

# **STANDARD DESIGN**

---

**AIR FORCE**  
**CIVIL ENGINEER SQUADRON**  
**SHOPS/WAREHOUSE BUILDING**



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# CHAPTER 1 INTRODUCTION

## 1.1. STANDARD DESIGN

Standard Designs provide functional and spatial requirements for specific Air Force facility types, and are intended for use in conjunction with DoD Unified Facilities Criteria (UFC), Air Force Corporate Facility Standards, Installation Facility Standards, and other applicable standards.

Standard Designs are living documents that are periodically reviewed, updated, and made available to users by posting on the Whole Building Design Guide. This Standard Design, as well as those for many other Air Force facilities, can be accessed at this web site: <http://wbdg.org/ffc/af-afcec/prototypes-standard-designs>

This Standard Design is effective upon issuance and is distributed only in electronic media.

## 1.2 AIR FORCE STANDARD DESIGN POLICY

### 1.2.A. Required use of Standard Designs

The use of Air Force Corporate Facilities Standards (AFCFS), Installation Facility Standards (IFS) and Standard Designs has been codified in the most recent version of AFI 32-1023, *Designing and Constructing Military Construction Projects* (ref (c)). In compliance with the AFI, all facility designs must conform to the standards outlined and specified in the AFCFS, and if there is an applicable Installation Facilities Standards (IFS) document, the project must conform to those standards as well.

This Standard Design was developed in close coordination with the facility's functional users to determine personnel counts, allowable/authorized space/room sizes, adjacency diagrams between the functional spaces, and the overall facility space requirements. It also addresses special requirements unique to this facility type. Use this Standard Design in conjunction with other AF policy and regulations such as, AFI's, and UFC's when programming and designing this facility type.

### 1.2.B. Integration with Air Force Corporate and Installation Facility Standards

The Air Force Corporate Facilities Standards (AFCFS), is an enterprise-wide program of facility standards establishing an acceptable level of quality and performance for facility design, facility operations and ongoing building maintenance. The AFCFS provides an exciting direction forward; intended to create sustainable installations and cohesive, efficient, High Performance and Sustainable Buildings throughout the Air Force.

Installation Facilities Standards (IFS) are part of the Air Force Corporate Facilities Standards (AFCFS) program to assist bases in implementing facilities standards at the local level. Bases develop and maintain an IFS, which replaces the Architectural Compatibility Plan, as a component plan of the Installation Development Plan (IDP).

Programmers and designers for CES Warehouse Building must use this Standard Design to ensure the specific functional, spatial, and special requirements are met, meet the local requirements established by the IFS, and the overall Air Force requirements set forth in the AFCFS.

### **1.3 APPLICABILITY**

This Standard Design provides requirements for evaluating, planning, programming, and designing a CES Warehouse Building that supports the mission, is appropriately sized, flexible, durable, and life-cycle cost efficient. The information in this Standard Design applies to the design of all new construction projects, to include additions, alterations, and renovation projects worldwide. It also applies to the procurement of Design Build services for the above-noted projects. Alteration and renovation projects should update existing facilities to meet the guidance and criteria within budgetary constraints.

The facility size is dependent on the size of the warehousing spaces. Use the Interactive Programming Worksheet to assist in these adjustments.

#### **1.3. A. Additions and Alterations**

For additions and alterations to existing facilities, use the adjacencies, sizing/scope and detailed requirements contained in the site diagrams, module drawings, and room data sheets to the maximum extent possible. The functionality and adjacency of the modules are still valid, but may require some manipulation to fit into existing spaces. This standard may be modified slightly to accommodate the existing structure. Remove non-structural walls to the greatest extent possible to open up space in the existing facilities to make them more receptive to the placement of the modules. The planner and designer must determine the most efficient means to balance the placement of modules within existing spaces or as a facility addition.

## CHAPTER 2 FACILITY DESIGN

### 2.1 FACILITY DESCRIPTION

#### 2.1.A. Function

The primary function of this CES Warehouse Building is to provide a facility that fully supports the mission with a flexible state-of-the-art building. The facility supports storage and administrative areas for the base within a standalone facility. The primary areas in the facility are the Heavy Repair Element, Material Control Warehousing areas. A typical CES Warehouse Facility will consist of, but are not limited to grouped rooms or "Modules". The modules needed for this facility are as follows (included rooms are noted below module title):

- Facility Systems Element Module
  - Facility Systems Shop, Entrance Lobby, Administration Office, Break/Locker Area, Tools Storage
- Infrastructure Element Module
  - Infrastructure Shops, Infrastructure Administration Offices, Copy/File Storage, Infrastructure Break Room, Infrastructure Hoteling, Entrance Lobby
- Heavy Repair Element Shop Module
  - Structures Shop, Structures Hoteling, Structures Break Room, Structures Technical Library, Structures Administration, Pavement/Equipment Shop, Pavement/Equipment Administration, Pavement/Equipment Technical Library, Pavement/Equipment Break Room, Pavement/Equipment Locker Area, Pavement/Equipment Hoteling, Entrance Lobby
- Material Control / Warehousing
  - Stock Storage Area, Material Control Administration Office, Lobby, Internal Self Help, Break Room, Copy/File Storage, Entrance Lobby
- Facility Breakroom
  - Facility Breakroom
- Toilets Module
  - Toilet Vestibule, Men's Locker/Shower, Women's Locker/Shower, Men's Toilet, Women's Toilet, Janitor
- Building Support Module
  - Mechanical Room, Electrical Room, IT/Communications Room, Fire Pump Room

AFCFS: Consult the Air Force Corporate Facilities Standards (AFCFS) to determine quality standards for this facility group. This standard facility prototype is considered a Group 3 hierarchy.

### **2.1.B. Typical Users**

This facility is operated by active duty, guard, and reserve military personnel as well as civilian contractor representatives of the systems providers as well as USAF Civilian Federal Workforce.

The typical number of occupants is approximately 150 civilian and military personnel throughout the building. Hours of operation for this facility type are user driven, typically one day full shift and small second shift.

### **2.1.C. Related AFMAN 32-1084 Category Code**

The related AFMAN 32-1084 Category Codes are as follows: This facility would be governed by Chapter 4, Facility Class 4, Supply, Category Group 44, Supply Storage Facilities (Covered Storage) Warehouse Supply and Equipment CATCODE 442758 and Chapter 6, Facility Class 6, Administrative, Category Group 61, Administrative and Administrative Support Spaces.

## **2.2 CRITERIA**

### **APPLICABLE UNIFIED FACILITY CRITERIA**

Comply with UFC 1-200-01, DoD Building Code (General Building Requirements). UFC 1-200-01 provides applicability of model building codes and government unique criteria for typical design disciplines and building systems, as well as for accessibility, antiterrorism, security, high performance and sustainability requirements, and safety. Use this Standard Design in addition to UFC 1-200-01 and the UFCs and government criteria referenced therein. UFC 1-200-01 references other “Core UFCs” that are applicable to this Standard Design as well as most all DoD facilities.

UFC 1-200-01	DoD Building Code (General Building Requirements)
UFC 1-200-02	High Performance and Sustainability Building Requirements
UFC 1-300-07A	Design Build Technical Requirements
UFC 3-101-01	Architecture
UFC 3-110-03	Roofing
UFC 3-120-01	Design: Sign Standards
UFC 3-120-10	Interior Design
UFC 3-190-06	Protective Coatings and Paints
UFC 3-201-01	Civil Engineering

UFC 3-201-02	Landscape Architecture
UFC 3-210-10	Low Impact Development
UFC 3-220-01	Geotechnical Engineering
UFC 3-230-01	Water Storage, Distribution, and Transmission
UFC 3-240-01	Wastewater Collection
UFC 3-250-01	Pavement Design for Roads and Parking Areas
UFC 3-250-03	Standard Practice Manual for Flexible Pavements
UFC 3-250-04	Standard Practice for Concrete Pavements
UFC 3-260-01	Airfield and Heliport Planning and Design
UFC 3-301-01	Design: Structural Engineering
UFC 3-400-02	Design: Engineering Weather Data
UFC 3-401-01	Mechanical Engineering
UFC 3-410-01	Heating, Ventilation, and Air Conditioning Systems
UFC 3-410-02	Lonworks Direct Digital Control for HVAC and Other Local Building Systems
UFC 3-420-01	Plumbing Systems
UFC 3-450-01	Noise and Vibration Control
UFC 3-501-01	Electrical Engineering
UFC 3-520-01	Interior Electrical Systems,
UFC 3-530-01	Design: Interior and Exterior Lighting and Controls
UFC 3-550-01	Exterior Electrical Power Distribution
UFC 3-570-01	Cathodic Protection
UFC 3-575-01	Lightning and Static Electricity Protection Systems

UFC 3-580-01	Telecommunications Building Cabling Systems Planning and Design
UFC 3-600-01	Fire Protection Engineering for Facilities
UFC 4-010-01	DoD Minimum Antiterrorism Standards for Buildings
UFC 4-020-01	Security Engineering Facilities Planning Manual
UFC 4-021-01	Design and O&M: Mass Notification Systems
UFC 4-010-06	Cybersecurity of Facility-Related Control Systems
UFC 4-022-03	Security Fences and Gates
UFC 4-023-03	Design of Buildings to Resist Progressive Collapse
USGBC LEED-NC	LEED for New Construction and Major Renovations Rating System (U.S. Green Building Council)

### **2.2.A. Sustainability**

Comply with the Federal sustainability requirements as detailed in UFC 1-200-02, High Performance and Sustainable Building Requirements. Determine third-party certification requirements based on Table 1-1 of UFC 1-200-02 and current AF guidance at <https://www.wbdg.org/ffc/af-afcec>.

### **2.2.B. Security and Antiterrorism**

The facility must meet, UFC 4-020-01 Security Engineering Facilities Planning Manual, UFC 04-010-01 DoD Minimum Antiterrorism Standards for Buildings, Change 1, UFC 4-010-05 Sensitive Compartmented Information Facilities Planning, Design, and Construction and ICD/ICS 705 Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities. Internal security measures include designated 'non-secure' and 'secure' areas within the building with access to secure areas controlled and monitored by special access hardware, Intrusion Detection Systems and Closed-Circuit Television Systems (CCTV). Exterior security measures will include antiterrorism stand-off distances for parking, controlled vehicular circulation, appropriately located trash enclosures, clear space surrounding the facility, and the single point of building entry.

