Squadron Operations & Aircraft Maintenance Unit

Design Guide
Letter from the Commander

Air Combat Command has a long heritage of facilities excellence. Quality facilities which meet the users’ needs, are technically sound and compatible with their environment enhance mission effectiveness and readiness.

The Squadron Operations and Aircraft Maintenance Unit facilities are among the most important in the Air Force. As such these facilities must provide the space and elements to be functional, safe, and foster pride that will reflect in unit performance.

As we improve the functionality of our Squadron Operations/Aircraft Maintenance Unit facilities with good upfront planning and smart decision-making, Air Combat Command will continue its tradition of providing design and facilities excellence.

This guide was developed to set the standard for Squadron Operations and Aircraft Maintenance Unit facilities. This guide should be used during the programming, design, and construction process to ensure we provide quality facilities to our Airmen. The concepts in this document have as much to do with common sense and mindset as with the need for funding. Quality facilities and tight budgets are not mutually exclusive.

Signature

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Lieutenant General, USAF
Commander
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PLANNING, PROGRAM & SPACE CRITERIA
A well designed Squadron Operations and Aircraft Maintenance Unit facility is vital for improving the productivity of the Air Force’s most valuable resource - its people. The design and image of the facility have a lasting impact on the quality of mission readiness. It should establish a high level of professionalism and expectation.

Selection of a logical, convenient site is to be followed by a building that addresses the street and its neighbors. A well-landscaped, attractive parking lot should be situated beside or behind the facility outside of the secure area and should be large enough to meet the individual needs of the mission. The building exterior should offer a distinctive character that is appropriate to its surrounding facilities with a functional and inspiring interior that fulfills the needs of the mission crews and their support staff. It is essential for the designer to be aware of the Base Architectural Standards and the Air Combat Command (ACC) Architectural and Interior Design Standards when designing the facility, in addition to the general reference materials as listed in the back of this design guide.

When planning and programming for Squadron Operations and Aircraft Maintenance Unit Facilities, four typical functions must be included: Command and Administration, Mission Planning and Briefing, Life Support Area, and Mission Support. Each of these functions is expanded on in the sections that follow and are revisited in the sections titled Squadron Operations Center (SOC) and Aircraft Maintenance Unit (AMU) later in this design guide. Space requirements for each area are based on the airframe and missions hosted by the facility and are determined by the Squadron Commander.

Shared spaces can be used where scheduling is practical to achieve cost savings and reduce the footprint of the building in the valuable real estate of the flight line. The design team should consult the Squadron Commander to identify those spaces that could be shared without compromising the readiness or mission capability of the squadron. Spaces that should be considered for sharing include the non-secure Computer Center, Mechanical and Electrical rooms and Standardization and Evaluations Training Classrooms. A single secure and non-secure Large Briefing Room should be provided as shared space between the Squadron Operations and Aircraft Maintenance Unit.

Command and Administration

In general, the Command and Administration area of the facility is home to private office spaces for the command, non-private offices and areas for crewmembers, administrative areas and other general use support spaces.

Typically there are private offices dedicated to the Squadron Commander, Director of Operations (DO) and the Flight Crew Chief. Some of the Administrative Support offices are individual enclosed offices spaces to ensure privacy when dealing with sensitive personnel matters.

Other non-private or shared enclosed office spaces are provided for crewmembers and support staff to complete paperwork, study and confer privately with colleagues, and to meet the needs of outside contractor support where it is anticipated. These spaces include areas for the Flight Operations Orderly Desk, Operations Desk Office, Flight Crew Shared Offices, Life Support Area and the Communication Center for computer maintenance and data/telecommunications network support.

Support spaces for general command and private use include the Scheduling Area, Conference Rooms, Standards and Evaluation Training Classrooms, Ready Room and Heritage Room. A Fitness Room with adjacent Locker Room should also be provided due to the distance the installation facility would normally be located from the flightline, the importance of physical training for flight and maintenance crews, and the incompatibility of crew schedules with general fitness center hours of operation.
Life Support Area

Although the Life Support Area is not located within the secure section of the facility, this area is secured with access using a code based cipher lock door hardware system. The Life Support Area includes a private office for the Life Support Superintendent, work space and counters for the equipment maintenance shop, equipment storage, personal crew equipment lockers and a mobility storage area. The Life Support Shop is set up for the maintenance, testing and storage of oxygen equipment, aircrew chemical warfare equipment, survival gear, with a separate night vision goggle (NVG) fitting and adjustment room. There are also personalized lockers for the storage of Aircrew specific Life Support equipment, such as crew equipment, flight suits, helmets and other personal flight gear, which must be separate from adjacent bath and shower area. The mobility storage area is a climatic controlled space connected to the flight line through roll up doors and is large enough for storing and maneuvering life support pallets.

Mission Planning and Briefing

This secure environment should be constructed as a “vault”, in accordance with the requirements for a “SCIF”, for control and management of classified documents and information. Entry into this area is through secure entry systems. The functional spaces provided in this area include Mission Planning and Briefing rooms with capacity to accommodate at least 60 persons, a Library for storing classified files and reference materials, and an Intelligence and Weapons Center with a Weapons Task Trainer. There is a separate, secure Communications Center for this area operating on a dedicated, secure network through shielded fiber optic cabling.

Mission Support

The Mission Support area of the facility is organized to support functions of the Aircraft Maintenance Unit. These functions include private office space, non-private office space and areas for crewmembers, administrative areas, support spaces, aircraft maintenance hangar and COSO support.

Typically there are private offices for the Officer in Charge (OIC), the Non-Commissioned Officer in Charge (NCOIC), Section Chief, Production Supervisor, Technical Representative, Dispatch, and Scheduled Maintenance. Some of the Administrative Support
offices are individual enclosed offices spaces to ensure privacy when dealing with sensitive personnel matters.

Other non-private or shared enclosed office spaces are provided for mission crewmembers and support staff to complete paperwork, study and confer privately with colleagues, and to meet the needs of outside contractor support where it is anticipated. These spaces include areas for the AMU Orderly Desk, Orderly Desk Office, AMU Shared Offices, and the Communication CAMS (IMIS) room for non-secure computer maintenance and data/telecommunications network support.

Support spaces for general mission crew and private use include the Conference Rooms, Roll Call Room, Maintenance Debriefing, Standards and Evaluation Training Classrooms, Locker and Laundry Room, Ready Room, Heritage Room and an adjacent outdoor recreation space.

The Aircraft Maintenance Hangar should be co-located with the COSO Support tool storage, tracking and parts storage (open and secure) and mobility storage area.
SITE EVALUATION CRITERIA
Site Elevation Criteria

Squadron Operations and Aircraft Maintenance Unit facilities should be located near or adjacent to the secured area of the flightline, the Squadron’s aircraft maintenance hangars, and near the appropriate aircraft simulator facility with clear visual identity and access from a major roadway. The site plan should include provisions for the following:

- Signage
- Landscaping
- 45-meter setback from secure perimeter for Force Protection
- 25-meter road and parking setbacks within secure perimeter for Force Protection
- 10-meter setback between Primary Occupied Buildings for Force Protection
- Secure gate into building from parking lot
- Two clear points of entry to include a main entrance from flightline and a rear entry from the street and/or hangar
- Clear level access between the flightline and hangars
- Pedestrian circulation to related facilities
- Mission crew and support staff parking of adequate size to accommodate shift changes
- Dedicated parking for Maintenance and Operations GOV’s
- Contractor parking
- Student parking (where specified as part of the mission)
- Easy access for facility users
- Delivery and Service entrance with motion sensor activated sliding glass doors on the Maintenance side of the facility
- Maintenance storage area
- Covered, outdoor storage area with roll-up garage door for ISU/pallet build-up and mobility storage
- Future expansion

Site Size

Select a site large enough to provide adequate space for exterior functions, vehicle parking, and future expansion. A preliminary site design should be designed to ensure the basic building and site criteria can be accommodated.

Access and Visibility

The facility should be located within the secured flight line area with a strong visual relationship and pedestrian connection to the Squadron Operations and Aircraft Maintenance Unit facility, hangars, and flight lines. This connection is important in providing convenient access for flight crew and mission support staff with access or visual connection to the flight simulator facility. Where it does not interfere with movement on and around the flight line by maintenance support vehicles and aircraft, the Aircraft Maintenance Unit may be attached to the Squadron’s aircraft maintenance hangars.

Site Checklist

1. Is the facility located outside explosive safety clear zones?
2. Is the proposed site on designated wetlands or flood plains?
3. Is project coordination with appropriate state and area wide clearing-house/agencies required?
4. Has the Base General Plan been consulted?
5. Is the facility site in a compatible land use area?
6. Does construction require excessive site work?
7. Are utilities readily available and adequate? Note in CCD when utilities are not adequate.
8. Is project coordination with the regional Federal Aviation Administration required?
9. Is the project located in a former waste disposal area, landfill site, fuel saturated area, or other site identified in the Installation Restoration Program?
10. Has the project been sited in accordance with all appropriate force protection requirements?

Utility Supply Requirements

The facility should be located near major utilities, including water, sewage, electricity, communication lines and gas lines.
SITE SELECTION AND DESIGN
SITE SELECTION

This is generally part of the master planning process and is completed prior to DD Form 1391 preparation for an individual project.

Site Organization

Preserve and take advantage of dominant or attractive natural landscape elements, such as topography and foliage, or built features of the site and its surroundings to help define and organize the site. Areas of the site that could benefit from this definition include the main entry, major streets or facilities, related nearby facilities, dominant road axis or other base elements. The overall design should present an attractive image for the facility while maintaining compatibility with the planning and style of adjacent existing structures.

The building should be located on the site to reflect local climatic conditions and take advantage of passive solar heating and day lighting of administrative and recreation areas where available. Whenever possible, provide protection from undesirable winds and glare, expose activity areas to the sun in cold climates, shade from excessive sun in warm climates, and orient operable windows to utilize summer breezes.

Consideration should be given to the organization of the site when specifying location and proximity between the flight line and aircraft hanger. Minimize the distance workers need to travel when carrying heavy loads.

Refer to the Site Plans within this document for other Squadron Operations and Aircraft Maintenance Unit facility site organization examples.

