Council (USGBC)) will change regularly. Provide every facility (these will generally be projects appropriated at specific times over several years) so that it meets the requirements of governing criteria and the energy target that are applicable at the time of project development.
- 7) Many federally mandated definitions/requirements or measures of energy consumption criteria (energy reduction cost savings) are not identical with other measures of energy efficiency or sustainability. Examples of different measures are those described in the USGBC "LEED" point criteria.
- 8) Provide a comprehensive analysis of energy consumption during specific project design processes and incorporate what appears to be the best/most-appropriate blend of features/characteristics that will reduce energy consumption of the facility to the minimum practicable levels. Also meet whatever the current mandates or criteria that apply at the time of the specific project under design.

3.13. FIRE PROTECTION REQUIREMENTS

A. GENERAL:

- 1) **Standards and Codes:** Provide fire protection and life safety features in accordance with UFC 3-600-01 and the criteria referenced therein.
- 2) **Qualification:** The Fire Protection Engineer (FPE) shall meet one of the conditions indicated in the UFC 3-600-01 and shall be part of the design team. Submit qualifications and credentials of the FPE at the start of the project. The FPE shall provide a letter at the completion of the design certifying the project meets UFC 3-600-01 and applicable codes. Fire Protection Engineer shall be responsible for all aspects of the life safety, fire sprinkler, and fire alarm systems for each facility. Fire Protection Engineer is responsible to provide the life safety and fire protection analysis.

3) **Fire Protection and Life Safety Analysis:** Provide a fire protection, building code and life safety analysis for all buildings in this project. This analysis shall be submitted in accordance with the provision described in section 01 33 00 Submittal Procedures and UFC 3-600-01. Provide an analysis per UFC 3-600-01 for each facility.

4) **Fire Protection Letter of Certification:** The Fire Protection Engineer who is the Designer of Record must provide a letter at 100% design submission in accordance with UFC 3-600-01 that the facilities meet all applicable codes, and Unified Facilities Criteria including NFPA and IBC.

B. FIRE SUPPRESSION SYSTEMS:

1) **Sprinkler System:** Provide complete sprinkler protection in accordance with UFC 3-600-01. Sprinkler protection shall be designed in accordance with UFC 3-600-01. Wet pipe sprinkler systems shall be provided in all heated areas and dry pipes sprinkler systems shall be provided in areas subject to freezing. Provide a hydrant flow test at the site prior to starting the fire protection design. It is preferred to provide a fire sprinkler system without a fire pump. Refer to Paragraph 8.

2) **Sprinkler Service Main and Riser:** Sprinkler service mains shall be dedicated lines from the distribution main. Do not combined sprinkler service piping and domestic service piping. Sprinkler service mains shall be provided with an exterior post indicating valve with tamper switch reporting to the fire alarm control panel (FACP) inside of each building. Underground fire service pipe penetrating floors shall be provided with a pipe sleeve. The sprinkler riser shall include a double check type backflow preventer, a fire department connection and an exterior wall test connection for testing of backflow prevention assembly. The sprinkler system shall include an indicating control valve for each sprinkler riser, a flow switch reporting to the FACP, and an exterior horn and strobe at the location of the fire department connection. Each floor shall be provided with a separate control valve with tamper switch and flow switch. Coordinate with the local base fire department to determine the exact exterior notification appliance they prefer such as water gong, horn and strobe, etc.

3) **Backflow Preventer:** Provide a double check valve assembly for all fire sprinkler water supplies. An exterior flush wall test connection with dual hose connections with OS&Y valve shall be provided to allow testing of the backflow preventer. Provide sign that says "Test Connection."

4) **Fire Department Connection:** A fire department connection shall be provided for each building provided with a suppression (sprinkler) system. The location shall be accessible by the fire department, shall be unobstructed, and shall be within 150 feet from the nearest fire hydrant. Coordinate with the local base fire department whether they prefer a free standing connection versus a wall mounted connection. Fire Department Connections shall generally be placed on the address side of the building where Fire Department Personnel will be entering the building.

5) **Fire Pump:** The requirement for a fire pump shall be determined by the Contractor based on hydrant fire flow data from the project site and fire protection system design for the project. If required, a complete fire pump design and installation shall be provided for the facility. Fire pump design and installation shall comply with the requirements of UFC 3-600-01 AND NFPA 20. It is preferred to design and provide a fire sprinkler system without a fire pump.