## **2.3 NOTIONAL SITE**

### **2.3.A. Site Location, Orientation and Adjacencies**

The notional site plan diagram demonstrates key site development criteria. It is not a site-specific solution. The information represents the land requirements to construct this facility and includes associated AT standoff and parking. Utilization of existing or shared parking is allowable and may reduce the total acreage required for the facility. Adapt the requirements to the specific site and location and comply with the applicable



Installation Development Plan (IDP) and Area Development Plan (ADP) for facility siting.

Several factors determine the most appropriate and cost-effective location for a facility. The availability and capacity of required utilities and the mass/scale of the facility relative to adjacent structures and noise issues must be analyzed.

Emphasis must be placed on operation, function, and safety when siting the facility. The location of the CES shops/warehouse building is determined by the base master plan and is generally located in a specific geographic area or “zone” of the base.

The approximate project area required for the CES shops/warehouse building is 14.00 acres, which includes antiterrorism standoff distances and parking.

Utilization of existing or shared parking is allowable and may reduce the total acreage required for the facility.

### **2.3.B. Parking**

Parking is recommended to be provided to accommodate 60 percent of the assigned personnel to the facility plus additional parking for government vehicles. Government vehicle parking will be located in designated areas behind the secure fenced area at the rear of the complex and visitor and staff vehicle parking will be located outside the secure fenced area at the front of the complex.

Separate the service drives to the facility from parking circulation areas.

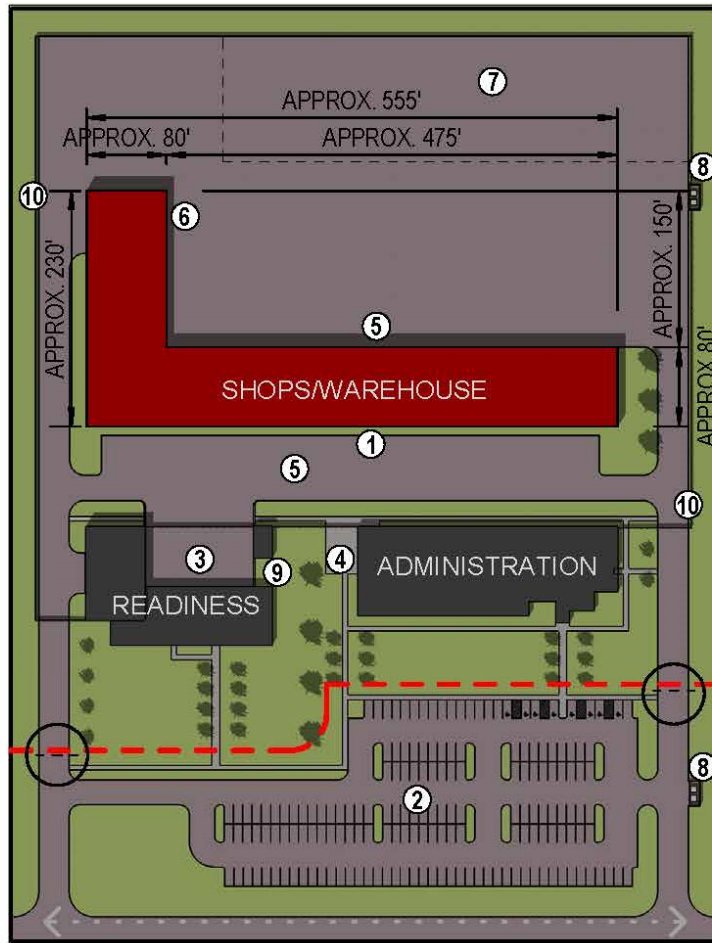
### **2.3.C. Vehicular and Pedestrian Circulation**

Convenient and safe vehicular access and circulation must be provided for personal vehicles and essential services, including operations, maintenance, deliveries, garbage and recycling collection, and emergency services.

Locate sidewalk networks to provide convenient and safe pedestrian circulation from existing circulation elements of the project site to the new parking areas and doors of the facility. Sidewalk width must accommodate maintenance and emergency services requirements.

### **2.3.D. Notional Site Plan**

See Next Page for Image



**NOTES:**

- ① PRIMARY BUILDING ENTRY
- ② POV PARKING LOT
- ③ OUTSIDE DEMONSTRATION AREA
- ④ UTILITY YARD
- ⑤ GOV LOADING/PARKING ZONE
- ⑥ LOADING DOCK
- ⑦ EXTERIOR STORAGE - OPEN & COVERED
- ⑧ DUMPSTER ENCLOSURE
- ⑨ EXTERIOR BREAK AREA
- ⑩ SECURITY FENCE

**LEGEND:**

- - - CONCEPTUAL AT SETBACK  
(REFERENCE UFC 4-010-01)
- - - > ACCESS STREET
- CONTROLLED VEHICLE ACCESS

## **2.4 BUILDING DESIGN**

### **2.4.A. General Considerations**

General considerations of the facility design are centered on:

- Storage requirements for the warehouse.
- The functional relationships between the modules as well as within the modules.
- The general personnel flow requirements within the facility.

Daily shift personnel enter the facility through the designated entrance vestibule for each module/area of the facility as required.

The Building Support Module excluding the IT/Comms Room needs exterior access.

Other general considerations include:

- Security entrance requirements
- No Corridors for cross facility access
- Adequate drive lanes for overhead door access
- Windows are primarily in administrative areas

### **2.4.B. Building Configuration**

The building should be configured for future expansion or reconfiguration. The general size of the building is based on the warehousing requirements. The size of the following modules is affected by the number of warehousing areas:

- Facility Systems Element
- Infrastructure Element
- Facility Break Room
- Toilet
- Building Support

### **2.4.C. Interior/Exterior Relationships**

There is a designated entrance vestibule into each area of the facility and there is no cross facility access via corridors or any other means. There are no corridors for cross facility access so each module area will have exterior entry/egress capability within that area. All exterior doors will have electronic security entry and egress hardware with re-entry capability while the Building Support rooms will have keyed secure access.

### **2.4.D. Functional Area Requirements**

#### **Facility Modules Adjacency Diagrams & Conceptual Axonometric Layout(s)**

The composite diagram(s) represent ways to conceptually assemble the functional areas (modules) into a cohesive whole. Individual modules are represented by different colors.

Spaces and rooms that are integrally related with a specific functional connection or operational flow are grouped into a module. Modules and the associated room data sheets identify specific criteria and additional detail for each functional area of the facility as outlined in the Interactive Programming Sheet located in Chapter 3.

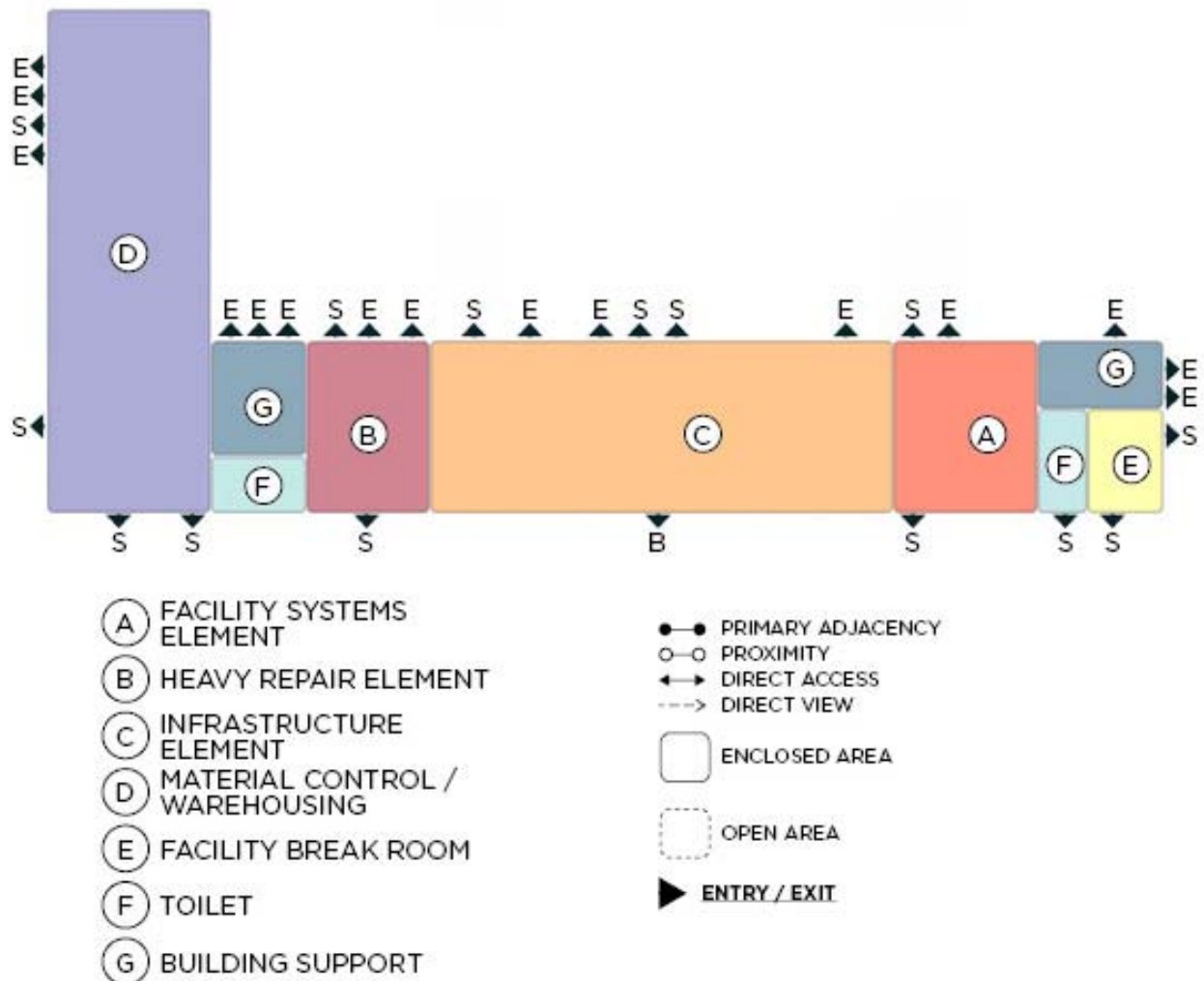
The modules are a grouping of functional spaces and represent “Lego blocks” to be used in a “kit-of-parts” design approach. Use the fixed modules as pre-assembled pieces of the facility “puzzle”. Assemble them to comply with the required adjacencies indicated in the diagrams and module plans.

Modules must be used as shown in this Standard Design to the greatest extent possible, and must not be deconstructed or altered except as indicated herein. The intent of the Standard Design criteria is to avoid manipulation of the composition, functional relationships, adjacencies, and module sizes. Modules contain fixed attributes and must not be changed arbitrarily. Modules may be rotated, flipped, and/or mirrored to accommodate an overall composition or site issue, but this must not be done arbitrarily and should occur only when necessary.