Access Design

Ensure that dimensions of access roadways and service entrances meet force protection requirements for parking and road setback distances and can accommodate anticipated vehicle sizes or fire protection access. Roadways should not be oversized thus discouraging high-speed traffic.

Parking areas should be located on the site away from the street entrance to uphold the public image of the facility. Encourage co-located parking and facility arrangements to enable occupants and visitors to conveniently park once and circulate on foot for most flight line activities. Dedicated parking spaces should be provided for government owned vehicles (GOV's), privately owned vehicles (POV's), student and contractor vehicles and motorcycles. POV parking spaces shall be paved asphalt and quantities based on the total positions assigned per largest shift. Provide one space per building occupant plus spaces for visitor parking. Additional student and contractor parking spaces shall be based on mission and anticipated peak requirements and co-use by adjacent facilities. Parking for Tow Vehicles on one side of the hangar for Heavies in case of emergencies will be required along with dedicated parking spaces for Life Support Vehicles outside of the Life Support shop.
The Life Support shop and the Aircraft Maintenance Unit Tool and Part Storage will need easy, level access provided from the flight line and hangar through motion sensor activated double sliding doors for workers carrying heavy loads (parachutes, survival kits, survival gear, tool boxes, etc.) and pushing tool carts.

**Site Utilities**

Standard utilities such as water, sanitary sewer, storm drainage system and fire suppression sprinkler supply, natural gas, steam service or fuel oil system, whichever is used, and electric power supply should be provided. Telephone and fiber optic communication lines for LAN, secure communications and the fire alarm system(s) should also be provided.

**Landscaping**

Provide a zeroscaping landscaping approach or one that includes native landscaping materials low maintenance using only approved plant material identified in the base’s Architectural Compatibility Guide. Consider using ground cover instead of turf with a water-conserving underground irrigation system when appropriate to the climate and planting design.

**Outdoor Recreation Space**

Outdoor recreation space, located on the exterior perimeter of the building adjacent to the Ready Room and the Heritage Room, should be provided and include benches, tables, paved walkways and landscaping. The recreation space should be enclosed with secure perimeter fencing, if required to meet AT/FP Standards and base security requirements for the location, and have a secure entry into the building using card swipe door hardware.

A designated “Smoking Area” should also be provided. This covered and shielded area outside of the hangar should be designed to complement the Squadron Operations and Aircraft Maintenance Unit Facility. No wooden gazebos are allowed to be used for the “Smoking Area.” Other specific requirements will vary by base.
BUILDING DESIGN
The primary entrance of the facility should be oriented toward the flight line to allow the crew and mission support staff to easily access the functional areas of the facility. A vestibule will be required for sound control at all entrances with the lobby containing the orderly desk as the distribution point for directing people to the primary functions of the building. A secondary, or rear, entry should be provided for access to the hangar and the street.

Consider easy access to outdoor spaces from Ready Rooms, Operations Center, Life Support Shop, Heritage and/or Ready Rooms, and Briefing and Debriefing when possible. Quiet spaces within the facility should be shielded from the noise of recreation, aircraft, equipment, and traffic.

Provide easy access into the facility for servicing of mechanical equipment and maintenance functions such as trash disposal. Mechanical areas do not need to be located adjacent to the street or roadway for service access. Reinforced sidewalks with a driveway curb cut can be used instead. Areas such as the mechanical yard and the trash disposal area will need to be screened with a material compatible with the existing architectural character of the base facilities.

Refer to the Space Relationship Diagrams and the sample facility Floor Plans provided in this design guide for a graphic and detailed example of the building organization, circulation, room sizes and adjacencies.

**Architectural Character and Interior Design**

To present a cohesive architectural image, the architectural and interior design must be integrated while designing a Squadron Operations and Aircraft Maintenance Unit facility. Both involve functional analysis and consideration of the appropriate environmental character, building organization and circulation, supervision and flexibility requirements, as well as finishes and furnishings.

The overall design of the facility should reflect regional and local base architectural character or style including major exterior materials and colors. Create a theme that is compatible with the base architecture and applies continuously to the entire facility design from an overall
architectural statement to specific interior design. Space planning, building form and development of elevation, materials, and details should reinforce continuity of space. Be sensitive to the natural flow of sequenced spaces. Circulation paths should accommodate personnel and equipment and finishes are to be selected for effectiveness in terms of life cycle cost. Review the base Architectural Compatibility Guide to assure the design complements existing architecture.

**Flexibility and Expansion**

Design of the facility should accommodate change and expansion without major redesign of the initial project. Interior partitions should be constructed of materials and methods that enable future users to employ self-help for minor floor plan alterations. Examples include changing the size of Briefing Rooms or other areas subject to change as result of a change in type of airframe or mission (i.e. operational squadron to teaching squadron). This can be achieved by using lightgage steel framed walls with sound attenuating insulation, non-penetrating to the ceiling tiles and grid. Support and administrative facilities should allow flexible layout of furnishings by using modular-type furnishing systems.

**Handicap Accessibility**

All functional public areas, including entrances, corridors, and restrooms, shall be barrier-free and accessible to the physically handicapped in accordance with the Americans with Disabilities Act (ADA) and Uniform Federal Accessibility Standards (UFAS). All signage, door hardware and special equipment such fire alarms located in these areas shall also be barrier-free and meet the codes established by the ADA and UFAS.

**Special Considerations for Renovations**

All design and building organization and circulation criteria apply to renovation projects, as well as new construction. Renovation areas should be phased, with functions on-going in the operating facility. If required, the renovation should transform the image of the existing structure, inside and outside, to reinforce its identification as a Squadron Operations and Aircraft Maintenance facility. This may require substantial facade renovation and interior redesign to achieve the appropriate quality and character.
**Signage**

Interior and exterior signage should be designed and specified in accordance with the current ACC Sign Policy. Regulation signs should be located where specific warning or prohibitory information is required and handicap access signage clearly identified.

**Data**

Locations requiring data accessibility should be pre-wired with cable and receptacles provided to accommodate computers and printers. Dual shielded fiber optic cable and receptacles shall be used in secure areas. A system of empty raceways should be provided in ceilings and walls with pull wire, outlets, and cabinets for future secure communication lines and data installations in all operational spaces such as Briefing Rooms, Mission Planning, Offices, Classrooms, Workrooms, Standards and Evaluation Rooms, Training Classrooms and the Life Support Shop.

**Telecommunication Lines**

Provide a central Communication Center inside the building, separate from the Mechanical and Electrical rooms, to serve all non-secure aspects of the facility. An additional Communication Center should be located in the secure area of the facility to serve only the secure spaces within the facility. All internal classified network telecommunication lines are to be run with shielded fiber optic cabling for security. Verify the need for fiber optic cabling to and within the facility with the Squadron Commander and the Base Communications Squadron.

Locations within the facility requiring telecommunication and multi-line communication capability should be pre-wired with receptacles and access provided from the building interior. Please refer to the Matrices located in this document for area specific telecommunication and data requirements. Provide for equipment capable of receiving telecommunication lines display devices for hearing impaired calls.

Plan for an internal communication system with the central intercom console located at the Orderly Desk. The system should include hands-free telephone, a two-way intercom system throughout the facility capable of addressing all rooms or a single room at one time and ceiling mounted speakers.

Please contact the Base Communications Squadron for the type and quantity of shielded fiber optic communication lines, equipment, and computer cabling required.

**Video and Cable**

Videoconferencing capability and cable television access shall be provided pre-wired with receptacles where required. Videoconferencing capabilities shall be included for areas such as Classrooms, Conference and Briefing Rooms. Cable television accessibility is required in areas such as Offices, Conference and Briefing Rooms, Ready and Heritage Rooms, Intelligence Weapons Center, COSO parts and storage areas and the Computer CAMS/IMIS area.

Please refer to the Matrices located in this document for specific requirements per area. Requirements are determined by the Squadron.
Commander based on airframe and mission of the squadron.

**Structural**

Select an economical structural system based on facility occupancy size, projected load requirements, and local availability of materials and labor. Consideration must also be given to wind, snow, seismic, geologic, frost line, and other site-specific conditions. Design building structural modules to reflect space requirements, economy, and subsystem dimensions (i.e., ceiling grid, masonry units, framing members, etc.). Provide column-free spaces.

**Heating, Ventilation and Air Conditioning**

Provide heating, ventilating, and air conditioning (HVAC) systems with a night setback system and manual override, if required. System design will be a variable air volume (VAV) system with terminal reheat and frequency drive or individual water source heat pump. Each space will have its own environmental control system. Provide tamper-proof temperature sensors with remote adjustment. An active solar space heating system and/or domestic hot water heating system should be considered only if the command’s solar assessment for the base results in a savings investment ratio of greater than one. Zone HVAC systems separately in secure and non-secure areas.

**Energy Monitoring**

Perform a life cycle cost analysis of available energy sources in accordance with the appropriate standards. The uniform present worth factor and the fuel escalation rates should be the latest published by the Department of Energy. The selected systems’ total energy consumption should not exceed DoD total energy budget figures. Provide a direct digital control (DDC) system compatible with the existing base energy monitoring system (EMS).

**Plumbing**

The facility should have domestic hot and cold water supply, sanitary and storm drainage and propane or natural gas systems with shut-off valves at all fixtures provided, including gas devices in shops and Life Support. Hot water should reach temperature of 105°F for general use and 140°F at shops and Life Support. Emergency eyewash stations and showers are to be provided in the Life Support shop and workspace, and the COSO Support storage area, for safety when working with chemicals. Floor drains with trap primers should be located in all areas, such as restrooms, janitor’s closets, showers or other areas with wet floors. Filtered water coolers are required near the reception area, restrooms, and Life Support shop. Where required by local climatic conditions, frost-free hose bibs are to be provided on
all exterior walls with atmospheric vacuum breakers on hose bibs.

**Electrical Power**

Local electric service and distribution equipment, including metering, wiring, and electrical devices, are to be provided to the facility; however, an emergency backup generator should be considered, or may be required, to allow continuous mission planning and execution in the event of a power outage. Computer and network systems will need to have dedicated uninterruptible power supply on dedicated circuits located in the Communications Room. Provide for communication lines and data wiring, fire alarms, and intrusion detection system along with special power outlets and circuits for all user-furnished equipment.