6) **Sprinkler System Materials and Components:** Materials and components for sprinkler systems and fire pumps shall be in accordance with UFC 3-600-01, NFPA 13 and NFPA 20. Sprinkler head type shall be quick response (wet pipe system only). Piping shall not be exposed in finished areas.

7) **Area of Demand, Design Density and Exterior Hose Stream:** Area of demand, design densities and exterior hose stream shall be in accordance with UFC 3-600-01, Table 4-1.

8) **Fire Water Supply:** Provide fire hydrant flow test(s) at the site prior to any design. Any flow data provided in the Appendix is for information only and not to be used to develop the fire protection design. Provide a water supply analysis per UFC 3-600-01 as part of the design to determine whether there is adequate water supply and duration for the project. Provide hydrants as required per UFC 3-600-01, and NFPA 1.

9) **Kitchen Hood:** If range is a commercial grade piece of equipment, provide Range with a commercial kitchen hood and wet chemical suppression system and automatic shut-off for electric or gas fuel sources per NFPA 96 and 90A. Design shall conform to UFC-3-600-01. If range is a residential grade piece of equipment, a residential hood may be provided and without a fire suppression system.

10) **Fire Extinguishers:** Travel distance to/from the extinguisher cabinets shall not exceed that required by NFPA 10. Fire extinguisher cabinets shall be capable of housing a 10 lb ABC portable fire extinguisher. Fire extinguisher door panels shall not be locked. Fire extinguishers are to be provided as part of the project.

C. **FIRE DETECTION AND ALARM SYSTEMS:** Provide an addressable type fire alarm system with addressable devices per NFPA 72, UFC 3-600-01, and UFC 4-021-01. Type, function and location of the fire alarm annunciation panel shall be coordinated with the local Authority Having Jurisdiction (AHJ). For additional information refer to Electrical and Communication paragraphs in this section. Fire Alarm and Mass Notification Systems shall be controlled from a single panel. Coordinate with local base fire department for the type and style of the fire alarm system as well as the monitoring and reporting equipment.

D. **MASS NOTIFICATION:** Provide a mass notification system designed in accordance with UFC 4-021-01.

3.14. SUSTAINABLE DESIGN

A. Many features that make a facility sustainable can be integrated into a typical building and site. Reduction in the use of water is a key element that generally applies to every building and site. However, other very beneficial features/techniques (such as shading devices for buildings or building orientation for sites) or materials might also have application but need to have a more tailored building and site to be effective.

B. The offerer (for design-build contracts) or designer (for design-bid-build contracts) is encouraged to suggest sustainable material substitutions or building feature modifications for consideration where they appear to provide benefit without appearing to interfere with functionality.

C. See Paragraph 6.14 for additional Sustainable Design guidance.

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. **GENERAL:**

The criteria within this document identifies the level of quality and special requirements for furniture and equipment, yet provides flexibility for the designer to make creative and appropriate selections to meet User requirements. Furniture and equipment shall be complementary and compatible with the building design and provide a completely coordinated interior design. Unless otherwise noted, items in this section shall be Government Furnished/ Government Installed (GF/GI); also refer to Section 01 10 00, paragraph 6. Dimensions provided are approximate.

3.19.1. FURNISHINGS

A. **GENERAL:** Furniture shall not have sharp edges. Clips, screws, and other furniture construction elements shall be concealed where possible. Upholstery for office areas, lounge furniture and stacking seating shall meet Wyzenbeek Abrasion Test, 55,000 minimum double rubs. Furniture style details and finishes shall be compatible throughout the facility and coordinated within a room. Furniture finishes and fabrics shall be appropriate for intended use. Upholstery fabric (color, pattern and fiber content) shall be easily cleaned and help hide soiling. Provide patterned fabrics for seating to help hide soiling. Upholstered stacking seating fabric shall have a soil retardant finish to aid in cleaning and maintenance.

B. **ACCESSORIES:**

1) **A01 - Small Trash Receptacle:** Small trash receptacle, minimum 28 quart capacity. Size 1'-2" w x 10" d x 1'-3" h.

- 2) **A02 - Large Trash Receptacle**: Large trash receptacle, minimum 12 gallon capacity. Size 1'-3" in diameter x 2'9"h.
- 3) **A03 - Paper Recycle Receptacle**: Small paper recycle trash receptacle, minimum 28 quart capacity. Size 1'-2"w x 10"d x 1'-3"h.