Some modules are linked to space requirements that increase or decrease in size based on the personnel count and equipment for a particular mission. In these cases, increase or decrease the size of the module to match the revised scope calculation. This may sometimes require minor adjustments in other adjacent modules so that they properly fit together to create a constructible facility floor plan. Spaces must comply with any critical dimensions indicated on module plans. Manipulate as few modules as possible to create a constructible facility. The resulting composite plan must respect the established modules adjacencies and must not exceed the authorized project scope.

### Functional Adjacency Diagram

The following Functional Adjacency Diagram will form the basis of design for the Standard Design plan for a typical CES Warehouse Building based on the two large storage areas (Heavy Repair Element and Material Control Warehousing) and the required supporting administrative areas. This Facility Adjacency Diagram and as well as the modules is the Air Force approved Standard Design plan.



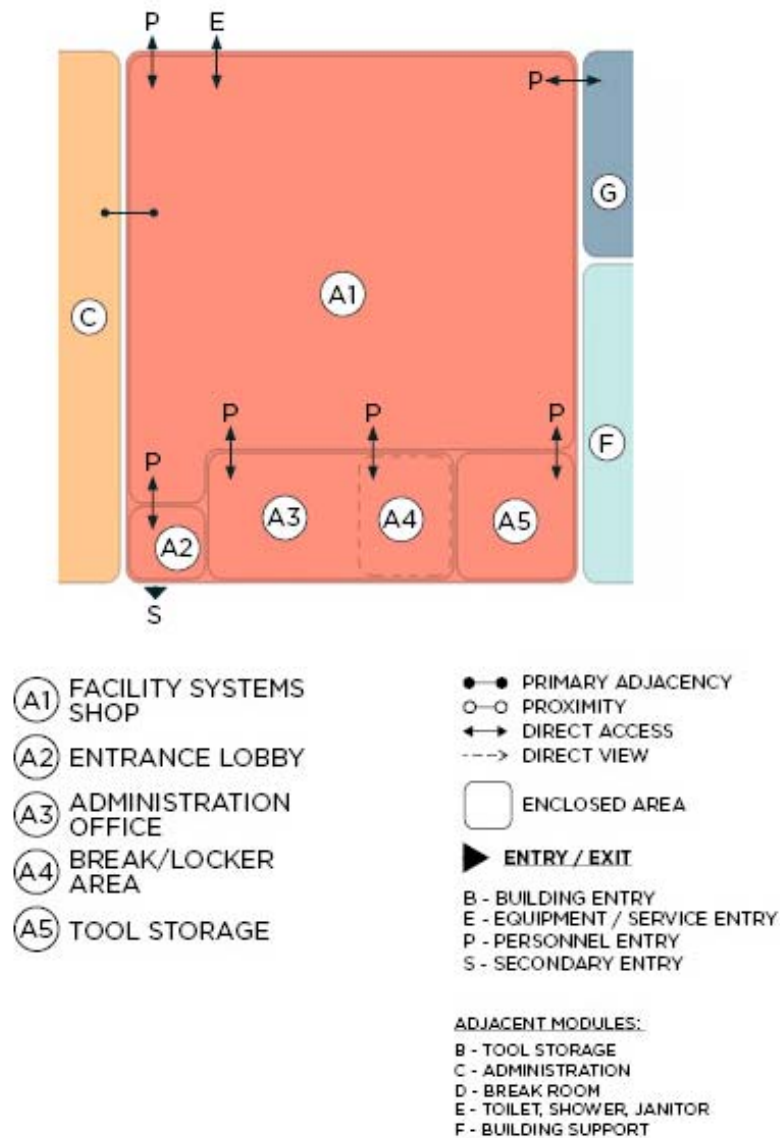
DRAWINGS NOT TO SCALE

## MODULE A – FACILITY SYSTEMS ELEMENT

### Function and Adjacency

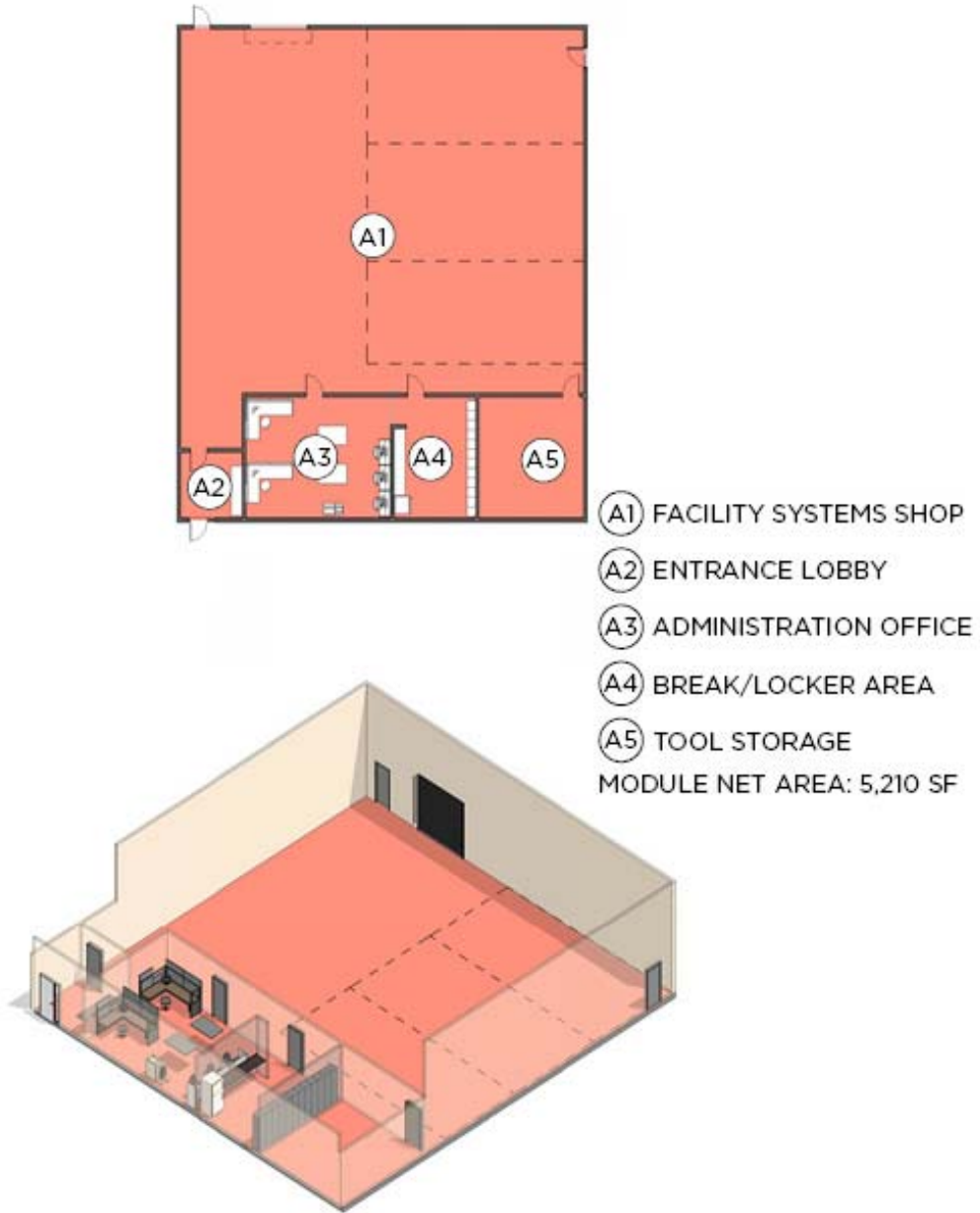
The Facility Systems Module is composed of a facility systems shop, a maintenance administration office area, break room, tools storage, and an entrance lobby. This module is accessible via an entrance lobby from the fenced government loading/parking zone.

Figure 2-A.1 Module A Adjacency Diagram



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**Facility Systems Element**  
**Figure 2-A.2 Module A Floor Plan & Axonometric**



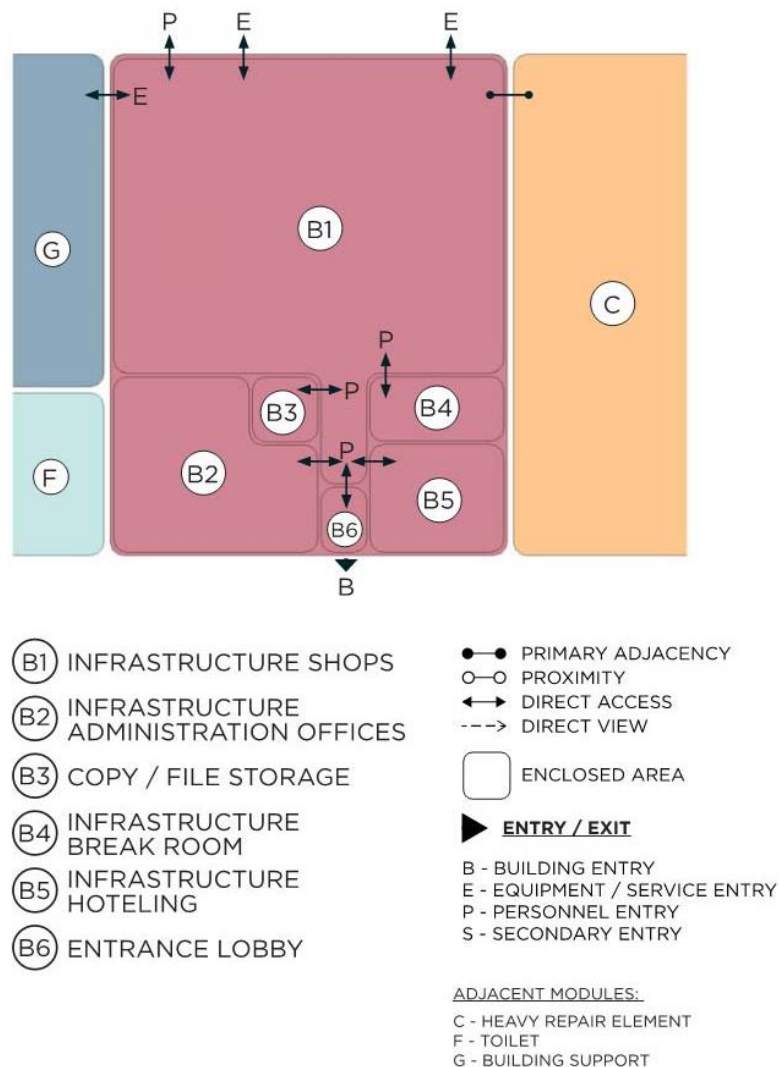
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## MODULE B – INFRASTRUCTURE ELEMENT

### Function and Adjacency

The Infrastructure Element Module is composed of an infrastructure shop, infrastructure administration office, break room, copy/file storage room, hoteling room, and entrance lobby. This module is accessible via an entrance lobby that accesses from the fenced government loading/parking zone.