**Lighting**

General exterior lighting at parking areas and walkways should have high intensity discharge (HID) light sources provided which are controlled by combination time clock/photo cells. Provide interior and exterior lighting control systems, including ambient light dimmers and multiple switching for low ambient light levels, energy conservation and reduced glare.

General lighting throughout the facility should be low glare fluorescent with low temperature energy efficient electronic ballasts and lamps, as applicable. The Computer, Mission Planning, Intel/Mapping, and Briefing Rooms should receive fluorescent light sources with ambient light level control from 25 to 50 foot-candles and supplemental incandescent accent lighting rated at 2,500 hours. Night lighting should also be provided in the corridors with emergency back up lighting systems throughout facility.

**Fire Protection**

Facilities should be designed of Type B, non-combustible construction with fire protection systems and should comply with the NFPA 101 Life Safety Code. Automatic sprinkler systems are required in newly constructed facilities and renovation projects should receive the same where feasible. Specialized equipment storage areas will require the appropriate type of fire protection system with the Aircraft Maintenance Hangars receiving a High Expansion Foam fire suppression system.

Provide heat and smoke detectors hard-wired into to the fire alarm system to activate the alarm throughout using audible and visual fire alarm systems as required by ADA handicap accessibility codes. Locate the fire detection/suppression enunciator panel for the building in the electric room with indicator panels at the primary and secondary facility entrances.
SQUADRON OPERATIONS CENTER
Flight Operations Orderly Desk

The Flight Operations Orderly Desk should be located in a location visible from multiple points of entry near the entry. Enough space for up to four personnel should be allocated at the service counter facing the lobby or corridor. The service counter should include a raised countertop with a standing height writing surface of approximately 40” – 42” for “walk up” use as well as a desk height staff counter facing the customer(s). Sufficient standing room should be anticipated to accommodate group sizes arriving during the same shift.

To accommodate personnel working behind the Flight Operations Orderly Desk, the following items should be planned for during design:

- Provide space behind counter for radio
- Built-in mailboxes for each staff and flight crewmember
- Files and storage built-in below front and rear counter
- Copy machine to support staff and flight crewmembers
- Rounded corners on casework for safety
- Electric power supply and communications capability for plasma screens to be mounted on wall behind desk in lieu of recessed computers and monitors

Operations Desk Office (also known as “Aviation Resource Management”)

The Operations Desk Office, also known as Aviation Resource Management, should be located adjacent to the Flight Operations Orderly Desk. This area will receive modular systems furniture for approximately four to six (4-6) users, providing an open office environment in this space.

Shelving and storage space shall be provided at each desk unit along with all equipment and required connections for printer and networked computers. Reduced glare artificial lighting should also be provided in this area.

Scheduling Area

Provide a Scheduling Area located adjacent to the Flight Operations Orderly Desk. This area should be equipped with dry mobile tables on lockable casters for teaming and reconfiguration purposes and dry erase marker board material with catch trays along the walls. Floor mounted electri-
cal boxes are to be located near the center of the room with the required secure connections for networked printers, computers and other required administrative support.

**Administrative Support**

An Administrative Support area should be located adjacent to the Flight Operations Orderly Desk area and on an exterior wall for natural lighting where possible. This area shall receive enclosed offices for privacy when counseling or dealing with sensitive personnel issues.

Additional items to be provided in this area include shelving and file storage space in a location to be shared by staff, reduced glare artificial lighting and all equipment and required connections for a copy machine, fax machine, printer and networked computers.

**Squadron Commander**

A private executive office space shall be provided for the Squadron Commander located adjacent to the Flight Operations Orderly Desk and Lobby and on an exterior wall for natural lighting where possible. Sufficient room shall be provided to accommodate a desk, credenza, shelving, file cabinet, four-person conference table and guest seating. The Squadron Commander will also receive a networked computer, printer and all necessary power and data connections. Reduced glare artificial lighting shall also be provided.

**Director of Operations (DO)**

The Director of Operations shall be located adjacent to the Flight Operations Orderly Desk, Lobby and on an exterior wall for natural lighting where possible. This executive space shall include sufficient room for a desk, credenza, shelving, file cabinet, four-person conference table and guest seating. The Director shall receive a networked computer, printer and all necessary power and data connections. Reduced glare artificial lighting shall also be provided.

**Flight Crew Shared Offices**

The Flight Crew Shared Offices are constructed as fully enclosed private offices with systems furniture desk, storage, shelving, and a side chair at each office. The shared offices are intended to provide temporary swing space for office, study and conferences for flight and aircraft maintenance crew not normally requiring an office to perform their primary function. They shall be located near or adjacent to the Ready Room and may be located in an interior or exterior location since natural lighting is not necessary for short-term use. Reduced glare artificial lighting shall also be provided in these areas.

**Conference Rooms**

Conference Rooms shall be located near the Squadron Commander, First Sergeant, Director of Operations (DO), Flight Crew Chief Offices, Intelligence and Weapons Officer, and Mission Planning. The size of each conference room shall be designed in accordance with the aircraft type being served in the facility and the number of ships anticipated for simultaneous mission briefing.

Each Conference Room shall receive the following:

- Wiring and connections for communication lines, cable television, LAN service, videoconferencing, and dedicated high-speed data connections for each person in the room
- Built-in ceiling mounted projection system
- Remote controlled recessed projection screen or flat panel plasma screen
- Built-in cabinets for computer, television and video storage
- Television and videocassette tape or DVD player
- Two empty ¾” conduits for future technology infrastructure cabling
Training Classrooms

Training classrooms are to be centrally located to be shared between Squadron Operations and Aircraft Maintenance Units and shall receive the following:

- Moveable desks and comfortable seating suitable for flexible arrangement with sufficient seating to accommodate needs of the squadron training requirements
- Space for special equipment to be demonstrated for training purposes
- Wiring and connections for communication lines, cable television, LAN service, videoconferencing, and dedicated high-speed data connections for each person in the room

- Built-in cabinet mounted projection system
- Built-in cabinets for computer, television and video storage
- Two empty conduits for future technology infrastructure cabling
- Minimum STC Rating of 50

Flight Crew Chief Offices

The Flight Crew Chief Offices are to be single person private offices located adjacent to or nearby the briefing rooms required for crewmembers offices and are not required to be located in the secure area of the facility. The Squadron Commander must be consulted to determine the number of flight crew chief offices required depending on the airframe (crew size and type) and the mission of the squadron (i.e. training, operational, combat, support, etc.). Provide one desk, credenza and shelving unit, computer, LAN connection and cable television connection in each office.

Large Briefing Room

The Large Briefing Room is to be used for Squadron functions and should impart an appropriate sense of importance and respect for the squadron. The briefing room will generally remain unsecured and may be located in a non-secure area of the facility; however, this large briefing room will require the ability to secure the room for specific conditions and functions.

When planning for occupancy loads, include square footage and fixed seating to accommodate the Squadron Commander, OIC, NCOIC and Flight Crew Chiefs, and eight (8) flight crews and all anticipated occupants of the building in which it is located. The fixed seating shall be placed on a theater style sloped floor for clear sightlines to the fixed rear-projection or flat-panel plasma screen. Dimmable lighting shall also be provided for use during briefings or other functions.

Provide a Media Technology room linked to LAN, cable television, and furnished with sufficient empty conduit...
to provide for future installations of briefing technologies including secure video and teleconferencing, laptop computer, projection equipment, and video players.

**Communications Center**

A central computer and communication room, shared between the Squadron Operations and Aircraft Maintenance Units, should be designed to serve all non-secure aspects of the facility. This space should an open office to accommodate two assistants with additional countertops for computer maintenance work and shelving for storage of tools and parts. There should also be one secure storage room provided for storage of computer parts and software. Anticipated growth requirements should be considered and additional space should be provided to satisfy future technology capability expansion.

Other items to consider when planning for the Communications Center include:

- Dedicated conduits for the local area network, cable television, communication lines, and two empty conduits from the computer center to all rooms in the facility
- Dedicated power and HVAC systems designed to accommodate the equipment and personnel loads
- Dedicated power receptacles to satisfy current and future needs of the facility
- Uninterruptible power supply for servers and individual computers - an electrical generator to supply dedicated computer supply could also address this requirement

A separate, secure computer center for Mission Planning and all secure functions should be centrally located in a secure environment. Please refer to Secure Computer and Communications section and the Matrices located in the document for area specific requirements.

**Secure Areas “VALT”**

The Secure Area “VALT” should be located in accordance with DoD standards and constructed as a SCIF to provide a secure environment for storage and handling of classified documents. Please refer to the DCID 6-9, Physical Security Standard for Sensitive Compartmented Information Facilities and DCID 1-21, Construction Guide. A US-Only space and a separate Foreign Nationals space should be provided.

All secure areas shall have single point of entry with an interior corridor system between rooms, cipher lock door hardware at the vestibule and other areas as required for a secure entry system and additional alarmed fire exits with no hardware for re-entry as required. A "hard lid" drywall ceiling is required above the lay-in acoustical ceiling with a cabling infrastructure for secure data and communications network including two empty ¾” diameter conduits for future cabling. Dimmable lighting should be provided as required on a per room or per area basis.

Several separate areas are contained within the Secure Areas “VALT” including Mission Planning, Mission Briefing Rooms, Intelligence and Weapons Center, a Weapons Task Trainer,
Library, and a Secure Computer and Communications Center.

- **Entry into Mission Planning**
  should be from the secure corridor. Standing-height built-in work surfaces 30” wide and 40” - 42” high, wall-mounted erasable “white boards”, storage area for maps and charts and dimmable lighting should be provided in this space.

- **The Mission Briefing Rooms**
  should be located within the secure area “VALT” adjacent to the Flight Crew Chief Offices, Intelligence and Weapons Officer, and Mission Planning. The size of the Briefing Rooms shall be designed in accordance with the aircraft type being served in the facility, and the number of ships anticipated for simultaneous mission briefing.

- **Example: F-15E’s** two-person crew briefing in two-ship configuration should provide space for simultaneous use by a four-seat conference table and one or two (1-2) persons scheduled to provide the briefing.

