

2 SCOPE

2.1 CONSOLIDATED FIRE, SAFETY, AND SECURITY FACILITY

Provide Consolidated Fire, Safety and Security Facility to support military firefighters' mission to provide fire and security to installation flightlines, facilities and surrounding areas, and fire prevention education and training.

Station type: [CFSS_TYPE]

Number of Companies: [CFSS_CO_NUM]

Facility configuration: [CFSS_CONFIG]

Number of emergency vehicles to be accommodated: [CFSS_ACOMMODATE]

Organizational vehicle parking: [CFSS_SY] square yards.</IDIQ_NO><IDIQ> Provide Consolidated Fire, Safety and Security Facilities to support military firefighters' mission to provide fire and security to installation flightlines and facilities and surrounding areas and fire prevention education and training. Specific facility types are as follows:

- a) Structural Stations provide fire protection to facilities
- b) Aircraft Rescue Firefighting (ARFF) Station provide fire protection to flightlines and aircraft
- c) Combination Structural/ARFF Stations
- d) Combination Structural and Emergency Medical Services
- e) Combined Fire, Safety and Security Center

The facilities are further divided into classes as follows:

- a) Headquarters (or Main) stations generally house the Fire Chief, Police Chief and most of the general administrative functions
- b) Satellite stations are located throughout the Installation to provide adequate response time coverage, as appropriate.

3.0 CONSOLIDATED FIRE, SAFETY, AND SECURITY FACILITIES

3.1. FUNCTIONAL/OPERATIONAL REQUIREMENTS

The Consolidated Fire, Safety, and Security Facility is composed of six functional areas: Apparatus Bays (the high bay area where the apparatus are stored), the residential area (the area where the firemen sleep, shower, eat and relax), the Administration area (the area where the offices and training are located along with the only area accessible by the public, Service and Operational areas (the areas where security officers carry out their duties), Storage and Filing areas (the area where evidence, supplies, records, and secured items are stored), and Detention area (the area where people are detained, booked, processed, and interviewed) . Refer to the attached (Attachment A) Army Standard (draft) for area and room functional requirements. Generally, the size of this facility depends on the class of station, the number of companies housed, the number and types of vehicles housed, and any additional spaces required. The class of station will partially drive the number of spaces required.

3.1.1. HANDICAPPED ACCESS. Administration, Detention, Storage/Filing, Service and Operational areas in the building will be handicapped accessible.

3.1.1.1. Site Plan Design and Construction:

- (a) Provide ADA compliance access from the parking lot to the building.
- (b) Provide two (2) ADA compliant vehicle parking stalls for the facility for visitor parking.

(c) Provide handicapped vehicle parking signage and pavement markings.

3.1.1.2. Facility Design and Construction:

(a) The main building entrance on the ground level and at least one emergency egress, designed per applicable code, shall be handicapped accessible. Electronic exterior door push buttons are not required.

(b) Provide ADA clearances and door accesses in the building lobby.

(c) Provide handicapped accessible drinking fountains.

(d) Provide handicapped accessible public toilet(s), which may be unisex, in the lobby area.

3.1.2. CORE AREAS. Core areas may be arranged in one or two story configurations, one story configuration is preferred.

3.1.4.1 Administration. Office space to accommodate the Fire Chief, Deputy Chief, Station Captain, Asst. Chief, inspectors, training officer, lobby area, and clerical personnel. Provide one this area to accessible to the disabled. Provide a viewing window from Station Captains office and the apparatus bay.

3.1.4.2 Service and Operational Areas. Office space to accommodate MP Investigations, Physical Security, DAP Office, DAP Captain, Traffic Accident Investigations, Briefing Room, Break Room, Men's and Women's Locker and Shower area, Patrol Work Area, Systems Administration, Front Desk and Processing areas.

3.1.4.3 Storage and Filing Areas. This includes Personal Property, Found Property, Supply, Evidence Room, Recycling, Covered Traffic Cone Storage, Covered Police Bike Storage, Arms Room, and Records.

3.1.4.4 Detention Area. This includes Sally Port, Process and Booking, Breathalyzer Room, Detention Cells area, Interview Rooms, and Viewing Room.

3.1.4.5 Residential Area. This includes the on-duty fire fighters' bedrooms, toilets/showers, kitchen / dining, recreation, and "living room" areas.

3.1.4.6 Apparatus Bay. Size the apparatus bays to accommodate all the authorized vehicles. Drive though bays are preferable and where the site permits will be utilized. Bays must be readily accessible from the firefighter's residential portion of the station. Bays must include apparatus support equipment including exhaust collection systems, cold water fill, compressed air, floor drains, lighting and power. Provide heating in Bays except in very temperate/tropical climates, but do not air condition except through exception.