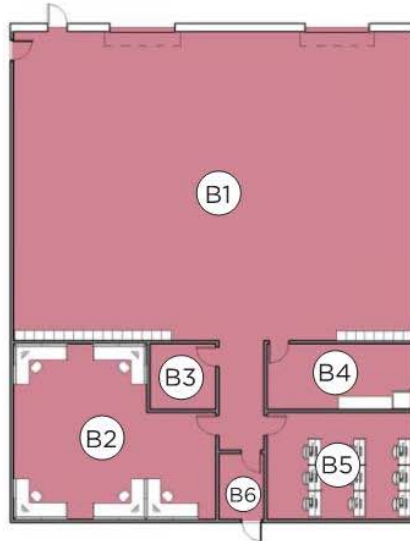
Figure 2-B.1 Module B Adjacency Diagram



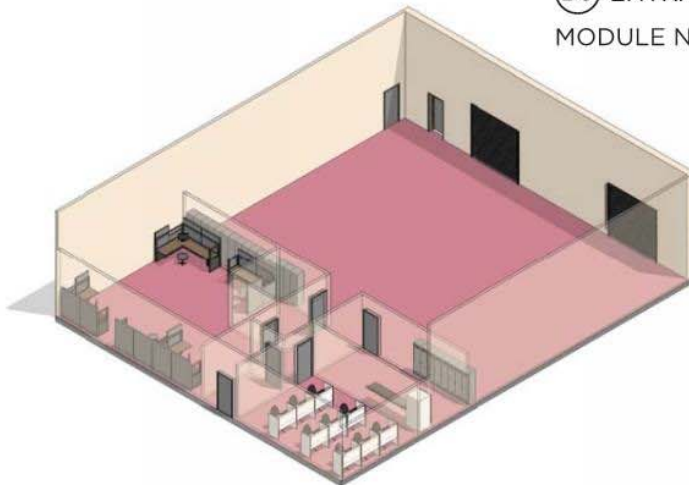
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**Infrastructure Element**  
**Figure 2-B.2 Module B Floor Plan & Axonometric**



- ⓑ1 INFRASTRUCTURE SHOPS
  - ⓑ2 INFRASTRUCTURE ADMINISTRATION OFFICES
  - ⓑ3 COPY / FILE STORAGE
  - ⓑ4 INFRASTRUCTURE BREAK ROOM
  - ⓑ5 INFRASTRUCTURE HOTELING
  - ⓑ6 ENTRANCE LOBBY
- MODULE NET AREA: 4,535 SF



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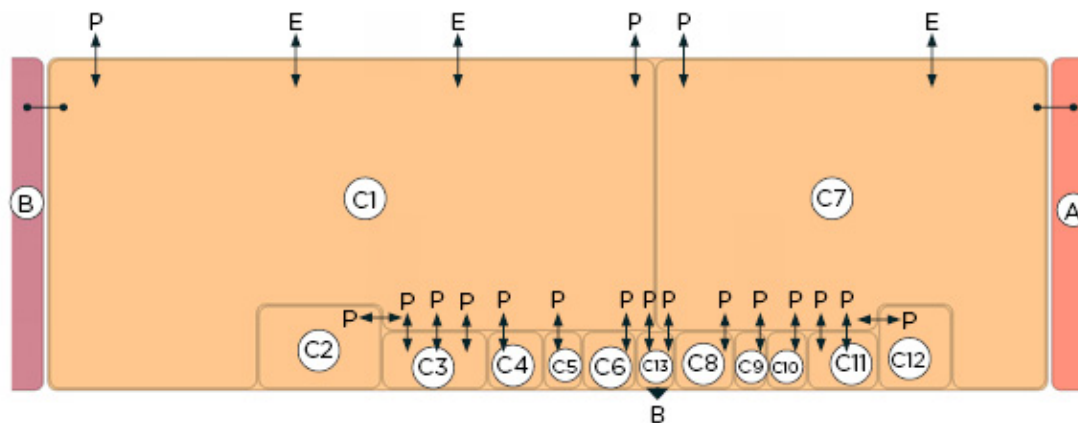
## MODULE C – HEAVY REPAIR ELEMENT

### Function and Adjacency

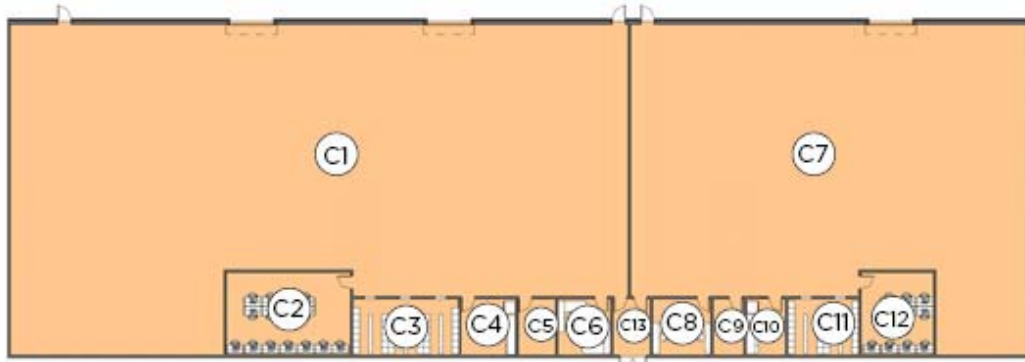
The Heavy Repair Element Shop Module is composed of a Structures Shop Sub-Module and a Pavement/Equipment Shop Sub-Module. The Structures Shop Sub-Module consists of a structures shop, administration office, hoteling room, locker area, break room, and technical library. The Pavement/Equipment Shop Sub-Module consists of a pavement/equipment shop, administration office, hoteling room, locker area, break room, and technical library. This module is accessible via an entrance lobby that accesses both sub-modules from the fenced government loading/parking zone.

Figure 2-C.1 Module C Adjacency Diagram

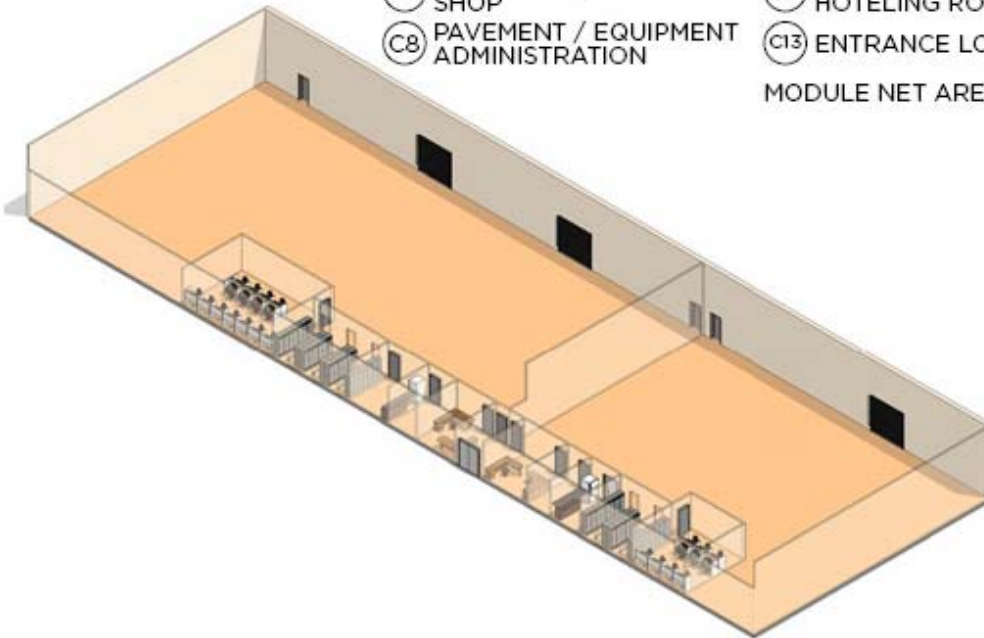
Heavy Repair Element  
Figure 2-C.2 Module C Floor Plan & Axonometric



- |   |                               |
|---|-------------------------------|
| (C1) STRUCTURES SHOP                        | ●-● PRIMARY ADJACENCY         |
| (C2) STRUCTURES HOTELING ROOM               | ○-○ PROXIMITY                 |
| (C3) STRUCTURES LOCKER AREA                 | ↔ DIRECT ACCESS               |
| (C4) STRUCTURES BREAK ROOM                  | - - -> DIRECT VIEW            |
| (C5) STRUCTURES TECHNICAL LIBRARY           | □ ENCLOSED AREA               |
| (C6) STRUCTURES ADMINISTRATION              | □ OPEN AREA                   |
| (C7) PAVEMENT / EQUIPMENT SHOP              | ▶ ENTRY / EXIT                |
| (C8) PAVEMENT / EQUIPMENT ADMINISTRATION    | B - BUILDING ENTRY            |
| (C9) PAVEMENT / EQUIPMENT TECHNICAL LIBRARY | E - EQUIPMENT / SERVICE ENTRY |
| (C10) PAVEMENT / EQUIPMENT BREAK ROOM       | P - PERSONNEL ENTRY           |
| (C11) PAVEMENT / EQUIPMENT LOCKER AREA      | S - SECONDARY ENTRY           |
| (C12) PAVEMENT / EQUIPMENT HOTELING ROOM    |                               |
| (C13) ENTRANCE LOBBY                        |                               |
- ADJACENT MODULES:  
A - FACILITY SYSTEMS ELEMENT  
B - INFRASTRUCTURE



- |                             |  |   |
|-----------------------------|--|---|
| Ⓒ1 STRUCTURES SHOP          | Ⓒ4 STRUCTURES BREAK ROOM               | Ⓒ9 PAVEMENT / EQUIPMENT TECHNICAL LIBRARY |
| Ⓒ2 STRUCTURES HOTELING ROOM | Ⓒ5 STRUCTURES TECHNICAL LIBRARY        | Ⓒ10 PAVEMENT / EQUIPMENT BREAK ROOM       |
| Ⓒ3 STRUCTURES LOCKER AREA   | Ⓒ6 STRUCTURES ADMINISTRATION           | Ⓒ11 PAVEMENT / EQUIPMENT LOCKER AREA      |
|                             | Ⓒ7 PAVEMENT / EQUIPMENT SHOP           | Ⓒ12 PAVEMENT / EQUIPMENT HOTELING ROOM    |
|                             | Ⓒ8 PAVEMENT / EQUIPMENT ADMINISTRATION | Ⓒ13 ENTRANCE LOBBY                        |
- MODULE NET AREA: 17,230 SF