Mission formations flown also impact briefing requirements. Missions are typically flown in two-ship and four-ship configurations, which should be multiplied by the crew size for the airframe being supported. The typical requirement for a squadron includes four 2-ship briefing rooms, and two 4-ship briefing rooms. Please consult with the Squadron Commander for specific requirements to verify number and size of briefing rooms. Certain aircraft and their missions require larger crews with multiple functions that might be broken into additional concurrent mission briefings. Note that the required sizes will exceed AFI 32-1084 standards due the specialized function and requirements for audio-visual equipment and movements around furniture. Exceptions to this standard must be formally submitted to the Air Force to revise AFI IAW Chapter 1.

Other requirements for the Large Briefing Room include the following:

- Cipher lock door hardware for secure entry into the briefing rooms
- Built-in ceiling mounted projection system with a remote controlled recessed projection screen
- Built-in cabinets for computer, television, video cassette tape player and video storage
- Electric and communications connections for plasma screen televisions with computer hook up to replace previously used white dry erase marker board with display rail
- Minimum ¾” diameter conduit and cable trays (for non-secure wiring) to provide for wiring and connections for communication

Please refer to the current Air Force and ACC Guidelines for specific sizes and quantities for Mission Briefing Rooms for Flight and Operational Crews, and for shared Large Briefing Rooms.

Training squadrons have higher occupancy requirements to provide space for instructors and classroom activities. Squadron mission must be verified and additional space must be provided for instructions when squadron mission includes training functions.
lines, cable television, LAN service, videoconferencing, and dedicated high-speed data connections for each person in the room, including two empty conduits for future technology infrastructure cabling.

- **Dimmable lighting**

- **The Intelligence and Weapons Center** will require cipher lock door hardware for secure entry into the space with a 16’ x 20’ Intelligence Room and a 16’ x 20’ Weapons Room. A Plan Room should also be included to accommodate two to three (2-3) personnel, with document storage shelving and racks.

- **A Weapons Task Trainer (WTT)** space should be located in the secure area of the Squadron Operations facility with an area requirement of approximately 10’ x 10’ +/- to accommodate one simulator. One workstation for the Cockpit Trainer should be provided with space to accommodate a CPU and 17” monitors. Special electrical requirements will need to be coordinated as necessary to provide electrical supply to the simulator.

Other requirements for this area include a 36” clearance at entry for disassembles, cipher lock door hardware for secure entry into the space, fiber optic cabling for secure computer network and a self-contained area without LAN, dedicated HVAC to accommodate servers in this space. No special ceiling height is required.

- **A Library** should be located in the secure area of the Squadron Operations facility with entry secured with cipher lock door hardware. Custom casework shelving and storage for CD’s and other electronic file formats, secure files and reference books should be provided along with tables and chairs for approximately six persons.

- **A separate Secure Computer and Communications Center** for Mission Planning and all secure functions should be centrally located in a secure environment. This space should be secured using cipher lock door hardware for secure entry. Although this space is secure, the servers may service computers throughout the facility. The size of this space and computer infrastructure will be determined by the Squadron mission requirements. Please refer to the Matrices located in the document for area specific requirements.

### Life Support Area

The Life Support Area includes a Superintendent Office, Work Space, Shop, Life Support Equipment Storage, Lockers, and Mobility Storage. This area should be located on an exterior wall for natural lighting at the ground floor with convenient access from the second floor where a multi-story facility is used. Cipher lock door hardware shall be provided at the Life Support Area entry for security purposes. Exterior double doors and/or sliding doors with a motion sensor should be included for moving equipment in and out of the Mobility Storage area. The Life Support Superintendent must be involved in the preliminary layout of Life Support Area since space requirements vary by base.

- **The Life Support Superintendent Office** is a private administrative office consisting of a desk, shelving, locking file cabinets and equipment with required
connections for telephone and computer connections.

Provide open Work Space with pre and post flight counters near the locker room with LAN and phones for four (4) workstations in Life Support. Distance between the work stations and the locker rooms should be minimized.

Provide sufficient lighting throughout the entire Life Support Shop with special attention to the equipment maintenance work areas. Life Support equipment maintenance areas shall have grounding/static rails for electrostatic discharge. Ensure Technical Order 00-25-234 is reviewed for applicable guidance. Dedicated space should be provided for personal oxygen testing with a separate area for oxygen bottle maintenance.

A vault for storage of explosive munitions (weapons, flares and flare guns, oxygen bottles, etc.) and 9mm weapons should be provided following consultation with the base explosive safety and security offices to ensure IAW and DoD standards are met.

- One dedicated, light and climate controlled night vision goggle (NVG) maintenance room (approximately 30’ x 10’) shall be located on an interior wall to prevent accidental light infiltration. This space should include a clear, open area with an unobstructed 25-foot line of sight for NVG testing and adjustment and a darkroom with a light tight door and “In Use” indicator light on outside of room. Interior walls of the Night Vision Goggle (NVG) maintenance room shall be painted with black semi-glass paint with black, lockable storage cabinet bins with drawers and a wood/plastic laminate countertop locate on one 30’ wall.

Space and hookups for a washer/dryer should be provided in the Life Support Shop with a dryer vent to the exterior of the building and a wall mounted cabinet above the washing machine and dryer for detergent and supplies. A double bowl stainless steel sink with hot and cold water to include a built in emergency eye wash station should be provided in addition to a mop sink within the janitor’s closet.

An exhaust fan and vent should also be provided in the work area for removal of glue fumes.

Provide a dedicated space within Life Support (approximately 20’x20’) for storage of Life Support equipment with dehumidified/humidified air supply via the HVAC system for proper storage of the equipment. Humidified/Dehumidified air will be dependent upon geographical location.

Provide open Life Support Lockers for storage of crew flight suits, helmets and other personal flight gear. The quantity of lockers, locker unit setup and material will vary with air frame and as per Life Support Superintendent’s requirements. Sufficient space is required around the lockers for dressing during mission preparation. The Aircrew personalized lockers used for storage of their specific life support equipment must be separate from adjacent shower and toilet area. Climate-controlled, ventilated hanging storage area for anti-exposure suits with louvered bi/tri fold doors is required. The size will be unit dependent but should be no smaller than 3’D x 8’L x 8’H for the average fighter life support shop. Units with multiple aircraft will require additional space.
Provide a climate controlled Life Support Mobility Storage bin area (garage) large enough to hold four (4) pallets with a roll up door and allow for maneuvering with a 10K fork lift. Typical pallets are 88”L x 108”W x 96”H each. The roll up door and ceiling should be a minimum of 15’ in height and a minimum of 20’ in width.

**Locker Rooms**

Locker Room facilities shall be located in proximity to the Fitness Room, Life Support Area, Ready Room and near the Classrooms and Lounge. Each Locker Room should include a restroom area, shower facilities and private lockers to accommodate the number of users in the facility in accordance with ACC standards. Separate locker facilities shall be provided for men (85%) and women (15%) using the space and use applicable codes to establish the quantity of fixtures. All locker room facilities shall be designed in accordance and comply with applicable codes and standards established by the ADA and UFAS. A minimum STC rating of 45 should be used as well as HVAC and ventilation in each area.

Fixtures to include in each Locker Room are as follows:

- Durable vanity counter top instead of wall-mounted lavatories
- Large, continuous mirrors above vanity
- Automatic sensor controls or gang sink with foot pedal at lavatories
- Automatic flush valves on urinals
- Built-in paper towel, tissue, soap dispensers, trash and sanitary receptacles, grab bars and coat hooks
- Automatic sensor controls where applicable; i.e. lavatories, toilets, soap dispensers, paper towel dispensers, etc.
- Skid resistant ceramic tile floor finish
• Floor drains in wet areas

**Fitness Room**

A Fitness Room shall be provided with space sufficient for a full range of exercise equipment, free weights and aerobic exercise and stretching.

**Ready and Heritage Rooms**

A Ready Room and Heritage Room shall be located near the Lobby and Restrooms. This space should be acoustically separated from the Briefing Rooms and Offices with fixed partitions and the Heritage Room separated from the adjacent Conference Room with an acoustical folding partition.

A separate food preparation / kitchenette area should be located within this space and should include a handicap accessible counter top and single bowl sink, wall and base cabinets for storage, paper towel dispenser and trash dispenser, a nook for the anticipated number of vending machines to conceal the sides and rear of the machines and a separate seating area.

Power and mechanical should be considered to operate the vending machines, coffee pot, microwave oven, and refrigerator. Overhead lighting for the Heritage Room should be located on a separate circuit from the adjacent Conference Room and should receive neutral finishes to allow for squadron decorating by self help. A vinyl composition tile or laminate wood strip flooring surface should also be used in this area for maximum durability and ease of care.

**Mechanical and Electrical Rooms**

Mechanical and Electrical Rooms should be located in secondary spaces away from the Conference areas and offices with separate electrical space and communication lines in Electrical Room. Include lockable exterior door sized to service equipment with a sloped floor to floor drain in the mechanical room. A rated enclosure should be provided for equipment using combustible fuel. Do not cool mechanical or electrical spaces and provide a STC rating of 47 to 52 depending on adjacent use.
AIRCRAFT MAINTENANCE UNIT (AMU)
AMU Orderly Desk

The Aircraft Maintenance Unit (AMU) Orderly Desk should be located in a location visible from multiple points of entry near the entry. The service counter should face the lobby or corridor and include a raised countertop with a standing height writing surface of approximately 40” – 42” for “walk up” use as well as a desk height staff counter facing the customer(s). Sufficient standing room should be anticipated to accommodate group sizes arriving during the same shift.

To accommodate personnel working behind the AMU Orderly Desk, the following items should be planned for during design:

- Built-in mailboxes for each staff and flight crewmember
- Files and storage built-in below front and rear counter
- Copy machine to support staff and flight crewmembers
- Rounded corners on casework for safety
- Built-in data and communications cabling in service desk and in walls, located appropriately for anticipated furniture layout.
- Electric power supply and communications capability for plasma screens to be mounted on wall behind desk in lieu of recessed computers and monitors

Orderly Desk Office

The Orderly Desk Office should be located adjacent to the AMU Orderly Desk. This area will receive modular systems furniture for approximately four to six (4-6) users, providing an open office environment in this space.

Shelving and storage space shall be provided at each desk unit along with all equipment and required connections for printer and networked computers. Reduced glare artificial lighting should also be provided in this area.