3.1.4.7 Apparatus Bay Ancillary Functions. These areas provide support and are directly related to functions in the apparatus bay. These areas should be directly accessible to or a part of the apparatus bay.

3.2. MANDATORY REQUIREMENTS

3.2.1. Use permanent partition construction for the small arms/ammunition areas in accordance with AR 190-11 Physical Security of Arms, Ammunition, and Explosives.

3.2.2. Use permanent partition construction for the detention rooms.

3.2.3. The physical security of Category II through IV sensitive conventional arms, ammunition and explosives (AA&E) shall follow the standard and criteria prescribed in AR 190-11. The construction of the walls, ceiling and roof, floors, doors and door frames, windows and other openings shall follow the standards and criteria outlined in Appendix G of AR 190-11.

3.3. BETTERMENTS

(a) Provide a floor radiant heating element at each vehicle bay door in colder climates to prevent the door from freezing to the pavement.

(b) Provide ceiling fans in the Fitness Room.

- (c) If natural gas is available, provide a gas connection to an external grill.
- (d) HVAC Instrumentation and Controls: Provide for connection to energy monitoring and control system (EMCS) for monitoring purposes.
- (e) Clear spans are preferred for the Apparatus Room.
- (f) The Sauna is preferred, but not mandatory in the Satellite Facilities.
- (g) Consider providing an intrusion detection alarm system to protect equipment and assets.

3.4. SITE PLANNING AND DESIGN

Organize the site to be compatible with the site planning and style of adjacent existing structures. Locate the building to reflect local climatic conditions. For example, provide protection from prevailing winds and glare and orient operable windows to take advantage of summer breezes. Locate the building to take advantage of passive solar heating and day lighting.

3.4.1. Signage. All Consolidated Fire, Safety, and Security Facilities must have a sign placed at the front of the facility which clearly serves as a landmark for the facility. The sign should be placed at eye level. Provide standardized signage systems in compliance with the Installation Design Guide to facilitate movement and provide a sense of orientation.

3.4.2. Vehicle Parking/Hardstand. Hardstand areas will be rigid pavement. Pavement for organizational vehicle areas should be designed for the heaviest vehicle at the installation.

3.4.3. Exterior Lighting. Exterior area lighting systems will be provided for facility aprons, open storage areas, and parking areas. Exterior area lighting systems should consist of color corrected high intensity discharge lighting units mounted on poles and located within the clear zone and on the primary facility. Illumination levels will be 50 lux for areas adjacent to the primary facility and 5 lux for parking areas. Lighting circuits will be controlled by a time switch. This is to facilitate 24 hour and night operations when necessary.

3.4.4. Perimeter Security Lighting. Protective lighting systems will be provided in response to project specific requirements to deter trespassers and make them visible to guards. Levels of exterior lighting for protected areas will conform to the requirements in the IES Lighting Handbook. Lighting circuits will be controlled by a photoelectric cell with manual override.

3.4.5. Oil/Water Separator. One or more oil/water separators are required to remove, oil, lubricants, floatables, and grit from contaminated water sources (e.g., repair and maintenance areas, POL storage, etc.). Oil/water separators will be designed in accordance with local codes and standard industry practice for the specific waste stream to be treated. Minimize maintenance requirements and locate oil/water separators to minimize pipe runs, provide vehicular access, and be out of circulation areas.

3.4.6. Parking and Other Access Drives. Provide adequate parking based on the total positions assigned, including eight- and 24-hour shift positions, reservists (if appropriate), and visitors. If possible, access drives to staff and public parking should not cross the vehicle access drive out of the Apparatus Bay. Locate parking areas so they do not dominate the main entrance and public image of the facility. Comply with UFC 4-010-01 DOD Minimum Antiterrorist Standards for Buildings.

3.5. ARCHITECTURE

3.5.1. Architectural Planning. The architectural plan will accommodate the functional and spatial relationships required for a functionally efficient Consolidated Fire, Safety, and Security Facilities. Building layouts will recognize the contrasting operational, administrative and residential functional requirements and the facility will be designed for the appropriate accomplishment of each function.

3.5.2. Circulation Design Considerations. The interior functional arrangement will allow for ease of circulation and movement and will consider the safety, health and operational efficiency of the occupants. The design will also recognize the need for the fire fighters' rapid response to emergency situations. Exterior circulation at the facility will also meet antiterrorism and security requirements and will be designed to provide safe and efficient vehicular movement.