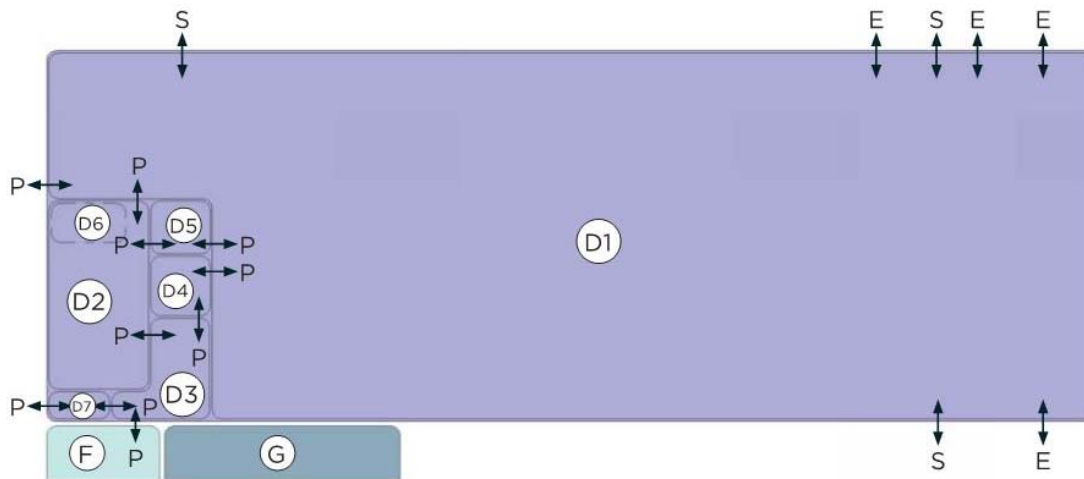
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## MODULE D – MATERIAL CONTROL/ WAREHOUSING

### Function and Adjacency

The Material Control/Warehousing Module is composed of a stock storage area, material control administration office, break room, copy/file/storage, internal self-help room, lobby area, and entrance vestibule. This module is accessible from the fenced government loading/parking zone.

Figure 2-D.1 Module D Adjacency Diagram



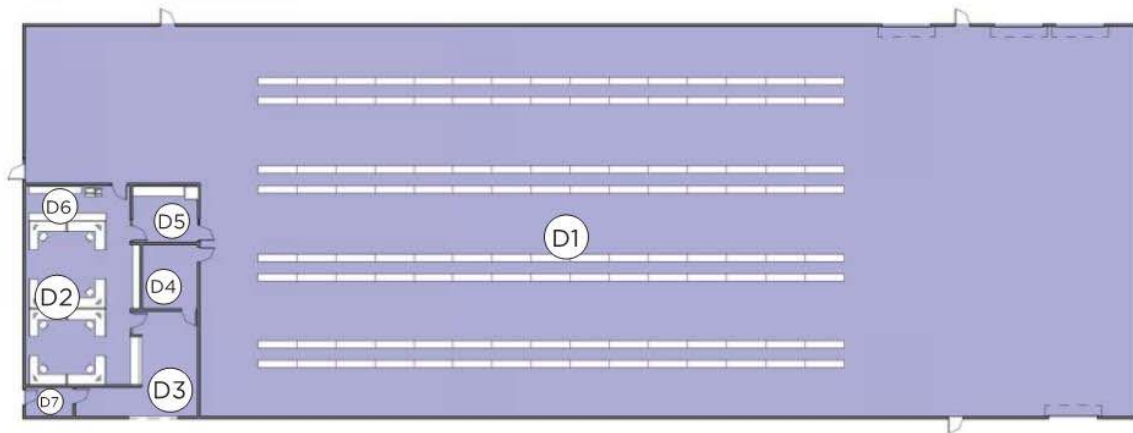
- (D1) STOCK STORAGE AREA
- (D2) MATERIAL CONTROL ADMINISTRATION OFFICE
- (D3) LOBBY
- (D4) INTERNAL SELF-HELP
- (D5) BREAK ROOM
- (D6) COPY/FILE STORAGE
- (D7) ENTRANCE LOBBY

- PRIMARY ADJACENCY
- PROXIMITY
- ↔ DIRECT ACCESS
- > DIRECT VIEW
- ENCLOSED AREA
- ▶ **ENTRY / EXIT**
- B - BUILDING ENTRY
- E - EQUIPMENT / SERVICE ENTRY
- P - PERSONNEL ENTRY
- S - SECONDARY ENTRY

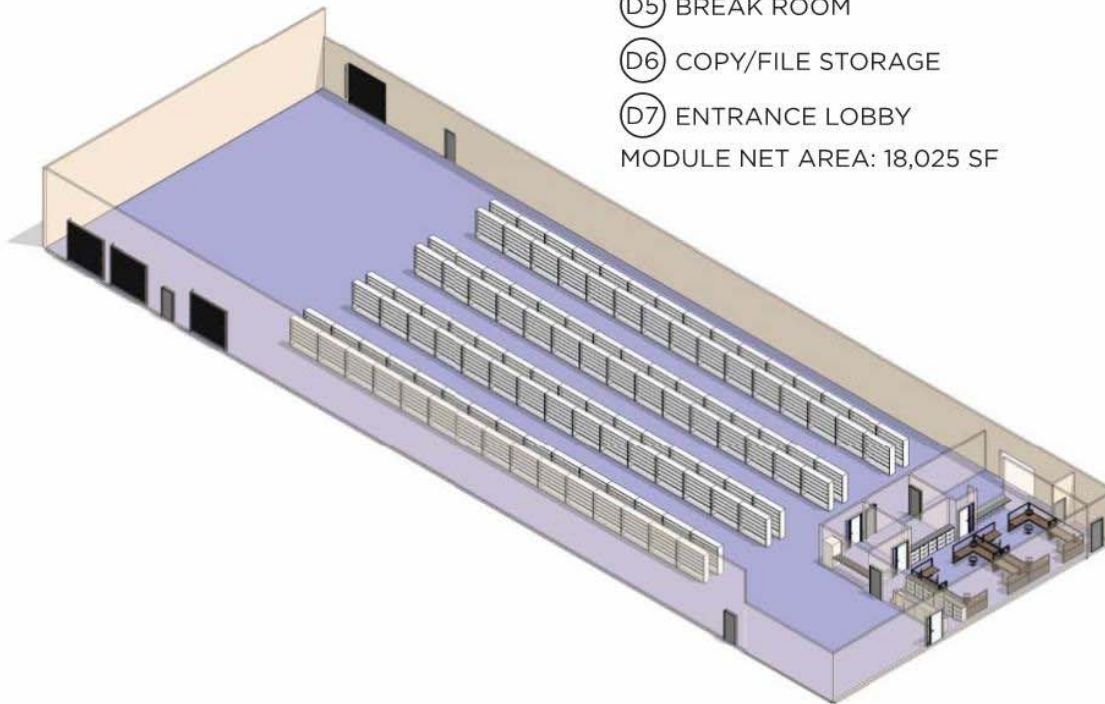
ADJACENT MODULES:  
 F - TOILET  
 G - BUILDING SUPPORT

DRAWINGS NOT TO SCALE

**Material Control/ Warehousing**  
**Figure 2-D.2 Module D Floor Plan & Axonometric**



- (D1) STOCK STORAGE AREA
  - (D2) MATERIAL CONTROL  
ADMINISTRATION OFFICE
  - (D3) LOBBY
  - (D4) INTERNAL SELF-HELP
  - (D5) BREAK ROOM
  - (D6) COPY/FILE STORAGE
  - (D7) ENTRANCE LOBBY
- MODULE NET AREA: 18,025 SF



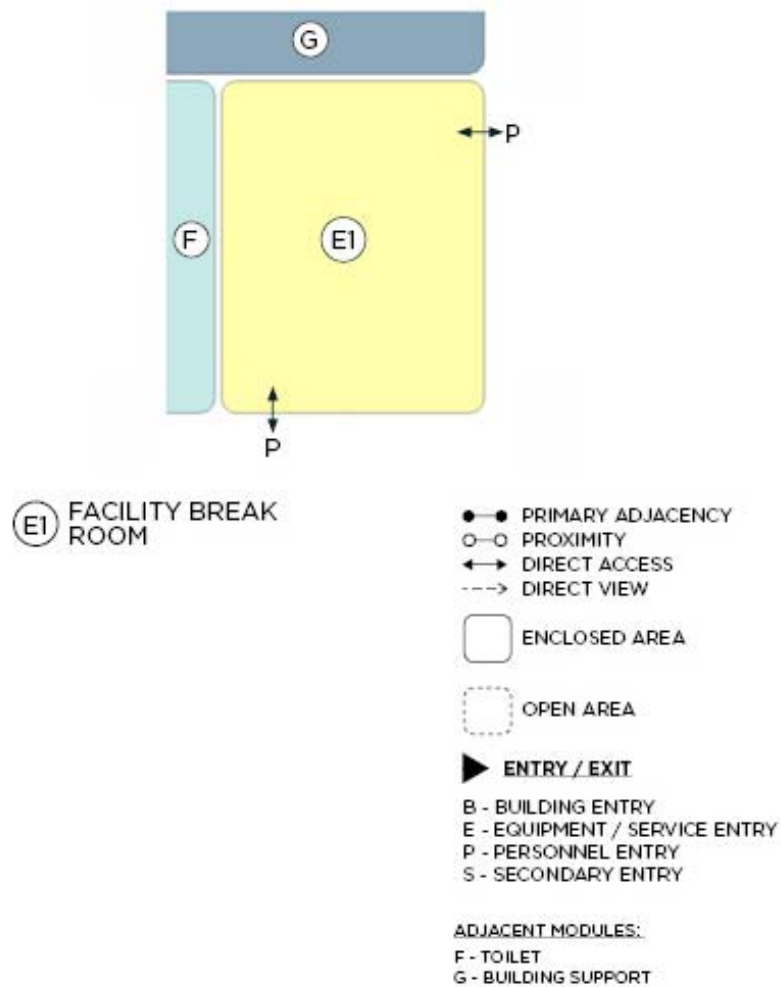
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## MODULE E – FACILITY BREAK ROOM

### Function and Adjacency

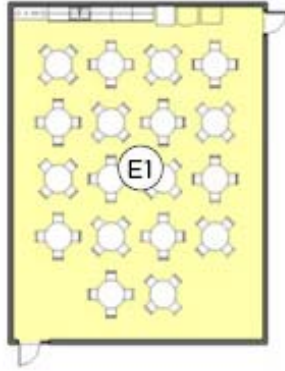
This is the primary break room and ready room for all staff in the facility. The break room is required to have a designated recycling area. This room shall have exterior access and is in close proximity to the Toilet Module.