Administrative Support

An Administrative Support area should be located adjacent to the AMU Orderly Desk area and on an exterior wall for natural lighting where possible. This area shall receive enclosed offices for privacy when counseling or dealing with sensitive personnel issues.

Additional items to be provided in this area include shelving and file storage space in a location to be shared by staff, reduced glare artificial lighting and all equipment and required connections for a copy machine, fax machine, printer and networked computers.

OIC / NCOIC Offices

Consult with the OIC and NCOIC to identify staffing and space requirements to support the specific mission and airframe. These executive spaces should be located adjacent to the Orderly Desk and Lobby with sufficient room for a four-person conference table or guest seating. Each office should receive a desk, credenza, shelving, file cabinet, networked computer, and printer. Data and communications cabling should be built into the in walls and located appropriately for the anticipated furniture layout. Locate on an exterior wall, when possible, for natural lighting and also provide reduced glare artificial lighting.

Section Chiefs Offices

The Section Chiefs are to be located in single person private offices in a non-secure area of the facility adjacent to or nearby the Briefing Rooms required for crewmembers. The Squadron Flight Chiefs, AFETS, TAMS, and Weapons will need to be consulted to determine the number of offices necessary for support of the squadron mission and airframe.

Each office shall receive a desk, credenza, shelving and computer, LAN, and cable television connections.
AMU Shared Office

The AMU Shared Offices are constructed as fully enclosed private offices with systems furniture desk, storage, shelving, and a side chair at each office. The shared offices are intended to provide temporary swing space for flight and aircraft maintenance crew not normally requiring an office to perform their primary function. They shall be located near or adjacent to the Ready Room and may be located in an interior or exterior location since natural lighting is not necessary for short-term use. Reduced glare artificial lighting shall also be provided in these areas.

Production Supervisor

The Production Supervisor should be located near the Section Chief Offices and have access and direct view to flight line. This single person private office does not require secure location. A desk, credenza, shelving units, computer, LAN, and cable television connections should be included in this space.

Technical Representative Office (Optional)

The optional Technical Representative Office should be located near the Section Chief and OIC / NCOIC offices. This single person private office does not require secure location. A desk, credenza, shelving units, computer, LAN, and cable television connections should be included in this space.

Conference Room / Roll Call

The Conference Room / Roll Call space shall be located adjacent to the Heritage Room and in a central location within the Aircraft Maintenance Unit. The space should accommodate approximately 20 persons for Roll Call. An acoustical folding partition should be used to separate the Conference Room from adjacent the Heritage Room.

Equipment required in the Conference Room includes a built-in ceiling mounted projection system, wiring and connections for communication lines, cable television, LAN service, videoconferencing, and dedicated high-speed data connections for each person in the room.

Aircraft Maintenance Debriefing Room

The Aircraft Maintenance Debriefing Room requires a secure location within the facility adjacent to the entry from the flight line for easy access by flight crew and adjacent to the Aircraft Maintenance Unit Administrative Area. The size of maintenance debriefing rooms shall be designed in accordance with the aircraft type being served in the facility, and the number of shifts anticipated for simultaneous mission briefing. A typical debriefing room shall accommodate twice the flight and mission crew size.

Each Debriefing Room shall receive the following:

- Wiring and connections for communication lines, cable television, LAN service,
videoconferencing, and dedicated high-speed data connections for each person in the room

- Built-in ceiling mounted projection system
- Two empty ¾” conduits for future technology infrastructure cabling
- Cipher lock door hardware for secure entry

**Dispatch Office**

Locate the single person, private Dispatch Office near the Maintenance Debriefing Room and Scheduled Maintenance. This area does not require secure location; however, it will require a desk, credenza, shelving along with computer, LAN, and cable television connections

**Scheduled Maintenance**

The Scheduled Maintenance space should be located near the Maintenance Debriefing Room and the Dispatch Office. This open office space is for use by the required number of schedulers identified to accomplish squadron maintenance scheduling tasks. Systems furnishings should be used to provide a desk, credenza, and shelving units for each scheduler and computer, LAN and cable television connections are to be provided in this space. A secure location is not necessary; however, cipher lock door hardware is required for secure entry.

**Computer CAMS (IMIS)**

A Computer CAMS (IMIS) space, connected to the squadron Computer Center, should be located in proximity of the Dispatch and Scheduled Maintenance offices and the Maintenance Debriefing Room. Classified and unclassified areas should also be provided within this space with an adjacent Secure Server Room requiring cipher lock door hardware for secure entry. Shielded fiber optic cabling must be used for computer and communication lines in the secure LAN only.

Include uninterruptible power supply for servers and individual computers with an electrical generator to supply dedicated power to computers should also address this critical operational requirement. Dedicated power and HVAC systems should be designed to accommodate the equipment and personnel loads included to satisfy current and future electrical needs.

The design of this space should include room for expansion to satisfy anticipated growth requirements for technology capability.

**COSO Support - Tool Storage and Tracking**

The COSO Support – Tool Storage and Tracking area shall include classified and un-classified tool storage areas, a weapons storage bay, cargo netting storage next to Support and offices for the Chief Flight Support and Support TODO. These areas are to be co-located on an exterior wall with hangar bays and the flight line for direct access when carrying heavy tools and rolling tool carts. Exterior access should include a separate personnel door and minimum of one pair 10’0” wide x 10’0” high sliding door with motion sensor for transportation of tools and equipment in and out to the flight line. The floor throughout COSO Support will need to be sealed concrete with a non-skid finish flush with hangar and flight line. A high level of evenly distributed artificial lighting overhead lighting is required within the COSO Support area for optimum visibility.

- **Open and Classified Parts Storage** requires a 36” high open service counter for dispensing and tracking tools and parts with a computer inventory control system built into the check out counter.
Consider moveable high-density storage shelving in tool storage to reduce floor space requirements and accessible part storage. Open access storage shelving is required in the open and classified tool storage areas and secure parts storage areas. Classified storage areas require cipher lock door hardware and a security system. Provide adequate internal circulation space for rolling tool carts.

- **Support Storage** requires an open area for receiving deliveries, storage and distribution of mobility materials and other miscellaneous materials necessary for aircraft maintenance and support crews. A storage area for cargo netting is also required near Support Storage.

- **The Mobility Storage** area requires open space for packing and assembly of mobility units and an open storage space contiguous with the building exterior on the flight line for storage of mobility units. Covered outdoor storage space next to Mobility is also required for GCE/equipment. Large 10’0” wide x 10’0” high sliding doors with a motion sensor are required for movement of mobility units for transportation of tools and equipment in and out to the flight line. The floor should be flush with flight line for easy movement.

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**AMU Ready Room**

Locate the AMU Ready Room near the Lobby and Restrooms with acoustical separation from the Briefing Rooms and Offices. A handicap accessible counter top and single bowl sink, wall and base cabinets for storage, a paper towel dispenser, trash dispenser(s) and a nook for the to conceal the sides and rear of the anticipated number of vending machines should be located within the Ready Room. Appropriate power, mechanical and space requirements should be allocated to operate the vending machines, coffee pot, microwave oven, and refrigerator. A food preparation area should be provided in an area separate from the adjacent flexible seating area. Both areas, the Ready Room and food preparation area, are to receive a vinyl composition tile floor covering.

**AMU Heritage Rooms**

An AMU Heritage Room shall be located adjacent to the AMU Conference in a central location. This space should be acoustically separated from the adjacent Conference Room with an acoustical folding partition.

A separate food preparation / kitchenette area should be located within this space and should include a full size refrigerator, dishwasher, double-bowl stainless sink, overhead and under counter cabinets, microwave oven, coffee pot, paper towel and trash dispenser, handicap accessible counter top and a separate seating area.

Power and mechanical should be considered to operate equipment in the food preparation equipment.
Overhead lighting should be located on a separate circuit from the adjacent Conference Room and should receive neutral finishes to allow for squadron decorating by self help. A vinyl composition tile or laminate wood strip flooring surface should also be used in this area for maximum durability and ease of care.

**Locker Rooms**

Locker Room facilities shall be located in proximity to the Fitness Room, COSO Support, Classrooms and Lounge. Each Locker Room should include a restroom area, shower facilities and private lockers to accommodate the number of users in the facility in accordance with ACC standards. Separate locker facilities shall be provided for men (85%) and women (15%) using the space and use applicable codes to establish the quantity of fixtures. All locker room facilities shall be designed in accordance and comply with applicable codes and standards established by the ADA and UFAS. A minimum STC rating of 45 should be used as well as HVAC and ventilation in each area.

Fixtures to include in each Locker Room area are as follows:

- Durable vanity counter top instead of wall-mounted lavatories
- Large, continuous mirrors above vanity
- Automatic sensor controls or gang sink with foot pedal at lavatories
- Automatic flush valves on urinals
- Built-in paper towel, tissue, soap dispensers, trash and sanitary receptacles, grab bars and coat hooks
- Automatic sensor controls where applicable, i.e. lavatories, toilets, soap dispensers, paper towel dispensers, etc.
- Skid resistant ceramic tile floor finish
- Floor drains in wet areas
Training Classrooms

Training Classrooms are to be centrally located between the Squadron Operations and Aircraft Maintenance Unit for shared use. Wall partitions should have a minimum STC Rating of 50 for acoustical sound control. Furnishings and equipment required in the classrooms include the following items:

- Moveable desks and comfortable seating suitable for flexible arrangement
- Sufficient seating to accommodate needs of the squadron training requirements
- Space for demonstration of special equipment for training purposes
- Built-in ceiling mounted projection system with remote controlled recessed projection screen
- Built-in cabinets for computer, television and video cassette player, and video storage
- Television and videocassette tape player
- Wiring and connections for communication lines, cable television, LAN service, videoconferencing, and dedicated high-speed data connections for each person in the room
- Two empty ¾” conduits for future technology infrastructure cabling.

Laundry Room

Provide a laundry room with a single commercial top-loading washing machine and dryer vented to the exterior. This area requires a wall-mounted cabinet above washing machine and dryer for detergent and supplies, a single bowl floor-mounted fiberglass laundry sink with hot and cold water supply, a 24” deep x 6’0” long counter for folding laundry and resilient sheet flooring (ceramic tile flooring optional) with a floor drain in the center of the room.