C. **DESK AND STORAGE:**

Furniture can be wood, plastic laminate or metal finish, coordinate finish material with the User. Preferred top for wood furniture is plastic laminate that closely matches adjacent wood with mitered solid wood edge. Glass tops shall be provided for furniture with wood tops. Tops for case goods with plastic laminate or metal construction shall be plastic laminate. Location, use, and frequency of moving furniture shall be considered when determining appropriate finish material and construction. Furniture constructed of particleboard with plastic laminate finish is not acceptable. Plastic laminate shall be high pressure plastic laminate, not low pressure plastic laminate. Box and file drawers shall have a heavy-duty suspension system. Furniture shall be constructed with concealed fasteners. Furniture storage shall be lockable. Verify with User if keyboard trays are required at desks; many Users prefer not to have keyboard trays since laptops are used. Recommend full modesty panel at primary work surface between personnel and guest. If provided at building walls, modesty panel shall allow access to wall electrical and data outlets.

- 1) **D01 - U-Shaped Workstation with Right Return**: Workstation shall have a primary work surface with a pencil drawer and pedestal; desk height bridge with adjustable keyboard tray and mouse attachment; and secondary work surface with pedestal. Unit shall also have overhead storage, tackboard, and task light under all overhead storage, and modesty panels. Storage shall be lockable. The size of the primary work surface shall be 6'-0"w x 2'-6"d. The size of the bridge shall be 3'-6"w x 2'-0"d. The size of the secondary work surface shall be 6'-0"w x 2'-0"d. The work surface height shall be 2'-6".
- 2) **D02 - U-Shaped Workstation with Left Return**: Workstation shall have a primary work surface with a pencil drawer and pedestal; desk height bridge with adjustable keyboard tray and mouse attachment; and secondary work surface with pedestal. Unit shall also have overhead storage, tackboard, and task light under all overhead storage, and modesty panels. Storage shall be lockable. The size of the primary work surface shall be 6'-0"w x 2'-6"d. The size of the bridge shall be 3'-6"w x 2'-0"d. The size of the secondary work surface shall be 6'-0"w x 2'-0"d. The work surface height shall be 2'-6".
- 3) **D03**: Not Used
- 4) **D04 - Bookcase**: Five-shelf bookcase with 4 adjustable shelves. 3'-0"w x 1'-3"d x 5'-6"h. Bookcase shelving shall be deep enough to store required materials and supplies.

D. **SEATING:**

- 1) **S01 - Desk Chair**: Ergonomic desk chair with adjustable arms, separate upholstered cushioned seat and back, back tilt and locking capability, pneumatic seat height adjustment, back height adjustment, seat depth adjustment, five star base on casters. Size 2'-0"w x 2'-2"d x 2'-8" to 3'-2"h.
- 2) **S02**: Not Used
- 3) **S03 - Guest Chair**: Guest chair with arms and upholstered cushioned seat and back. Style shall complement the desks and desk chairs. Size 1'-9"w x 1'-11"d x 2'-6"h.
- 4) **S04 - Lounge Chair**: Fully upholstered lounge chair with enclosed arms. Armrests and legs/base may be wood, frame shall be solid hardwood with all parts glued and fastened. Size 2'-7"w x 2'-7"d x 2'-9"h.
- 5) **S05**: Not Used
- 6) **S06 - Stacking Chair**: Sled base, plastic shell stacking chair. Shall stack a minimum of 30-45 on dolly and a minimum of 10 on floor, with glides. Glides shall be appropriate for floor finish. Frame shall be solid base stock with chrome plate or durable color finish. Size 1'-7"w x 1'-11"d x 2'-7"h for the back and 1'-6" for the seat.
- 7) **S07 - Stacking Chair Dolly**: Dolly shall stack up to 45 S06 chairs and shall fit through single wide door with stacked chairs.
- 8) **S08 - S09**: Not Used

- 9) **S10 - Small Children's Chair:** Small stackable children's chairs for preschool through 2nd grade, fabricated of easily maintainable finishes, heavy-duty construction. Size 1'-4"w x 1'-4"d x 2'-0"h for the back and 1'-2" high for the seat.
- 10) **S11 - Medium Children's Chair:** Medium stackable children's chairs for 2nd through 4th grade, fabricated of easily maintainable finishes and of heavy-duty construction. Size 1'-6"w x 1'-6"d x 2'-2"h for the back and 1'-4" high for the seat.
- 11) **S12 - Rocker/Glider:** Chair base shall remain stationary while upper seat has rocking/gliding motion. Chair shall be constructed of wood and include an easily cleanable or removable upholstered seat and back cushion. Size 1'-11"w x 2'-2"d x 3'-8" high.
- 12) **S13 - High Stool:** Ergonomics desk chair with adjustable arms, separate upholstered cushioned seat and back, back tilt and locking capability, pneumatic seat height adjustment, back height adjustment, five star base on casters with a footring. Size 2'-0"w x 2'-2"d. Stool seat height shall be appropriate for height of built-in counter where it is located.