**Figure 2-E.1 Module E Adjacency Diagram**

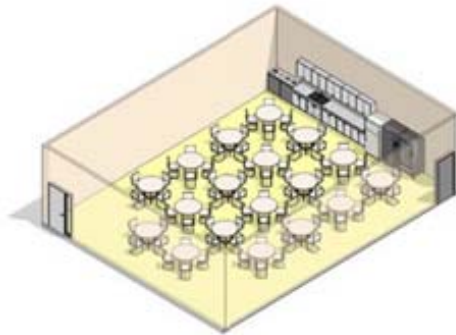


DRAWINGS NOT TO SCALE

**Facility Break Room**  
**Figure 2-E.2 Module E Floor Plan & Axonometric**



**E1** FACILITY BREAK ROOM  
MODULE NET AREA: 1,635 SF



DRAWINGS NOT TO SCALE

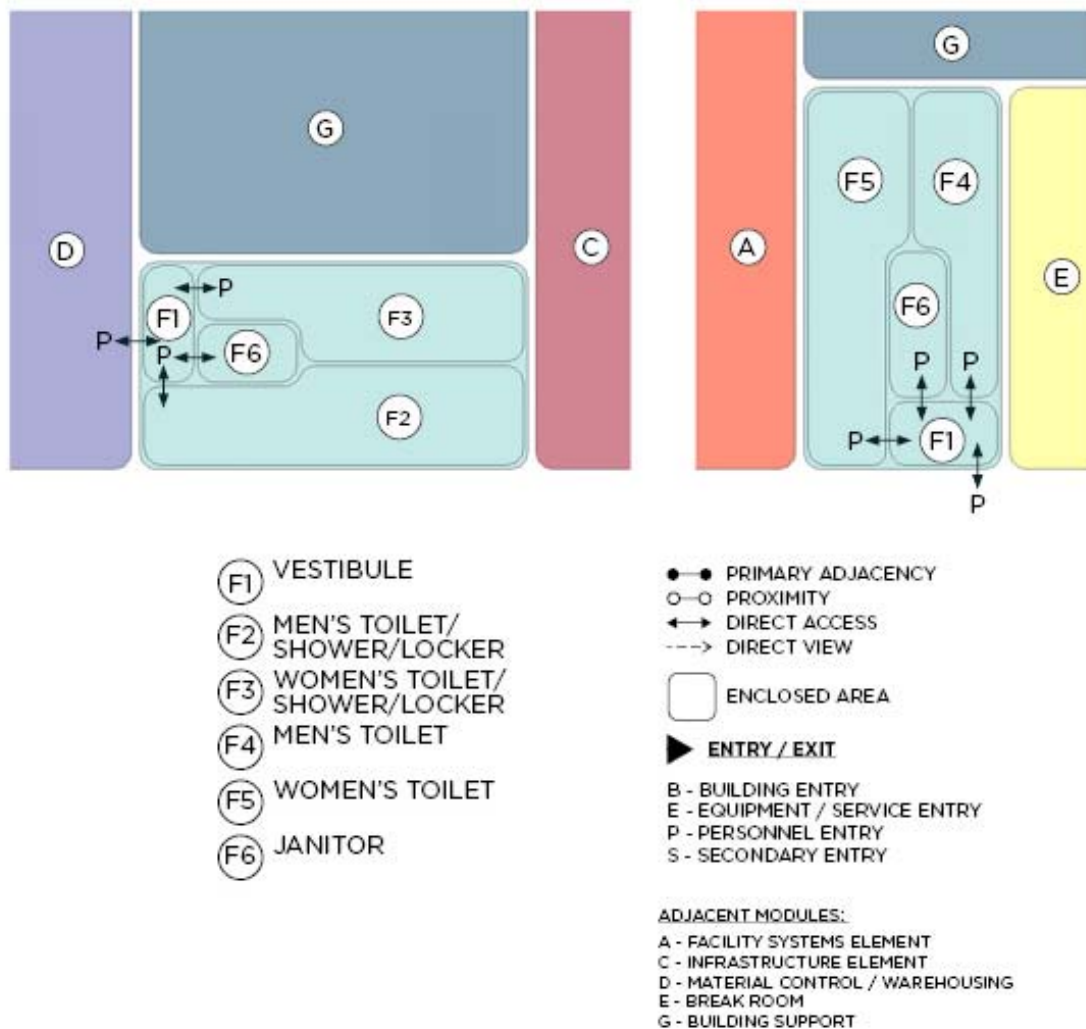


## MODULE F – TOILET

### Function and Adjacency

The Toilet Module consists of two toilet modules: a men’s and women’s toilet room (with a janitor’s closet) located adjacent to the Facility Break Room Module accessed from the government loading/parking zone; and a men’s and women’s/toilet/shower room (with a janitor’s closet) located adjacent to the Material Control/Warehousing Module. The plumbing fixture count in the Standard design plan is approximate and actual plumbing fixture count shall be as required per actual occupancy count and as required in International Plumbing Codes, latest edition, Chapter 29.

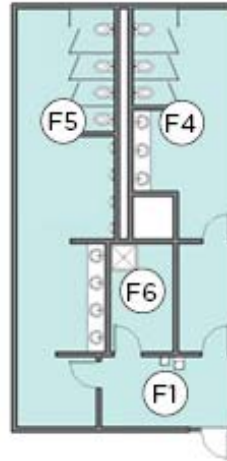
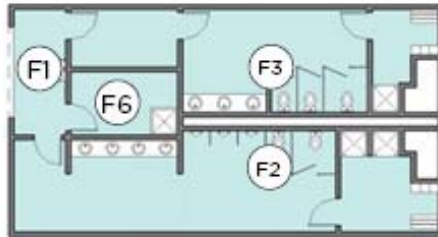
**Figure 2-F.1 Module F Adjacency Diagram**



DRAWINGS NOT TO SCALE

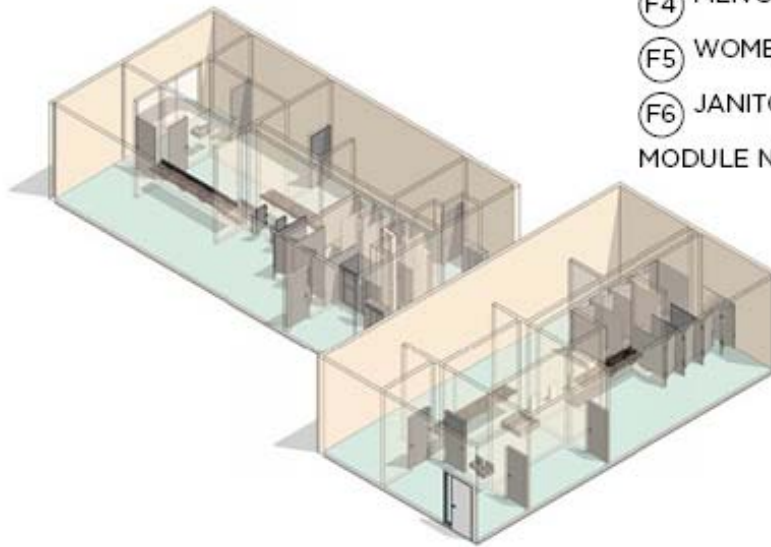


**Toilet**  
**Figure 2-F.2 Module F Floor Plan & Axonometric**



- (F1) VESTIBULE
- (F2) MEN'S TOILET/  
SHOWER/LOCKER
- (F3) WOMEN'S TOILET/  
SHOWER/LOCKER
- (F4) MEN'S TOILET
- (F5) WOMEN'S TOILET
- (F6) JANITOR

MODULE NET AREA: 2,010 SF



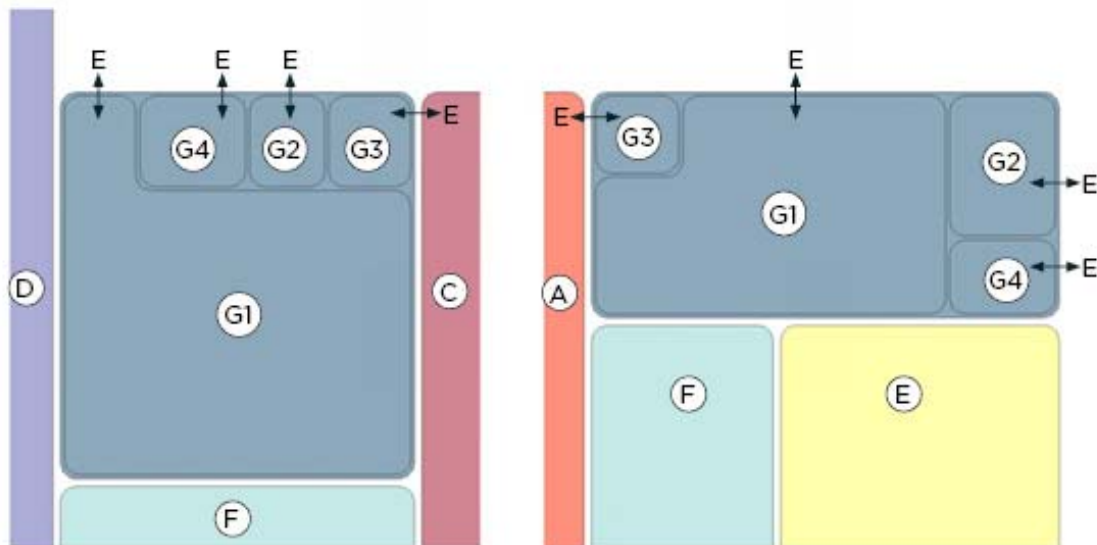
DRAWINGS NOT TO SCALE

## MODULE G –BUILDING SUPPORT

### Function and Adjacency

The Building Support Module consists of a mechanical room, electrical room, and telecommunications room (fire protection room if not in mechanical room). Due to the linear arrangement of the structure as well as certain shop requirements, multiples of the room will need to be located on either end of the facility and shall be arranged to accommodate adjacent module needs. All rooms shall have exterior access (with the exception of the communication room, which may have interior access). These modules are to be located on an exterior wall adjacent to a utility courtyard and accessible for maintenance.