Aircraft Maintenance Hangar

The Aircraft Maintenance Hanger must be co-located with the COSO Support – Tools Storage, Parts and Tracking Area but adjacency to the Squadron Operations Center for heavies is not required. Maximum levels of natural lighting should be provided with supplemental artificial overhead lighting for increased levels of ambient light in this space. Artificial lighting is required along the interior perimeter of the Hangar walls at approximately 42” above finished floor for increased visibility during aircraft maintenance and artificial lighting recessed into hangar floor for up lighting onto aircraft during maintenance. Hangar floor requires a gray, non-skid concrete surface with red boundary lines painted on the floor as per base security requirements.
Outdoor Recreation Space

- Outdoor recreation space shall be located adjacent to the Ready Room and the Heritage Room on the exterior perimeter of the building with a secure entry into the building using card swipe door hardware. Benches, tables, paved walkways and landscaping should be included within the enclosed perimeter. Secure fencing should be used as required to meet AT/FP Standards and base security requirements. Other specific requirements will vary by base.

- In addition to the outdoor recreation space, a covered and shielded area outside of the hangar should be provided as a designated “Smoking Area.” The design must complement the Squadron Operations and Aircraft Maintenance Unit Facility. No wooden gazebos are allowed to be used for the “Smoking Area.”
INTERIOR FINISHES
Interior finishes are to be developed around an understanding of the elements and principles of design and how the industry works, not around personal taste. It is ACC’s policy to select long lasting, appropriate interior color schemes and finishes, avoiding “trendy” design.

Finish materials and furnishings should be selected through the use of professional design services. Selections should be based on anticipated use, maintenance qualities, life-cycle cost, fire and other life safety requirements, as well as aesthetic qualities. Coordinate materials, finish, color, and texture selections to complement the overall building design and image. Select colors and finishes to express professionalism, warmth, and a strong, positive image. Select local materials to the greatest extent practical. Ensure that carpets and other finish materials comply with applicable criteria.

Understated excellence is the standard. Extravagant accessories must be avoided. Keep selections simple to maintain continuity.

**Colors and Finishes**

Use colors and finishes of surface materials to highlight and differentiate spaces. For example, the support areas such as restrooms and Ready Rooms require extremely durable and easy to maintain finishes. The designer should consider environmental and climate issues for all areas when selecting a color scheme.

Permanent materials such as toilet partitions, fixtures, laminates and cabinetry should be in neutral color tones. Squadron specific colors may be used to accent non-permanent surfaces such as floor coverings, wall finishes and furnishing fabrics that can easily be changed.

The Squadron Commander should be consulted prior to finish selections to determine the function of each space and the required level of material maintenance and durability.

**Floor Finishes**

When selecting floor finishes, the function of the space and type of traffic it is to receive should be considered. Follow the Air Combat Command (ACC) Architectural and Interior Design Standards when deciding upon which type of flooring material would be most appropriate.

There are several typical floor covering materials to be considered and selected from, depending on the finish required, including vinyl composition tile, concrete, porcelain tile, ceramic tile, and carpet tile.

**Vinyl composition tile** should be used in all AMU spaces including offices and maintenance areas, Life Support Shop and Locker Areas and all service, janitorial, maintenance areas and other high-soil areas throughout the facility. Benefits are ease of maintenance and durability. Use through color, ⅛” thick tile for extended wear.

Use **sealed concrete** in the tool and part storage areas and the aircraft maintenance hangar. Areas with sealed concrete flooring shall be protected during construction and cleaned of all construction marks prior to sealing. Optional epoxy coating (textured) may be used in areas for slip resistant properties. Exposed or unsealed concrete may be used in the mechanical and electrical rooms for reduced cost.

**Porcelain tile** can be used in high-maintenance areas where extreme durability is required, and where water and moisture are both present. Can be used for both indoor and outdoor projects in appropriate climates. If used outdoors, include a non-skid finish with abrasive flecks.
Ceramic Tile is most often used in areas where water and moisture are present, such as restrooms. This material provides ease of maintenance and durability. Ceramic tile can also be used to create borders or accentuations in public areas, such as hallways, reception rooms, or wherever a definition of space is required. Border may be solid color or patterned and should fill indentations such as doorways and wall recesses.

Wall Finishes

Wall construction and finishes should be selected in consideration of the function of the space and potential wear. Generally, materials should be selected to be durable and provide the best appearance possible. Typical wall finish options include wall base, vinyl wall covering, ceramic wall tile, and paint.

Standard vinyl wall base will be used throughout the facility on most projects. It provides ease of maintenance and durability. Use straight-footed base with carpet tile to allow for ease during replacement of carpet tiles. Ceramic wall base should be used in areas where ceramic tile is used on the floors, such as restrooms and shower facilities.

There are two types of vinyl wall covering available on the market for purchase. Type I vinyl wall covering should be used as an overall wall covering in low traffic areas, such as private offices, where an upgraded finish is desired but will not require a high level of durability. This type of wall covering is used in areas of installations that will not need to last for many years. Type II vinyl wall covering should be used as an overall wall covering in high traffic areas such as lobbies, reception areas, public corridors, conference rooms or where and upgraded finish is desired requiring a high level of durability. This type of vinyl wall covering is preferred for most areas of installations where a long life cycle is expected.

Ceramic Wall Tile is generally used in areas where water and moisture are present, such as restrooms or showers, for ease of maintenance and durability. Ceramic wall base should be used in conjunction with ceramic wall tile.

Wall paint is recommended in areas where ease of maintenance is necessary and vinyl covering is not an option. Paint used in all areas should be low sheen, but not flat. Select one overall paint color to use on walls and use throughout entire area, except where accent walls are desired or necessary to enhance the design of the space or differentiate between areas. One color should be selected to use on all doors and/or door frames and other architectural accents, such as columns, throughout the facility. Where columns are not an architectural accent, but an architectural element, use the wall color of that area. A semi-gloss paint should be used on wall surfaces with a primed oil based paint on all doorframes and trim for ease of maintenance. Select accent paint colors to be used in areas where space definition is required. Accent paint colors must be approved by the Squadron Commander.

Window Treatments

Where window treatments are required within the facility, one manufacturer style and color must be used throughout to provide an overall uniform appearance.
Ceiling Materials

Ceiling materials and construction should be selected based on the type of area it will be used in (secure or non-secure), function of the space, durability required and the desired level of aesthetic appearance. Typical ceiling materials and construction include acoustical drop-in ceiling systems, gypsum wallboard ceilings and exposed ceiling systems.

*Acoustical drop-in ceiling systems* using a 2’x 2’ standard reveal edge tile and grid should be used in most areas throughout the facility. Exceptions would be areas such as restrooms with shower facilities, Fitness and Locker Rooms where high moisture levels are expected. Upgraded ceiling tiles can be used in a standard grid system in areas such as Conference Rooms where an enhanced professional appearance is desired. Gypsum wallboard ceilings should be used at main entrances to a facility and lobby areas for enhanced and professional appearance or in areas with high moisture concentrations such as showers or locker rooms.

*Gypsum wallboard ceilings* should be provided in secure areas above acoustical drop-in ceilings and other areas recommended by their function and ACC Standards.

*Exposed ceiling* systems can be used in areas such as the Aircraft Maintenance Hangar.

Mechanical and Electrical Systems

Base standards have been established for plumbing, electrical, and mechanical fixture selections. See Civil Engineer Flight Chief.

Furnishings

Furnishings are an integral part of the overall building design and image. Coordinate furnishing selections for consistency of finish materials, textures, and colors of architectural elements. Choose furniture that is durable, comfortable, and flexible. Systems furniture is recommended for all administrative areas, open office, or shared use office spaces.

Signage

All interior and exterior signage must comply with codes and standards established by the ADA, UFAS and base specific ACC Standards. A facility directory should be located near the facility entrance and / or at the core elevators. Information kiosks or boards should be used in a handsome manner as tools for the education center and the institutions with strategically located bulletin boards for staff, student, and institution use. The use of electronic information centers should also be considered.
SPECIAL PROJECT COSTS
In addition to the usual cost-estimating considerations, the following special factors also should be considered when establishing initial project cost projections. Please refer to the current Air Force and ACC Guidelines for specific design requirements for each factor.

- Ergonomic and flexible furniture and equipment for classrooms and equipment maintenance areas, which may be obtained with Operation/Maintenance funds.

- Special construction items such as public address system equipment, sprinkler systems, and special fire suppression systems.

- Telecommunications equipment, local area network, air technology network, compressed video, video teleconferencing, ceiling mounted LCD projectors, wall mounted televisions or plasma screens, “smart boards”, and high quality projection screens are normally in the equipment budget.

- Noise transfer reduction between major spaces such as flexible classrooms and furniture systems partitions.

- The mechanical system has to satisfy particular zone control criteria and loads due to people and large quantities of computers.

- SCIF construction and mechanical access hardware.

- Storage lockers and cabinets for specialized equipment, parts and tools.

- Special work surfaces for maintenance and repair of equipment.

- Security system to lockdown hangar to PL3 asset requirements.