3.5.3. Accessibility. The Architectural Barriers Act (ABA) established by public law requires any DoD building, except those specifically occupied only by able-bodied personnel, be accessible to the disabled. Therefore the

Consolidated Fire, Safety, and Security Facilities interior design as well as the exterior site circulation considerations shall meet the standards of the Americans with Disabilities Act Accessibility Guidelines (ADAAG) and the ABA standards for the administration office area of the facility.

3.5.4. Building Exterior. Select exterior materials to be attractive, economical, and durable and low maintenance. Pre-engineered metal building systems are preferred for their factory finished metal siding and roof panels. Masonry walls are preferred at the ground floor level.

3.5.4.1. The Consolidated Fire, Safety, and Security Facilities shall present a cohesive architectural image. Comply with Command and Installation architectural standards. Also, consider the local geographical and cultural environment. Use durable and low-maintenance exterior finishes.

3.5.4.2. Ensure that the main entrance is clearly identifiable to discourage visitors from entering the facility through an open Apparatus Bay door. In cold climates, provide a canopy (or a recess) at required egress doors to ensure that doors can completely open without obstruction from snow and ice. Comply with NFPA 80 Standard.

3.5.5. Building Interior.

3.5.5.1. Construction and finishes (walls, floor, and ceiling) shall support the cohesive image and theme of the facility. Reflect a residential, non-institutional character in the living areas of the facility, such as the Day Room and the Dorm Rooms.

3.5.5.2. Durability is extremely important when specifying materials for interior construction and finishes. Consolidated Fire, Safety, and Security Facilities are occupied 24 hours per day, seven days a week and heavy equipment is regularly handled throughout the facility. These conditions will lead to greater interior damage being incurred compared to many other facility types.

(a) Casework: Provide counters, casework, and cabinets of high-quality and durable construction with Premium or Custom finishes per AWI Quality Standards, 8th Edition. Casework, cabinet doors, and drawer faces shall be veneer panel core. At a minimum use plastic laminate doors, drawers, and casework faces. Where no water source is present, countertops shall be plastic laminate as a minimum. Where a water source is present, countertops shall be solid surface/solid composite plastics only.

(b) Interior Finishes: Finishes must take into account the intended uses, be highly durable, and meet the requirements listed in NFPA 101 Life Safety Code.

3.5.6. Floors. Provide concrete floors in apparatus bay areas with a crown in the center of the bay and sloped to the doors. Provide a continuous trench drain located on the interior side of the overhead doors. Slope trench drain toward the areas where component washing will occur.

3.5.7. Natural Lighting. The preference is for clerestory lighting over the apparatus bay area doors, and vision panels in overhead doors. Provide operable windows for natural lighting and ventilation in administration and shop control, training room, break/training/conference room, and consolidated bench repair shop.

3.5.8. Apparatus Bay Doors. Provide overhead doors (minimum 24 feet wide by 14 feet high) in the exterior wall at each end of each structural bay. Provide overhead doors (minimum 10 foot by 10 foot) for Consolidated Bench repair shop. Provide doors of coiling, sectional, or telescoping design. Provide electrically operated doors with provision for manual chain operation.

3.5.9. Locking. Provide overhead doors that are operable from the interior only. Provide doors will be with a positive locking mechanism that will allow the door to remain open at engine exhaust position approximately 1 ft above the floor. Coordinate door locking requirements with the using service.

3.5.10. Serviceability. Design repair and apparatus bay doors to meet heavy duty loads and high frequency of operation. Provide testing of deflection and operation of the doors prior to acceptance during construction. Doors shall be provided and installed by a commercial door company having not less than five years of experience in manufacturing, installing, and servicing the size and type of doors provided.

3.5.11. Insulated Doors. The preference is for insulated doors for thermal resistance and noise control.

3.5.12. Personnel Doors. Provide exterior personnel doors in the ends of central corridor maintenance areas and in the circulation bays. Provide steel doors with vision panels, except at storage, janitorial, and latrine areas. Minimum size for personnel doors is 3 feet wide by 7 feet high.

3.5.13. Special Acoustical Requirements

3.5.14. When a Consolidated Fire, Safety, and Security Facility is located near the flightline, comply with the AICUZ noise reductions for the facility location. If an AICUZ map is not available for the location, an acoustical engineer must conduct an acoustical analysis to determine the exact type and extent of the additional acoustical treatments needed to address aircraft noise.

3.5.15. Finishes

3.5.15.1. Paint

(a) All paints used shall be listed on the "Approved product list" of the Master Painters Institute, (MPI). Application criteria shall be as recommended by Master Painters Institute (MPI) guide specifications for the substrate to be painted and the environmental conditions existing at the project site.