**Figure 2-G.1 Module G Adjacency Diagram**



- Ⓜ MECHANICAL
- Ⓜ ELECTRICAL
- Ⓜ IT/COMM
- Ⓜ FIRE PUMP

- PRIMARY ADJACENCY
- PROXIMITY
- ↔ DIRECT ACCESS
- > DIRECT VIEW

□ ENCLOSED AREA

▶ ENTRY / EXIT

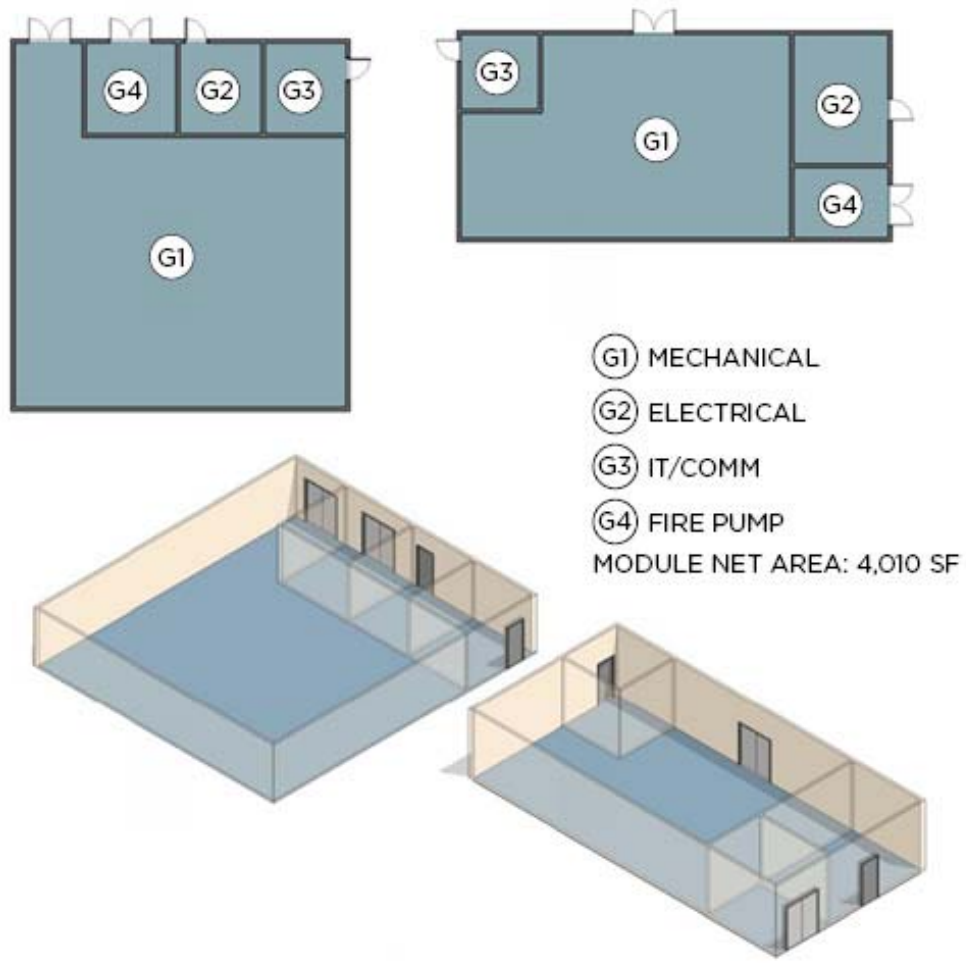
- B - BUILDING ENTRY
- E - EQUIPMENT / SERVICE ENTRY
- P - PERSONNEL ENTRY
- S - SECONDARY ENTRY

**ADJACENT MODULES:**

- A - FACILITY SYSTEMS ELEMENT
- C - INFRASTRUCTURE ELEMENT
- D - MATERIAL CONTROL / WAREHOUSING
- E - BREAK ROOM
- F - TOILET

DRAWINGS NOT TO SCALE

**Building Support**  
**Figure 2-G.2 Module G Floor Plan & Axonometric**



DRAWINGS NOT TO SCALE

#### **2.4.E. Room Data Sheets**

Specific requirements for each room, space, or area are provided on room data sheets that correspond to their respective color-coded Modules, basis of design Functional Adjacency Diagram as well as the Interactive Programming Worksheet. Information contained on the data sheets defines the functional and physical requirements for each of the spaces within the facility type and are generally minimum requirements and must be modified as required for specific unique situations/scenarios as deemed appropriate by the USAF.

Figure 2-A.3.1 Facility Systems Shop		
Index	A1	
Description/Usage	Approximately 4200 sf; high bay area consisting of an alarm shop, electrical shop and a power pro shop.	
Ceiling Height	20'-0" minimum	
Windows	Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02, or Translucent Wall Panels	
Doors	Type Overhead coiling door, 10' x 10' power operated	
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" at all exterior doors Kick plates both sides of all doors
Finishes	Walls	CMU - painted wainscot to 8', pre-finished metal wall or liner panels above to roof deck; CMU or wire mesh/chain link separation walls
	Floor	Epoxy - non-slip (fuel resistant) or sealed concrete
	Base	No base
	Ceiling	Exposed structure – painted
Plumbing	No floor drains; eyewash shower/eyewash stations per UFC 3-420-01; compressed air drop every 25 feet; coordinate drop locations with users; hose bibb	
HVAC	Heated with overhead infrared heaters; ventilation with exhaust fans and intake louvers	
Fire Protection	Wet pipe or dry pipe sprinkler system as required by UFC 3-600-01	
Power	208V-3P, 480V-3P receptacles, and receptacles per UFC 3-520-01	
Lighting	Per UFC 3-530-01	
Communication	Tele.	One per room
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical	Per UFC 3-450-01 for noise control	
Furnishings, Equipment and Casework	Marker boards	
Special Requirements	Wall and doors separating shops (non-conditioned space) and administration (conditioned spaces) to be insulated.	

Figure 2-A.3.2 Entrance Lobby		
Index		A2
Description/Usage		Entrance point from government loading/parking area for facility maintenance shop.
Ceiling Height		9'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for exterior doors and doors to shop area Kick plates both sides of door
Finishes	Walls	Gypsum board - painted
	Floor	Sealed concrete, stained concrete, or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		N/A
HVAC		Air conditioned; heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		N/A
Special Requirements		Walk-off mat

Figure 2-A.3.3 Administration Office		
Index	A3	
Description/Usage	This room is an open office space that accommodates approximately 5 staff (3E6) personnel. The area includes space for 2 workstations for the shop administrator and the shop foremen, three hoteling work carrels, and a copy/file storage area located in center of the space.	
Ceiling Height	9'-0" minimum	
Windows	Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02	
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to shop Kick plates both sides of door
Finishes	Walls	Systems furniture, demountable partitions or gyp. board - painted
	Floor	Sealed concrete, stained concrete, tile or carpet tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing	N/A	
HVAC	Air conditioned; heated; ventilation	
Fire Protection	Wet pipe sprinkler system	
Power	Per UFC 3-520-01	
Lighting	Per UFC 3-530-01	
Communication	Tele.	One per desk
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements	Per UFC 3-450-01 for noise control	
Furnishings, Equipment and Casework	2 workstations, 3 hoteling desks, copy machine and file storage.	
Special Requirements	N/A	

Figure 2-A.3.4 Break/Locker Area		
Index		A4
Description/Usage		This area has counter/cabinets with sink and space for refrigerator as well as space for full-height lockers (12' x 12" minimum) for PPE, one for each staff member.
Ceiling Height		9'-0" minimum
Windows		Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to shop Kick plates both sides of doors
Finishes	Walls	Gypsum board – painted or CMU - painted
	Floor	Sealed concrete, stained concrete, or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		Sink with disposal, hot water
HVAC		Air conditioned; heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		120V dedicated circuits for coffee maker, microwave, & refrigerator; 120V convenience outlets per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	See plans for locations
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		Refrigerator, microwave, sink with disposal; 10-12 full-height lockers (12" x 12" minimum), dependent on authorized personnel (each assigned person to have individual lockers for PPE, etc.)
Special Requirements		N/A



Figure 2-A.3.5 Tool Storage		
Index		A5
Description/Usage		Storage room for general tool storage, approximately 350 sf.
Ceiling Height		9'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	No view panels Kick plates both sides of doors
Finishes	Walls	Demountable partitions or gypsum board - painted
	Floor	Sealed concrete, stained concrete
	Base	Resilient Base
	Ceiling	Acoustical Ceiling Tile, or exposed structure – Painted
Plumbing		N/A
HVAC		Heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	One per space
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	Intrusion detection system (IDS)
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		Storage racks/shelving.
Special Requirements		N/A

Figure 2-B.3.1 Infrastructure Shops		
Index	B1	
Description/Usage	Approximately 3100 sf; area for general infrastructure equipment maintenance. Approximately 27 staff positions work in this area. Separate areas within the shop shall be designated for environmental control systems, water and fuel systems, entomology and HVAC. Space also includes area for staff locker storage for PPE, one for each staff member.	
Ceiling Height	20'-0" minimum	
Windows	Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02 or Translucent Wall Panels	
Doors	Type	Hollow metal, 3' x 7' Overhead coiling door (2), 14' x 14' power operated
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" at all exterior doors and bench stock room Kick plates both sides of all doors
Finishes	Walls	CMU - painted wainscot to 8', pre-finished metal wall or liner panels above to roof deck; CMU or wire mesh/chain link separation walls.
	Floor	Epoxy - non-slip (fuel resistant) or sealed concrete
	Base	No base
	Ceiling	Exposed structure – painted
Plumbing	No floor drains; eyewash shower/eyewash stations per UFC 3-420-01; compressed air drop every 25 feet; coordinate drop locations with users; hose bibb	
HVAC	Heated with overhead infrared heaters; ventilation with exhaust fans and intake louvers	
Fire Protection	Wet pipe or dry pipe sprinkler system as required by UFC 3-600-01	
Power	Per UFC 3-520-01	
Lighting	Per UFC 3-530-01	
Communication	Tele.	One per space
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical	Per UFC 3-450-01 for noise control	
Furnishings, Equipment and Casework	(1) full height locker per authorized personnel	
Special Requirements	Wall and doors separating shops (non-conditioned space) and Administration (conditioned spaces) to be insulated.	