- Sound control on flight line side of the facility shall be achieved through use of sound insulation in exterior walls, ceilings, roof and windows.
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Space Relationship Diagram - Two Story Design

*Ground Floor (AMU Facility)*
Second Story (Squad Ops Facility)
Floor Plans - Two Story Design

Ground Floor Plan

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<td>37</td>
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<td>38</td>
<td>Mens Shower</td>
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<tr>
<td>40</td>
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<tr>
<td>41</td>
<td>Womens Toilet &amp; Storage Closet</td>
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<tr>
<td>42</td>
<td>Womens Shower &amp; Locker Room</td>
</tr>
<tr>
<td>43</td>
<td>Stair No. 3</td>
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<tr>
<td>44</td>
<td>Mechanical Room</td>
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<tr>
<td>45</td>
<td>Electrical Room</td>
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<tr>
<td>46</td>
<td>Outdoor Equipment Area</td>
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Second Floor Plan

<table>
<thead>
<tr>
<th>Room Number</th>
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<tr>
<td>1</td>
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<td>3</td>
<td>Lobby</td>
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<td>4</td>
<td>Ops Desk</td>
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<td>5</td>
<td>Aviation Resource Management</td>
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<td>6</td>
<td>Life Support</td>
</tr>
<tr>
<td>7</td>
<td>Storage Work Room</td>
</tr>
<tr>
<td>8</td>
<td>Life Support Locker Room &amp; Exposure Suits</td>
</tr>
<tr>
<td>9</td>
<td>Mens Locker Room</td>
</tr>
<tr>
<td>10</td>
<td>Mens Shower</td>
</tr>
<tr>
<td>11</td>
<td>Mens Toilet</td>
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<tr>
<td>12</td>
<td>Womens Toilet</td>
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<tr>
<td>13</td>
<td>Womens Shower &amp; Locker Room</td>
</tr>
<tr>
<td>14</td>
<td>Main Briefing</td>
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<td>15</td>
<td>Main Briefing Storage</td>
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<td>16</td>
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<td>17</td>
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<td>31</td>
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<td>38</td>
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<td>42</td>
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<td>46</td>
<td>Intelligence Office</td>
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<td>47</td>
<td>Briefing / Debriefing No. 3</td>
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<td>48</td>
<td>Briefing / Debriefing No. 2</td>
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<td>Briefing / Debriefing No. 1</td>
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<td>50</td>
<td>Secure Communications Room</td>
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<tr>
<td>Station or Space Required</td>
<td>Occupied Area</td>
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<tr>
<td>---------------------------</td>
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<tr>
<td>Flight Operations Orderly Desk</td>
<td>■</td>
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<tr>
<td>Aviation Resource Management</td>
<td>■</td>
</tr>
<tr>
<td>Scheduling Area</td>
<td>■</td>
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<tr>
<td>Squadron Commander</td>
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<tr>
<td>Director of Operations</td>
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<td>Flight Crew Shared Offices</td>
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<tr>
<td>NCO Training Office</td>
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<td>Training Classrooms</td>
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<td>Conference Rooms</td>
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<td>Main Briefing Room</td>
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<td>Station or Space Required</td>
<td>Unoccupied Area</td>
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<td>--------------------------</td>
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<td>Life Support Area</td>
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<td>Superintendent Office</td>
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<td>Equipment Work Space</td>
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<tr>
<td>Crew Equipment Lockers</td>
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<td>Exposure Suits</td>
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<tr>
<td>Mobility Storage</td>
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<tr>
<td>Ready Room</td>
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<tr>
<td>Heritage Rooms</td>
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</table>
## Squadron Operations Facility

### General Space Requirements

<table>
<thead>
<tr>
<th>Station or Space Required</th>
<th>Unoccupied Areas</th>
<th>Station Type</th>
<th>Area Required</th>
<th>Preferred Adjacency</th>
<th>Level of Finishes</th>
<th>Special Equipment</th>
<th>Notes</th>
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<tr>
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<tr>
<td>Locker Rooms</td>
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<tr>
<td>Secure Areas: “VALT”</td>
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<td>Intelligence / Weapons Officer</td>
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</tbody>
</table>

### Secure Areas

- **Secure Areas: “VALT”**
  - Cipher lock door hardware at vestibule
  - Secure environment SCIF; single point of entry security; "hard hat" drywall ceiling; lay-in acoustical; secure data and communications network; dimmable lighting as required; US-Only space; Foreign Nationals space

- **Mission Briefing**
  - See Notes
  - Size in accordance with Air Force and ACC Guidelines, aircraft type served and number of ships (2-ship or 4-ship); consult Commander for quantity; provide built-in storage for computer, television and videos; dimmable lighting

- **Mission Planning**
  - 588 Mid-Grade
  - Enter from secure corridor; standing height built-in work surfaces 30" wide and 40" high; dimmable lighting; storage area for maps and charts

- **Intelligence / Weapons Officer**
  - 142 Mid-Grade
  - Intelligence Office, Weapons Office, Weapons Task Trainer

- **Intelligence and Weapons Center**
  - 348 Mid-Grade
  - Intelligence Room 16' x 20', Weapons Room 16' x 20', Plans Rooms for 2-3 personnel with document storage shelving and racks

- **Weapons Task Trainer**
  - 279 Mid-Grade
  - Flight Simulator

### Additional Information

- Additional spaces and square footage may be required as per squadron mission requirements.
## Squadron Operations Facility

### General Space Requirements

<table>
<thead>
<tr>
<th>Station or Space Required</th>
<th>Station Type</th>
<th>Area Required</th>
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<th>Special Equipment</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library</td>
<td>Private</td>
<td>Unoccupied</td>
<td>Mid-Grade</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Office</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Communications Center</td>
<td>Secure</td>
<td>77</td>
<td>Central location</td>
<td>Utility</td>
<td></td>
<td>Size and infrastructure as per Squadron Mission requirements</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>between Squad Ops</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>and AMU</td>
<td></td>
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<tr>
<td>General Building Spaces</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Vestibule</td>
<td></td>
<td>See Notes</td>
<td>Public</td>
<td></td>
<td></td>
<td>Door hardware to be barrier free and compliant with codes established by the ADA and UFAS</td>
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<tr>
<td>Elevator / Stairs</td>
<td></td>
<td>See Notes</td>
<td>Public</td>
<td></td>
<td></td>
<td>Size shall be based on building code and load requirements</td>
</tr>
<tr>
<td>Mechanical and Electrical Rooms</td>
<td></td>
<td>See Notes</td>
<td>Utility</td>
<td></td>
<td></td>
<td>Size shall be based on building code and load requirements</td>
</tr>
<tr>
<td>Communications / Server Room (non-secure)</td>
<td></td>
<td>231</td>
<td>Central location between Squad Ops and AMU</td>
<td>Utility</td>
<td>Dedicated un-interruptable power supply with generator</td>
<td>Non-secure communications, dedicated power and HVAC, open office for (2) persons and work counter for equipment repair, LAN, cable and communications lines</td>
</tr>
<tr>
<td>Restrooms</td>
<td></td>
<td>See Notes</td>
<td>Restroom</td>
<td></td>
<td></td>
<td>Size shall be based on building code and occupancy load requirements</td>
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</table>
### Aircraft Maintenance Facility

**General Space Requirements**

<table>
<thead>
<tr>
<th>Station or Space Required</th>
<th>Unoccupied Area</th>
<th>Station Type</th>
<th>Preferred Adjacency</th>
<th>Level of Finishes</th>
<th>Special Equipment</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMU Orderly Desk</td>
<td>207</td>
<td>Private Office</td>
<td>Near entry, central</td>
<td>Public</td>
<td>Plasma screens, Copy machine*</td>
<td>Raised counter, (4) persons, File Storage below</td>
</tr>
<tr>
<td>Orderly Desk Office</td>
<td>90sf/ person</td>
<td>AMU Orderly Desk</td>
<td>Mid-Grade</td>
<td>Printer and networked computers, Shelving, Storage</td>
<td>Open office environment, modular systems for approximately 4-6 persons, reduced glare artificial lighting</td>
<td></td>
</tr>
<tr>
<td>Administrative Support</td>
<td>90sf/ person</td>
<td>Orderly Desk</td>
<td>Mid-Grade</td>
<td>Copy machine, Fax, Printer, Networked computers</td>
<td>Shared shelving and file storage, reduced glare artificial lighting</td>
<td></td>
</tr>
<tr>
<td>OIC / NCOIC Offices</td>
<td>See Notes</td>
<td>Lobby, Orderly Desk</td>
<td>Exterior Wall</td>
<td>Printer and networked computers, Desk, Credenza, Shelving, File cabinet</td>
<td>Consult with OIC and NCOIC to identify staffing and space requirements to support the specific mission and airframe, conference table and guest seating, reduced glare artificial lighting, built-in data and communication cabling in walls</td>
<td></td>
</tr>
<tr>
<td>Section Chief Office</td>
<td>See Notes</td>
<td>Near Briefing Rooms</td>
<td>Executive</td>
<td>Computer, Television</td>
<td>Consult Squadron Flight Chiefs, AFETS, TAMS and Weapons for number of offices necessary</td>
<td></td>
</tr>
<tr>
<td>AMU Shared Offices</td>
<td>90sf/ person</td>
<td>Ready Room</td>
<td>Mid-Grade</td>
<td>Computer, Printer</td>
<td>Systems furniture, storage and shelving</td>
<td></td>
</tr>
<tr>
<td>Production Supervisor</td>
<td>186</td>
<td>Section Chief Offices</td>
<td>Mid-Grade</td>
<td>Computer, Television, Desk, Credenza</td>
<td>Must have access and direct view to flight line</td>
<td></td>
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<tr>
<td>Technical Representative Office (Optional)</td>
<td>151</td>
<td>Section Chief Offices, OIC / NCOIC Offices</td>
<td>Mid-Grade</td>
<td>Computer, Television</td>
<td>Desk, shelves, credenza</td>
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<tr>
<td>Dispatch</td>
<td>178</td>
<td>Debriefing, Scheduling Analysis</td>
<td>Mid-Grade</td>
<td>Computer, Television</td>
<td>Desk, shelves, credenza</td>
<td></td>
</tr>
<tr>
<td>Scheduled Maintenance</td>
<td>178</td>
<td>Debriefing, Dispatch</td>
<td>Mid-Grade</td>
<td>Computer, Television</td>
<td>Desk, shelves, credenza</td>
<td></td>
</tr>
<tr>
<td>Conference Room / Roll Call</td>
<td>178</td>
<td>Heritage Room, central location within AMU</td>
<td>Mid-Grade</td>
<td>Computer, Cable television, Videoconferencing, Dedicated high-speed data connections, Ceiling mounted Projection System</td>
<td>Provide space for approximately 20 persons, acoustical folding partition to separate space from adjacent Heritage Room, overhead lighting on separate circuit from Heritage Room</td>
<td></td>
</tr>
<tr>
<td>COSO Support - Tool Storage and Tracking</td>
<td>1933</td>
<td>Exterior wall, hangar bays and flightline</td>
<td>Workshop</td>
<td>Computer inventory control system</td>
<td>360 high open service counter, high level of evenly distributed artificial light, exterior access - personnel door and 10' high sliding door with motion sensor, sealed concrete no-skid floor flush with hangar and flightline, internal circulation for rolling tool carts, offices for Chief Flight Support and Support TSO, Classified Storage space</td>
<td></td>
</tr>
</tbody>
</table>