(b) Exterior surfaces, except factory pre-finished material or exterior surfaces receiving other finishes shall be painted a minimum of one prime coat and two finish coats. Paints having a lead content over 0.06 percent by weight of nonvolatile content are unacceptable. Paints containing zinc-chromate, strontium-chromate, mercury or mercury compounds, confirmed or suspected human carcinogens shall not be used on this project. Exterior paints and coating products shall be classified as containing low volatile organic compounds (VOCs) in accordance with MPI criteria. Application criteria shall be as recommended by MPI guide specifications. Provide an MPI Gloss Level 5 Finish (Semi-gloss), unless otherwise specified.

(c) Interior surfaces, except factory pre-finished material or interior surfaces receiving other finishes shall be painted a minimum of one prime coat and two finish coats. Paints having a lead content over 0.06 percent by weight of nonvolatile content are unacceptable. Paints containing zinc-chromate, strontium-chromate, mercury or mercury compounds, confirmed or suspected human carcinogens shall not be used on this project. Interior paints and coating products shall contain a maximum level of 150 g/l (grams per liter) of volatile organic compounds (VOCs) for non-flat coatings and 50 g/l of VOCs for flat coatings. Provide an MPI Gloss Level 5 Finish (Semi-gloss) in wet areas and a flat finish in all other areas.

3.5.15.2. Minimum Interior Finishes

(a) Designers are not limited to finishes listed in the following table MINIMUM INTERIOR FINISHES and are encouraged to offer higher quality finishes.

(b) Wall, ceiling and floor finishes and movable partitions shall conform to the requirements of the IBC, NFPA and UFC 3-600-01. Where code requirements conflict, the most stringent code requirement shall apply.

(c) Carpet shall not be used as a floor finish on this project. Resilient and ceramic flooring are preferred. If selected, vinyl composition tile (VCT) shall be a minimum 1/8 inch thick, conforming to ASTM F 1066, Class 2, through-pattern tile, Composition 1, asbestos free, with color and pattern uniformly distributed throughout the thickness of the tile.

(d) Walls: All wall finish shall be painted gypsum board, except where stated otherwise. Use impact resistant gypsum board in corridors and the centralized laundry, if provided.

(e) All ceiling finishes shall be painted gypsum board, except where stated otherwise.

3.6. STRUCTURAL REQUIREMENTS

3.6.1. General

Design and construct as a complete system in accordance with APPLICABLE CRITERIA.

3.6.2. Arms Room

Design and construct the arms room to meet the minimum requirements set forth in AR 190-11 Appendix G.

3.7. MECHANICAL REQUIREMENTS

3.7.1. Fire Protection: Provide automatic sprinklers that provide 100 percent coverage of the facility. Avoid locating any sprinkler piping in spaces that may be subject to freezing. Portions of the sprinkler system subject to freezing may be dry pipe sprinkler systems. For the kitchen area(s), provide a wet chemical or water spray for all kitchen hood ductwork. Also, provide each cooking surface with a fire extinguishing system.

3.7.2. Plumbing: Provide facilities with a fully functional plumbing system that complies with the International Plumbing Code (IPC).

3.7.2.1. Drains: Provide floor trench drains parallel to the centerline of each vehicle. All vehicle bay drains shall connect to an approved oil/water separator prior to discharge.

3.7.2.2. Connect all Protective Clothing Laundry drains to an oil/water separator with holding tank, if required by location in accordance with NFPA 1581 Standard on fire Department Infection Control Program

3.7.2.3. Compressed Air: Provide compressed air on self-retracting lines at each vehicle bay and Self-Contained Breathing Apparatus (SCBA) Maintenance Room.

3.7.2.4. Hose Bibs: Provide hose bibs near Apparatus Bays for vehicle cleaning and maintenance.

3.7.2.5. Provide an emergency eye wash fountain and shower in the Apparatus Room.

3.7.2.6. Provide a foot-operated mop sink with mop hanging rack in the Apparatus Room.

3.7.3. Heating, Ventilating and Air-Conditioning (HVAC)

Provide facilities with a fully functional HVAC system that is automatically controlled by a Building Automation System (BAS).

3.7.3.1. Vehicle Exhaust System: Provide a Fire Apparatus Vehicle Exhaust Removal System (FAVERS) in compliance with NFPA 1500 Standard on Fire Department Occupational Safety and Health Program to eliminate 100% of vehicle exhaust emissions.

3.7.3.2. SCBA Maintenance Room: Provide positive pressure ventilation in the Self-Contained Breathing Apparatus (SCBA) Maintenance Room to prevent contamination.