E. TABLES:

- 1) **T01:** Not Used
- 2) **T02 - Children's Table:** Tables shall be designed for heavy use, be adjustable in height, and have folding legs with automatic locking leg feature. Consider lightweight tables and tables with easy clean surface. All working parts shall be recessed behind an apron. Top surface and edge treatment shall withstand heavy use. Size shall be 6'-0" long x 2'-6"d x approximately 1'-8"h and adjust to 2'-6" high. If appropriate for a specific project and to meet User requirements.
- 3) **T03 - Table Dolly:** Dolly type, size and quantity shall transport and store all of the T20 tables. Fully loaded dolly shall be capable of being maneuvered within the facility, fit through a singlewide door. Provide quantity to store all folding tables.
- 4) **T04 - Lobby End Table:** Detailing and finish to match seating and other furnishings in room. Recommend a plastic laminate tabletop that can be easily cleaned and maintained. Size shall be 1'-11"w by 1'-11"d x 1'-10"h.
- 5) **T05 - T06:** Not Used
- 6) **T20 - Classroom Table:** Classroom/training table shall be designed for heavy use, be adjustable in height, and have folding legs with automatic locking leg feature. Consider lightweight tables and tables with easy clean surface. All working parts shall be recessed behind an apron. Top surface and edge treatment shall withstand heavy use. Size shall be 6'-0" long x 2'-6"d x approximately 1'-8"h and adjust to 2'-6" high. Table height shall be appropriate for height of children's chairs. If appropriate for a specific project and to meet User requirements.
- 7) **T21 - Table 72" Diameter:** Tables shall be designed for heavy use. Recommend a plastic laminate tabletop that can be easily cleaned and maintained. Size shall be 72"dia x 1'-10"h.
- 8) **T22 - Table 36" Diameter:** Tables shall be designed for heavy use, be adjustable in height, and have folding legs with automatic locking leg feature. Table shall be lightweight and tabletop shall be easily cleaned and maintained. Size shall be 36"dia x 1'-10"h.
- 9) **T23 - Children's Crescent Table:** Tables shall be designed for heavy use, be adjustable in height. Consider lightweight tables and tables with easy clean surface. Top surface and edge treatment shall withstand heavy use. Size shall be 6'-0" long x 3'-0"d x approximately 1'-6"h and adjust to 2'-6" high. Table height shall be appropriate for height of children's chairs. If appropriate for a specific project and to meet User requirements.

3.19.2. EQUIPMENT

A. MISCELLANEOUS ITEMS:

- 1) **M01 - Portable Podium:** Movable stand-up lectern, adjustable height shelf and angled reading shelf with pen rail to prevent items from sliding off shelf.
- 2) **M02 - M07:** Not Used