* Additional spaces and square footage may be required as per squadron mission requirements.
<table>
<thead>
<tr>
<th>Station or Space Required</th>
<th>Station Type</th>
<th>Area Required</th>
<th>Preferred Adjacency</th>
<th>Level of Finish</th>
<th>Special Equipment</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parts Storage (Open and Classified)</td>
<td>*</td>
<td>214</td>
<td>Workshop</td>
<td>*</td>
<td>Ciper Lock door hardware</td>
<td>Moveable high-density storage shelving, open access storage, Secure Parts Storage with open shelving.</td>
</tr>
<tr>
<td>Support Storage</td>
<td>*</td>
<td>176</td>
<td>Workshop</td>
<td>*</td>
<td></td>
<td>Open area for receiving deliveries, storage and distribution of mobility materials and other miscellaneous materials; storage area near Support Storage for cargo netting.</td>
</tr>
<tr>
<td>Mobility Storage</td>
<td>*</td>
<td></td>
<td>Workshop</td>
<td>*</td>
<td></td>
<td>Open space for packing, assembly and storage of mobility units; large sliding glass doors with motion sensor; covered storage next to Mobility for GCE/equipment.</td>
</tr>
<tr>
<td>Chef/Flight Support</td>
<td>164</td>
<td>C030, Support 1000</td>
<td>Mid-Grade</td>
<td></td>
<td>Networked Computer, Television</td>
<td>Private office for two persons with desk and file storage.</td>
</tr>
<tr>
<td>Support 1000</td>
<td>198</td>
<td>C030, Chief Flight Support</td>
<td>Mid-Grade</td>
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<td>Networked Computer, Television</td>
<td>Private office for two persons with desk and file storage.</td>
</tr>
<tr>
<td>AMU Ready Room</td>
<td>185.2</td>
<td>Lobby, restrooms</td>
<td>Mid-Grade</td>
<td></td>
<td>Vending machines, coffee pot, microwave oven, refrigerator, paper towel dispenser, trash dispenser</td>
<td>Snack Bar and Storage for vending machines, counter top and single bowl sink, wall and base cabinets for storage, separate food preparation area from seating area, flexible seating arrangement, acoustical separation from briefing rooms and offices, vinyl floor finish or laminate wood strip flooring.</td>
</tr>
<tr>
<td>Snack Bar and Storage</td>
<td>*</td>
<td>187</td>
<td>AMU Ready Room</td>
<td>Mid-Grade</td>
<td>Coffee pot, microwave oven, refrigerator, paper towel dispenser, trash dispenser</td>
<td>Handicap accessible counter top and single bowl sink, wall and base cabinets for storage, vinyl floor finish flooring.</td>
</tr>
<tr>
<td>Locker Rooms</td>
<td>*</td>
<td>185.9</td>
<td>Classrooms, Ready Room</td>
<td>Utility / Restroom</td>
<td>Private lockers; automatic sensor controls or gang sink with foot pedal lavatory; automatic sensor controls on toilet, soap dispensers, paper towel dispensers</td>
<td>Include restrooms and shower facilities, 80% men and 20% women; skid resistant ceramic tile flooring; floor drains in wet areas; minimum SFC rating of 45.</td>
</tr>
<tr>
<td>Laundry Room</td>
<td>*</td>
<td>100</td>
<td>Fitness, Locker Rooms</td>
<td>Utility</td>
<td>Single commercial top-loading washing machine and dryer, single bowl, floor-mounted, fiberglass laundry sink</td>
<td>Wall-mounted cabinet above washing machine for supply storage, 24&quot; deep by 6' long counter for folding laundry; resilient floor flooring with floor drain in center of room.</td>
</tr>
</tbody>
</table>
### Aircraft Maintenance Facility
#### General Space Requirements

<table>
<thead>
<tr>
<th>Station or Space Required</th>
<th>Unoccupied Area</th>
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<th>Special Equipment</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Heritage Room</td>
<td></td>
<td>Private Office</td>
<td>617</td>
<td>Mid-Grade</td>
<td></td>
<td>Flexible space to be customized by each command; Adjacent Galley Area with counter top and double bowl sink, wall and base cabinets for storage, separate food preparation area from seating area, flexible seating arrangement, acoustical folding partition separation from Conference / Roll Call rooms, vinyl floor finish or laminate wood strip flooring, neutral finishes to allow for decorating by self help, overhead lighting on separate circuit from adjacent Conference / Roll Call room.</td>
<td></td>
</tr>
<tr>
<td>Aircraft Maintenance Hangar</td>
<td></td>
<td>See Notes</td>
<td>0030 Support</td>
<td>Workshop</td>
<td></td>
<td>Size in accordance to aircraft type and mission, provide maximum level of natural lighting supplemented by artificial overhead lighting; artificial lighting along interior perimeter of Hangar walls at 42&quot; above finished floor and recessed into hangar floor for increased maintenance visibility; gray, non-skid concrete floor; red boundary lines on floor as per AR/FP standards.</td>
<td></td>
</tr>
<tr>
<td>Outdoor Recreation Space</td>
<td></td>
<td>Ready Room, exterior perimeter of building</td>
<td>N/A</td>
<td>Benches, tables</td>
<td>Paved walkways and landscaping; secure entry/exit into the building using and swipe door hardware; enclose perimeter with secure fencing as per AR/FP Standards and base security requirements; no wooden gazebos allowed to be used for the designated smoking area.</td>
<td></td>
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</tbody>
</table>

* Additional spaces and square footage may be required as per squadron mission requirements.
## Aircraft Maintenance Facility
### General Space Requirements

<table>
<thead>
<tr>
<th>Station or Space Required</th>
<th>Preferred Adjacency</th>
<th>Level of Finishes</th>
<th>Area Required</th>
<th>Preferred Adjacency</th>
<th>Level of Finishes</th>
<th>Area Required</th>
<th>Special Equipment</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Secure Areas</strong></td>
<td></td>
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<tr>
<td>Aircraft Maintenance De-Briefing &amp; Conference Room</td>
<td>Adjacent to Flight Line, Aircraft Maintenance Unit Administrative Area</td>
<td>Executive</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
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<tr>
<td>Computer CAMS (IMIS)</td>
<td>Dispatch, Scheduled Maintenance, Maintenance De-Briefing Room</td>
<td>Utility</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>See Notes</td>
<td>⬤</td>
</tr>
<tr>
<td><strong>General Building Spaces</strong></td>
<td></td>
<td></td>
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<tr>
<td>Vestibule</td>
<td>See Notes</td>
<td>Public</td>
<td>⬤</td>
<td>Door hardware to be barrier free and compliant with codes established by the ADA and UHAFS</td>
<td></td>
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<tr>
<td>Elevator / Stairs</td>
<td>See Notes</td>
<td>Public</td>
<td>⬤</td>
<td>Size shall be based on building code and load requirements</td>
<td></td>
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<tr>
<td>Mechanical and Electrical Rooms</td>
<td>See Notes</td>
<td>Utility</td>
<td>⬤</td>
<td>Size shall be based on building code and load requirements</td>
<td></td>
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</tr>
<tr>
<td>Communications / Server Room (non-secure)</td>
<td>231 Central location between Squad Ops and AWU</td>
<td>Utility</td>
<td>⬤</td>
<td>Non-secure communications, dedicated power and HVAC, open office for (2) persons and work counter for equipment repair, LAN, cable and communications lines</td>
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<tr>
<td>Restrooms</td>
<td>See Notes</td>
<td>Restroom</td>
<td>⬤</td>
<td>Size shall be based on building code and occupancy load requirements</td>
<td></td>
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</tr>
</tbody>
</table>
Facility Planning

Concept Designing for Facilities
South Elevation

Floor Plan
General References

This list is not meant to be all-inclusive. Architects, engineers, planners, and designers should check with their Design Agent or government project manager for the latest guidelines. Current Air Force publications may be found at http://afpubs.hq.af.mil.

Local Building Codes
National Electric Codes
AFPD Air Force
32-10 Pamphlet for Installations and Facilities
AFJMAN Air Force Joint 32-1008 Manual for Installation Design
AFI Air Force
23-110V1, Part 1, Section 4C, Storage and Handling of Lithium Batteries, Paragraph 4.37.
AFI Air Force
32-1021 Instruction for Planning and Programming of Facility Construction Projects
AFI Air Force
32-1022 Instruction for Planning and Programming Non-appropriated Fund Facility Construction Projects
AFI Air Force
32-1023 Instruction for Design and Construction Standards and Execution of Facility Construction
ACC Supplement to AFI 32-1023 (ACC Architectural and Interior Design Standards)

AFI Air Force
32-1024 Instruction for Standard Facility Requirements
AFI Air Force
32-1032 Instruction for Planning and Programming Appropriated Funded Maintenance, Repair and Construction Projects
AFI Air Force
32-1084 Facility Requirements
AFI Air Force
32-1097 Standards Pamphlet
AFI Air Force
32-7062 Instruction for Air Force Comprehensive Planning
UFC 4-010-01 Department of Defense Antiterrorism Standards for Buildings
Air Force Installation Force Protection Guide
ACCI Air Combat
32-1054 Command Instruction for Exterior Signs
Air Combat Command Commander’s Guide to Facilities Standards
UFAS Uniform Federal, Accessibility Standards

ADA American with Disabilities Act
Base Engineering Standards
Base Architectural Standards
National Fire Protection Association
NFPA 13 Standard for Sprinkler Systems
NFPA 72 Standard for Fire Protection Signaling Systems
NFPA 72E Standard for Automatic Fire Detectors
NFPA 101 Life Safety Code
Military Handbook 1008c
NFPA 101 Life Safety Code
AFMAN 91-201 Explosives Safety Standard
AFOSHSTD 91-56 Walking Surfaces, Guarding Floor and Wall Openings and Holes, Fixed Industrial Stairs and Portable and Fixed Ladders
AFOSHSTD 91-20 Vehicle Maintenance Shops
T.O. 15X-1-1 Technical Manual, Maintenance Instructions, Oxygen Equipment dated 15 September 1999 with revision 5 on 1 April 2002. Published by US Government Printing Office. (for researching the minimum space requirements for a Life Support Shop)