3.7.3.3. The PPE Gear Storage Room shall be negatively pressurized with dedicated exhaust vented to the outside to evacuate gaseous emissions from stored gear.

3.7.3.4. HVAC systems shall have sound traps on both supply and return ducts in interview, interrogation, conference and briefing/training rooms where confidential or damaging information is usually disseminated.

3.7.3.5. Systems for personnel services (toilets, lockers and showers) and lounge areas should provide for 100% exhaust so as not to recirculate odors throughout the facility.

3.7.3.6. Dorm Room Pressurization: Positively pressurize the dorm rooms with a 100% dedicated outdoor air unit. Dedicated outdoor air units shall continuously supply dehumidified, tempered air to each bedroom. Provide compliance with IMC chapter 4 and maintain slight building positive pressurization. Dedicated outdoor air unit cooling/dehumidification shall be available 24/7/365. Refer to chapter 6 for site specific constraints. Use the outdoor air unit to ventilate and pressurize corridors adjacent to the dorm rooms.

3.7.3.7. Dorm Room Temperature Control: Provide each dorm room with an individual heating/cooling unit. Centrally control each unit with the facility DDC system. Occupant control will include fan selection (on/off) and a slide bar temperature setpoint adjust that allows +/- 2 deg F of adjustment from the DDC programmed set points (70 deg F heating, 75 deg F cooling). Additionally, the DDC controls shall monitor each dwelling unit for sub-cooling. The DDC system shall record an alarm event if the space temperature drops below 71 degree F (adjustable) when the outside air is greater than 85 degree F (adjustable).

3.8. ELECTRICAL REQUIREMENTS

Electrical power, lighting and telecommunications shall be provided to the facility as specified below, in accordance with APPLICABLE CRITERIA, GENERAL TECHNICAL REQUIREMENTS, all IEEE Standards (including Recommended Practice) where the scope is applicable to this design effort, all UL Standards where the UL scope is applicable to this design effort and where itemized, in the combined interdisciplinary areas cited. Dorm rooms shall be considered to be living and sleeping rooms; therefore they are to be considered to be part of a dwelling unit per NFPA 70 definition.

- (a) Perform a short circuit study as an integral part of selecting and sizing electrical distribution components (all equipment shall be fully rated; that is, do not use series-combination rated equipment).
- (b) Perform a coordination study to ensure that protective device settings are appropriate for the expected range of conditions (depending on the design and construction schedule, it is acceptable to design adequate protective devices with adjustable features, followed by a coordination study required during construction to specify the correct settings.)

- (c) Circuit breakers, disconnect switches, and other devices that meet the OSHA definition of energy-isolating device shall be lockable.
- (d) Do not exceed 5 percent combined voltage drop on feeders and branch circuits if the transformer providing service is located within the facility. If the transformer is located exterior to the facility, limit the combined voltage drop for service conductors, feeders, and branch circuits to 5 percent. Individual voltage drop on branch circuits should not exceed 3 percent. Branch circuits supplying sensitive circuits should be limited to 1 percent voltage drop.
- (e) Unless unavoidable, to minimize sound transmission, do not install "back-to-back" outlet boxes.

3.8.1. Exterior Lighting

3.8.1.1. Provide general site lighting to ensure that parking areas and the facility have adequate lighting for safety, evacuation, security measures, to facilitate 24 hour operations and to facilitate night operations. If the facility is near a flightline, site lighting cannot interfere or be a distraction to aircraft movement at night. Lighting for all exterior applications must be controlled by a photosensor and an astronomical time switch that is capable of automatically turning off the exterior lighting when sufficient daylight is available or the lighting is not required.

3.8.1.2. In addition to the general site lighting requirements, for Military Police Facilities, provide exterior lighting for the staff and public parking areas, for active operational areas, for storage and impoundment areas and for the pedestrian walks around the facility.

3.8.2. Interior Lighting

Provide fluorescent luminaires with electronic programmed start fluorescent ballasts.

3.8.2.1. Illumination target level is 50 foot-candles for the PPE Gear Storage Area, Protective Clothing Laundry, Equipment Maintenance/Wash/Disinfection Area, fire extinguisher, Maintenance and Storage Area (also provide task lighting at work/service bench), dispatch Area (also provide task lighting at the desk), Day/Training Room (including kitchen), Apparatus Bay and Hose Storage Area. Apparatus Bay lighting design shall incorporate the design elements per UFC 3-530-01 for a Maintenance Facility Vehicle Storage/Repair Area. The illumination is the same for the following rooms if they are included in the project facility: SCBA Maintenance/Compressor room, EMT Storage and Medical Storage Cabinet, Fire Chief's and Deputy Fire Chief's Offices (also provide task lighting at the desk), and Testing/Individual Study Area.