- 3) **M08 - Refrigerator:** Contact local suppliers for advice on selection. Each unit shall have a minimum 14 cubic feet of storage volume and include compartments for freezing and cooling. Not every standard refrigerator is wide enough to hold a typical bakery sheet cake, but these are often used for celebratory events. Clarify this when specifying the refrigerator. Swing of door shall be appropriate to traffic flow in kitchen. Select a high grade residential refrigerator. Refrigerator shall be Energy Star rated, Tier 1. An automatic icemaker is not required since facility will have an icemaker. Each facility shall determine what size, features, storage compartments and configurations are required to meet the requirements of the congregations since requirements may vary.
- 4) **M09 - Range:** Contact local suppliers for advice on selection. Recommend a single oven, automatic control, oven viewing window, clock, oven interior light, and four burners. Coordinate cooking surface type with User, ceramic or coil surface type. A residential style range will be sufficient for most facilities, but some garrisons may prefer a style range between residential and commercial. If a larger style range is chosen, the designer must revise the design to accommodate the different size.
- 5) **M10 - Dishwasher:** Contact local suppliers for advice on selection. Determine which capacity, control features, and dishware arrangements are required to meet the requirements of the congregations since requirements may vary. Dishwasher shall be Energy Star rated, Tier I. Coordinate size of dishwasher with kitchen layout, features and casework to assure it is compatible with the kitchen configuration. Note that this item is Contractor Furnished/Contractor Installed (CF/CI).
- 6) **M11 - Ice Machine:** Contact local suppliers for advice on selection. A simple design of sturdy components and easily understood operation controls is recommended. Unit shall be Energy Star Tier 1 rated and use modern refrigerants. The speed of ice production and the amount of ice storage capacity can vary widely. Determine facility requirements. Discuss options with local supplier and type of ice required (cubes, half cubes, crushed, etc.) if there is a preference. Consider the unit's noise production and heat load.
- 7) **M12 - Under Counter Refrigerator:** An under counter type refrigerator will be placed in the Infant Classrooms. Refrigerator shall be Energy Star rated, Tier 1.
- 8) **M13 - Microwave:** An under wall cabinet, over-the-range combination microwave oven and exhaust hood, coordinated with casework and other appliances. Unit shall have a minimum of 1.9 cubic feet of interior capacity and a mix of control features. Contact local suppliers for advice on selection. Microwave shall be units designed to heat or reheat food items. This microwave unit is to be the kind of unit that is combined with a range hood in a coordinated assembly. Units shall include control switches for selection/adjustment of functions, timing, and power. A variety of additional options are available, as are a range of quality and performance characteristics. Note, if installation preferences, code interpretations, or similar issues appear to make separate microwaves and hoods a better choice, this is also acceptable.
- 9) **M14 - Warming Drawers:** An in-the-base-cabinet under counter unit coordinated with casework and other appliances, capable of temperature adjustment to hold food in an optimally warm condition prior to serving. (Note that this item is Contractor Furnished/Contractor Installed (CF/CI)).
- 10) **M15 - M17:** Not Used
- 11) **M18 - TV:** Contact local suppliers for advice on selection. Flat screen televisions shall be units designed to receive input from media players, antennae or cable feeds and to show such programming as selected. Units shall include a hand-held controlling "remote", channel selection, volume control, adjustment for brightness, and focus. A variety of additional options are available, as are a range of quality and performance characteristics.
- 12) **M19 - Media Player:** Contact local suppliers for advice on selection. Media Players shall be units designed to receive input from media transfer devices and to transmit it to networks, televisions or other displaying devices. Units shall include a hand-held controlling "remote", adjustment for volume and programming/feature selection. A variety of additional options are available, as are a range of quality and performance characteristics.
- 13) **M20 - M22:** Not Used
- 14) **M23 - Crib:** Crib shall be commercial grade. Requirements to be further coordinated with the User.
- 15) **M24 - Stage:** Stage shall be portable, overall approximate height 16"h, see drawings for actual size. Shall have a set of stairs and Architectural Barriers Act (ABA) compliant ramp, removable skirting at front and side (not at stairs or ramp) and legs shall have levelers.
- 16) **M25 - Stage Dolly:** Mobile cart(s) shall be provided to transport disassembled stage components. Carts shall be stored in the storage room adjacent to the Multi-Purpose Area.

17) **M40 - Storage Cabinet:** Heavy-duty 72" binder storage tambour door cabinet with roll back doors with five shelves and a roll out work surface. HIPAA- compliant tambour doors have a two point locking system with magnetic catch; the doors slide into cabinets walls to save space. For a specific project must discuss with User to meet their requirements. Size 39"w x 18"d x 78"h.

18) **M41 - Open Display Shelving:** Contact local suppliers for advice on selection. Wall mounted for resource display with clear plastic dividers. Fabricated of easily maintainable finishes, heavy-duty construction. For a specific project must discuss with User to meet their requirements. Available in a variety of finishes & size options.

19) **M42 - Low Display Shelving:** Contact local suppliers for advice on selection. Typical children's furniture fabricated of easily maintainable finishes, heavy-duty solid wood construction with a wide variety of shelving options. For a specific project must discuss with User to meet their requirements. It should be free-standing moveable unit. Shelving available in a variety of finishes & size options such as 48"w x 11"d x 28"h.

<REF_LARGE>

20) **M43 - Mobile Work Island:** Contact local suppliers for advice on selection. Fabricated of easily maintainable finishes, heavy-duty construction. For a specific project must discuss with User to meet their requirements. The unit is not limited to but can feature a space for two cupboards and drawers all lockable. It should be free-standing moveable unit with heavy duty casters, two of which are locking and comes with a complete retractable cord reel & two receptacles. Top is ChemGuard laminate. Overall cabinet size similar or equal to 60"w x 30"d x 36"h. </REF_LARGE>

3.20. FACILITY SPECIFIC REFERENCES – NOT USED

SAMPLE