3.8.2.2. Illumination target level is 20 foot-candles for the HAZMAT/CBRNE Equipment Storage Areas, Agent Storage Area, Spare PPE Gear Storage Area, Vehicle Maintenance Equipment Storage Area, Deployment Gear Storage area, and Vending Area.

3.8.2.3. Illumination target level is 0.5 foot-candles for the Outdoor Patio/BBQ Area.

3.8.2.4. Provide dimming controls for the lighting in the Day/Training Room (including kitchen) and Recreation Room.

3.8.2.5. Provide under cabinet counter lighting where wall cabinets are used above counter tops.

3.8.3. Interior Power

Provide convenience outlets at minimum 10 foot intervals along the walls. Provide GFCI outlets in the apparatus bays, restrooms, kitchen and water accessible work areas. Provide weatherproof GFCI outlets for all exterior outlets.

3.8.4. Emergency Power

Provide an Emergency Power Supply System (EPSS) in accordance with NFPA 110 for Class X (minimum time 8 hours), Level 1, Type 10. Provide Bypass-Isolation Switches to bypass and isolate the transfer switch. Provide on-site fuel supply. Prime movers shall not be solely dependent on a public gas utility for their fuel supply. Provide means for automatically transferring from one fuel supply to another where dual fuel supplies are used. Provide 100% emergency generator back-up power for HQ/Main and Large HQ stations. For Satellite stations, provide emergency back-up power, at a minimum, for the following spaces/systems:

3.8.4.1. Apparatus Bay lighting and doors and associated controls/signals

3.8.4.2. Watch Desk/Dispatch, On-Duty MP Desk Activity, and all associated equipment

3.8.4.3. Information Technology (IT) systems related to the dispatch and communication functions

3.8.4.4. All facility lighting

3.8.4.5. Facility Power: Site specific installation mission requirements identified in Paragraph 6.0.

3.8.5. Interior Power

3.8.5.1. When facility electrical design includes a 480/277V power distribution system, mechanical systems and lighting systems shall generally be fed from the available 480/277V power distribution system.

3.8.5.2. In general, provide wall duplex outlets, not less than 10 feet on center. Provide not less than one duplex outlet per wall on walls less than 10 feet long. Locate outlets to eliminate the need for extension cords.

3.8.5.3. Above counter receptacles shall be mounted in the vertical wall space above the counter-top.

3.8.5.4. Data, CATV, and similar electronic equipment outlets shall each be provided with an associated duplex receptacle.

3.8.5.5. Provide GFCI outlets in the apparatus bays, restrooms, kitchen and water accessible work areas. Provide weatherproof GFCI outlets for all exterior outlets.

3.8.6. Special Power Requirements

3.8.6.1. Apparatus Bay: Provide apparatus bay doors with a signaling system to indicate fully raised doors with a red/green indicator located on the driver's side at 6 feet above finished floor. Locate all outlets at 36 inches above finished floor. Provide self-retracting electric drop cords between vehicles that can reach to either end of the bay.

3.8.6.2. Vehicle Maintenance Bay: Provide vehicle maintenance bay doors with a signaling system to indicate fully raised doors with a red/green indicator located on the driver's side at 6 feet above finished floor. Locate all outlets at 36 inches above finished floor. Provide self-retracting electric drop cords between vehicles that can reach to either end of the bay.

3.8.6.3. Hose Storage: Provide dedicated outlets to support drying equipment.

3.8.6.4. Station Officer's Office/Watch Desk: Provide outlets as needed to support the extensive equipment required. Provide two additional quad outlets at the control center console. Provide a switch controlling operation of apparatus bay doors.

3.8.6.5. IT Room: Provide outlets as needed to support the extensive equipment required. In addition, provide two spare quad outlets. In addition to providing generator backup power for the computer file server and for all dispatch and alarm systems, provide uninterrupted power supply (UPS) that will provide uninterrupted flow of power to gap between the time of power loss and the time that the generator is providing power. Provide transient voltage surge suppression in the electric panel(s) serving the IT Room(s). Provide a Stored Energy Power Supply System (SEPSS) UPS in accordance with NFPA 111 for Type O, Class 0.25, Category B, Level 1.

3.8.6.6. Kitchen: Provide dedicated outlets to accommodate all non-portable kitchen equipment.

3.8.6.7. Fitness Room: Provide dedicated wall or floor outlets as needed to accommodate fitness machines such as treadmills, bikes and stair-step machines. Provide dedicated circuit to accommodate the sauna's heating element.

3.8.6.8. Laundry Room: Provide additional outlet at the folding table.

3.8.6.9. Recreation Room: Provide additional outlet(s) to accommodate game equipment. Refer to the project Paragraph 6 for the number to be provided.

3.8.6.10. Vending Area: Provide dedicated power and outlets required by vending machines. Refer to the project Paragraph 6.0 for the number to be provided.

3.8.6.11. Department Training Room: Provide direct power to each work table.

3.8.6.12. Testing/Individual Study Area: Provide direct power to each computer/study coral and for other equipment such as printers.

3.8.6.13. Dispatch: Provide UPS for all dispatch room systems. The UPS shall provide an uninterrupted flow of power to gap between the time of power loss and the time that generator is providing power. Provide outlets as needed to support all equipment, including charging equipment for handhelds. Provide switch controlling "open" only operation of apparatus bay doors. Provide light and audible control for the following elements when the firefighter alert system is activated: dorm room lights (the dedicated alert light), corridor lights

from dorm rooms to apparatus bay and the apparatus bay lights. The UPS shall be a Stored Energy Power Supply System (SEPS) in accordance with NFPA 111 for Type O, Class 0.25, Category B, Level 1.

3.8.6.14. Outdoor Patio/BBQ: Provide minimum of four weatherproof GFCI outlets with additional outlets provided as needed to support functional requirements).

3.8.6.1. Provide Military Police Facilities with power to a switch which disconnects the intrusion detection system supplied from the line side of the distribution panel. This is required to prevent AC power from being inadvertently or intentionally interrupted. The disconnect switch handle shall be capable of being padlocked in either the on or off positions.

3.8.6.2. Special Equipment for Military Police Facilities: The electrical power requirements of all electrical or electronic equipment and fixtures shall be determined and provided. Special Equipment includes reproduction/duplication equipment; photographic equipment; electronic data processing and communication equipment; recording and transmission equipment; and special intrusion detection and alarm devices. In addition, rough-in/provide empty electrical conduits as needed to support installation of Special Equipment communications cabling and interconnections.

3.8.7. Mass Notification

Provide the Mass Notification System (MNS) combined with the Fire Alarm System to prevent duplication of devices and maintenance and should interface with the installation MNS to provide emergency notifications of an area, regional or national nature. Designer should also consider combining with the Public Address System (PA) for further cost savings.

3.8.8. Firefighter Alert System

Firefighter Alert System shall provide visual/audible alerts, features, and controls. Provide simultaneous light and audible control for the following spaces when the firefighter alert system is activated: Dorm Room lights (the dedicated alert light), corridor lights from Dorm Rooms to the Apparatus Bay, and the Apparatus Bay lights. Provide controls for the system at the Station Officer's Office/Watch Desk and at the Dispatch Desk. Provide the Fire Chief's and Deputy Fire Chief's Offices with a dedicated alert light fixture that is controllable from the Watch Desk/Dispatch and tied into the firefighting alert system with a red-tinted bulb or lens.

3.8.9. Hazardous Locations

Hazardous locations shall be clearly defined by the designer based on the intended use of the facility and applicable criteria. Receptacles, devices, equipment and wiring in hazardous locations shall be designed (UL listed for the application) and installed in accordance with the NFPA codes. When hazardous locations are determined to be up to 18-inches above the finished floor, receptacles and devices and conduit routing to them shall be installed above the hazardous area or at the height required by the paragraph Special Power Requirements, whichever is higher.

3.8.10. Grounding

The building shall have a ground grid around the perimeter for grounding incoming service, building steel, lightning protection, telephone service, piping, and internal grounding requirements. Provide ground straps as required above and connect to the building grounding system. Provide grounding points in vehicle and equipment parking areas on 40 foot centers (maximum) and coordinated with the power and data bollard units. Additional grounding may be provided based on project requirements.

3.8.11. Cathodic Protection System

Corrosion protection for the facility shall be provided by coordinated material specification and/or provision of a cathodic protection system to assure corrosion will not compromise system operation for the 50-year infrastructure design lifetime of the facility. Provide an appropriate cathodic protection system when the design analysis of a corrosion engineer indicates cathodic protection is recommended to assure corrosion will not compromise system operation for the 50 year infrastructure design lifetime of the facility.

3.9. TELECOMMUNICATIONS REQUIREMENTS

Telecommunications design shall be in accordance with the Technical Guide for Installation Information Infrastructure Architecture (I3A). In the I3A Technical Guide, the word "shall" shall be substituted for the word "should" throughout the document.

3.9.1. Service

Coordinate service with local DOIM personnel.

3.9.2. System

Provide a fully operational system from the demarcation point to each outlet.

Coordinate any closed-circuit television (CCTV)/camera systems with the appropriate Installation security office.

3.10. CABLE TV (CATV) REQUIREMENTS

All CATV outlet boxes, connectors, cabling, and cabinets shall conform to the I3A Technical Guide unless noted otherwise. All horizontal cabling shall be homerun from the CATV outlet to the nearest telecommunications room. Provide outlets in day rooms, recreation rooms and training areas and provisions for programming input to specific outlets from sources in the IT room.

3.11. FIRE ALARM REQUIREMENTS

There shall be one complete addressable Fire Alarm System for each building. Combine system with MNS and consider incorporating PA system to reduce device and maintenance costs. This system shall consist of a control panel, a communications device, initiating devices, notification devices and associated wiring and pathways. Class A addressable systems shall be installed.

3.11.1. Smoke detectors in dorm rooms shall be monitored. Tampering with a smoke detector shall send a trouble signal to the control panel

3.11.2. All software, software locks, special tools and any other proprietary equipment required to maintain, add devices to or delete devices from the system, or test the Fire Alarm system shall become the property of the Government and be furnished to the Contracting Officers Representative prior to the final inspection of the system.

3.11.3. Provide Military Police Facilities with a smoke detection system for all the Military Police Facilities air-handling systems, arranged in such a way that these systems supply 100% of outside air and exhaust all the air circulated whenever smoke is detected in the air handling system or the fire alarm system is activated. This is to clear the building of smoke, which is a greater hazard to people than fire. In addition, provide smoke detectors in all areas where fires could start and not be detected easily, such as evidence and records storage rooms, janitor's closets, interview rooms and under floating or raised floors. Fire and smoke control in air-handling systems shall be in accordance with NFPA Standard 90A.

3.12. ELECTRONIC SECURITY

Comply with physical security measures and procedures for securing arms, ammunition, and explosive (AA&E) facilities specified in Army Regulation (AR) 190-11 and include emergency power supply, intrusion detection system (IDS), closed circuit television (CCTV), and electronic entry controls (EECS).

3.12.1. Emergency Power

Provide emergency power requirements for the electronic security system. Coordinate the requirement with the local user.

3.12.2. Auxiliary Support Power

Provide a protected, independent, backup power supply that provides a minimum four hours of uninterrupted power at worst case operational conditions, however six hours is required for testing validation purposes at nominal conditions.

3.12.3. Electrical conduit

Install empty electrical conduit for the IDS, CCTV and EECS. Use empty electrical conduit where future electronics equipment is required. Install empty conduit for data transmission lines to be located inside the protected area in electric metallic tubing that complies with [UFGS 26 20 00](#), paragraph 2.2.4. The electrical metallic tubing couplings and connectors shall be compression type. Enclose empty conduit for data transmission lines that exit the protected area but are still located interior to the building, in intermediate metal conduit that complies with UFGS 26 20 00, paragraph 2.2.3. Empty electrical conduit for data transmission lines that exit the building, shall be enclosed in rigid metal conduit that complies with UFGS 26 20 00 paragraph 2.2.1.1.

3.12.4. Security Equipment for Military Police Facilities

3.12.4.1. Intrusion Detection System: Intrusion detection devices are required for the mail, arms, and evidence rooms and for other special space where intrusion detection is required to maintain secure conditions.

Intrusion detection devices and other security equipment shall be connected to the military police station security monitor. Locate annunciator/register panels in the on-duty operation area. Duress alarms switches shall be placed at the military police station security monitoring station.

3.12.4.2. Electronic Entry Control System: The EECS shall permit ingress to or egress from controlled areas by authorized individuals. Separation of public and security activities shall be accomplished using electronic entry controls. The Electronic Entry Control System shall be compliant with Federal Information Processing Standard (FIPS) 201 and the proximity cards shall be compliant with ISO 14443.

3.12.4.3. Closed Circuit Television (CCTV): CCTV shall be installed to monitor the secured parking areas as well as exterior entrances to the building and other sensitive area as determined by the Provost Marshal and Security Office.

3.12.4.4. Security Lighting: Perimeter lighting shall be positioned and designed to enable the detection of persons in the entire clear zone and outside the outer perimeter fence. The CCTV outdoor lighting must illuminate the camera field of view so that the maximum light-to-dark ratio does not exceed 6, while providing a minimum illumination level of 2 foot-candles throughout the assessment area.

3.13. ATTACHMENTS

Attachment A - The Army Standard for Consolidated Fire, Safety and Security Facilities (DRAFT), September 2008