Figure 2-B.3.2 Infrastructure Administration Office		
Index	B2	
Description/Usage	Office space with 5 separate offices for utilities foreman, liquid fuels foreman, electric distribution foreman, two controls and alarms foremen. Offices shall be 80 sf with desk/workstation.	
Ceiling Height	9'-0" minimum	
Windows	Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02	
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor and to offices Kick plates both sides of door
Finishes	Walls	Systems furniture, demountable partitions or gyp. board - painted
	Floor	Sealed concrete, stained concrete, tile or carpet tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing	N/A	
HVAC	Air conditioned; heated; ventilation	
Fire Protection	Wet pipe sprinkler system	
Power	Per UFC 3-520-01	
Lighting	Per UFC 3-530-01	
Communication	Tele.	One per desk
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements	Per UFC 3-450-01 for noise control	
Furnishings, Equipment and Casework	One desk/workstation and chair in each office.	
Special Requirements	N/A	

Figure 2-B.3.3 Copy/File Storage Room		
Index		B3
Description/Usage		Workroom area for copying and or storing files
Ceiling Height		9'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of door
Finishes	Walls	Systems furniture, demountable partitions or gyp. board - painted
	Floor	Sealed concrete, stained concrete, or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		N/A
HVAC		Air conditioned; heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		Counter, copier and storage casework
Special Requirements		N/A

Figure 2-B.3.4 Infrastructure Break Room		
Index		B4
Description/Usage		This area has counter/cabinets with sink and space for refrigerator.
Ceiling Height		9'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of doors
Finishes	Walls	Gypsum board – painted or CMU - painted
	Floor	Sealed concrete, stained concrete, or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		Sink with disposal, hot water
HVAC		Air conditioned; heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		120V dedicated circuits for coffee maker, microwave, refrigerator; 120V convenience outlets per UFC 3-530-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	Yes
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		Refrigerator, microwave, sink with disposal.
Special Requirements		N/A

Figure 2-B.3.5 Infrastructure Hoteling Room		
Index	B5	
Description/Usage	Office area intended for staff to use on a temporary basis. Room should accommodate approximately 9 work carrels.	
Ceiling Height	9'-0" minimum	
Windows	Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02	
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of door
Finishes	Walls	Systems furniture, demountable partitions or gyp. board - painted
	Floor	Sealed concrete, stained concrete, tile or carpet tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing	N/A	
HVAC	Air conditioned; heated; ventilation	
Fire Protection	Wet pipe sprinkler system	
Power	Per UFC 3-520-01	
Lighting	Per UFC 3-530-01	
Communication	Tele.	One per desk
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements	Per UFC 3-450-01 for noise control	
Furnishings, Equipment and Casework	9 workstations	
Special Requirements	N/A	

Figure 2-B.3.6 Entrance Lobby		
Index		B6
Description/Usage		Entrance lobby and corridor to module.
Ceiling Height		9'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for exterior doors and doors to shop area Kick plates both sides of door
Finishes	Walls	Gypsum board - painted
	Floor	Sealed concrete, stained concrete, or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		N/A
HVAC		Air conditioned; heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		N/A
Special Requirements		Walk-off mat

Figure 2-C.3.1 Structures Shop		
<b>Index</b>	C1	
<b>Description/Usage</b>	Approximately 9200 sf; High Bay area for general equipment maintenance. Approximately 38 staff personnel work in this area.	
<b>Ceiling Height</b>	20'-0" minimum	
<b>Windows</b>	Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02 or Translucent Wall Panels	
<b>Doors</b>	<b>Type</b>	Hollow metal, 3' x 7' Overhead coiling door (2), 14' x 14' power operated
	<b>Security/ Hardware</b>	Keyed lock set
	<b>View Panels/ Kick Plates</b>	View panels, 5" x 20" at all exterior doors Kick plates both sides of all doors
<b>Finishes</b>	<b>Walls</b>	CMU - painted wainscot to 8', pre-finished metal wall or liner panels above to roof deck; CMU or wire mesh/chain link separation walls.
	<b>Floor</b>	Epoxy - non-slip (fuel resistant) or sealed concrete
	<b>Base</b>	No base
	<b>Ceiling</b>	Exposed structure – painted
<b>Plumbing</b>	No floor drains; eyewash shower/eyewash stations per UFC 3-420-01; compressed air drop every 25 feet; coordinate drop locations with users; hose bibb	
<b>HVAC</b>	Heated with overhead infrared heaters; ventilation with exhaust fans and intake louvers	
<b>Fire Protection</b>	Wet pipe or dry pipe sprinkler system as required by UFC 3-600-01	
<b>Power</b>	Per UFC 3-520-01	
<b>Lighting</b>	Per UFC 3-530-01	
<b>Communication</b>	<b>Tele.</b>	One per space
	<b>Data</b>	NIPR
	<b>CCTV</b>	N/A
	<b>CATV</b>	N/A
	<b>Security</b>	N/A
<b>Acoustical</b>	Per UFC 3-450-01 for noise control	
<b>Furnishings, Equipment and Casework</b>	Four workstations, hoteling stations, full height lockers (18" x 18") and benches, dependent on authorized personnel (each assigned person to have individual locker, breakroom furnishings.	
<b>Special Requirements</b>	Wall and doors separating shops (non-conditioned space) and administration (conditioned spaces) to be insulated.	



Figure 2-C.3.2 Structures Hoteling		
Index		C2
Description/Usage		Open area intended for staff to use on a temporary basis. Room should accommodate approximately 15 work carrels.
Ceiling Height		9'-0" minimum
Windows		Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of door
Finishes	Walls	Gypsum board – painted
	Floor	Sealed concrete, stained concrete or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		N/A
HVAC		Air conditioned; heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	One per desk
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		Fifteen work carrels
Special Requirements		N/A

Figure 2-C.3.3 Structures Lockers		
Index		C3
Description/Usage		Area is for staff locker storage, open to structures shop. Full-height lockers (18' x 18") for PPE shall be provided for all staff members.
Ceiling Height		9'-0" minimum
Windows		N/A
Doors	Type	No doors
	Security/ Hardware	N/A
	View Panels/ Kick Plates	N/A
Finishes	Walls	Gypsum board – painted
	Floor	Sealed concrete, stained concrete, or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		N/A
HVAC		Heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		N/A
Furnishings, Equipment and Casework		38 full height lockers (18" x 18") and benches, dependent on authorized personnel (each assigned person to have individual lockers for PPE, etc.)
Special Requirements		N/A

Figure 2-C.3.4 Structures Break Room		
Index		C4
Description/Usage		This area has counter/cabinets with sink and space for refrigerator.
Ceiling Height		9'-0" minimum
Windows		Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of doors
Finishes	Walls	Gypsum board – painted
	Floor	Sealed concrete, Stained concrete or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		Sink with disposal, hot water
HVAC		Air conditioned; heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		120V dedicated circuits for coffee maker, microwave, refrigerator; 120V convenience outlets per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	Yes
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		Refrigerator, microwave, sink with disposal
Special Requirements		N/A

Figure 2-C.3.5 Structures Technical Library		
Index	C5	
Description/Usage	Room for file and information storage.	
Ceiling Height	9'-0" minimum	
Windows	Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02	
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of door
Finishes	Walls	Gypsum board – painted
	Floor	Sealed concrete, stained concrete or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing	N/A	
HVAC	Air conditioned; heated; ventilation	
Fire Protection	Wet pipe sprinkler system	
Power	Per UFC 3-520-01	
Lighting	Per UFC 3-530-01	
Communication	Tele.	One per desk
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements	Per UFC 3-450-01 for noise control	
Furnishings, Equipment and Casework	Storage/shelving	
Special Requirements	N/A	

Figure 2-C.3.6 Structures Administration		
Index	C6	
Description/Usage	Office with two desks/workstations; one desk for the shop foreman and one desk for the shop administrator.	
Ceiling Height	9'-0" minimum	
Windows	Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02	
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of door
Finishes	Walls	Gypsum board – painted
	Floor	Sealed concrete, stained concrete, tile or carpet tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing	N/A	
HVAC	Air conditioned; heated; ventilation	
Fire Protection	Wet pipe sprinkler system	
Power	Per UFC 3-520-01	
Lighting	Per UFC 3-530-01	
Communication	Tele.	One per desk
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements	Per UFC 3-450-01 for noise control	
Furnishings, Equipment and Casework	Two workstations	
Special Requirements	N/A	

Figure 2-C.3.7 Pavement/Equipment Shop		
Index		C7
Description/Usage		Approximately 5800 sf; high bay area for general maintenance for vehicles and tools, store attachments and other heavy machinery/tools (cutting edges, blades, brooms, etc.). Approximately 28 staff personnel work in this area.
Ceiling Height		20'-0" minimum or as required for 15' hook height clearance
Windows		Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02 or Translucent Wall Panels
Doors	Type	Hollow metal, 3' x 7' Overhead coiling door, 14' x 14' power operated
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" at all exterior doors and bench stock room Kick plates both sides of all doors
Finishes	Walls	CMU - painted wainscot to 8', pre-finished metal wall or liner panels above to roof deck; CMU or wire mesh/chain link separation walls.
	Floor	Epoxy - non-slip (fuel resistant) or sealed concrete
	Base	No base
	Ceiling	Exposed structure – painted
Plumbing		No floor drains; eyewash shower/eyewash stations per UFC 3-420-01; compressed air drop every 25 feet; coordinate drop locations with users; hose bibb
HVAC		Heated with overhead infrared heaters; ventilation with exhaust fans and intake louvers
Fire Protection		Wet pipe or dry pipe sprinkler system as required by UFC 3-600-01
Power		208V-3p, 480V-3p, and receptacles per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	One per space
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		N/A
Special Requirements		Wall and doors separating shops (non-conditioned space) and administration (conditioned spaces) to be insulated.

Figure 2-C.3.8 Pavement/Equipment Administration		
<b>Index</b>		C8
<b>Description/Usage</b>		Office with two desks/workstations; one desk for the shop foreman and one desk for the shop administrator.
<b>Ceiling Height</b>		9'-0" minimum
<b>Windows</b>		Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02
<b>Doors</b>	<b>Type</b>	Hollow metal, 3' x 7'
	<b>Security/ Hardware</b>	Keyed lock set
	<b>View Panels/ Kick Plates</b>	View panels, 5" x 20" for door to corridor Kick plates both sides of door
<b>Finishes</b>	<b>Walls</b>	Gypsum board – painted
	<b>Floor</b>	Sealed concrete, stained concrete, tile, or carpet tile
	<b>Base</b>	Resilient or tile
	<b>Ceiling</b>	Acoustical Ceiling Tile
<b>Plumbing</b>		N/A
<b>HVAC</b>		Air conditioned; heated; ventilation
<b>Fire Protection</b>		Wet pipe sprinkler system
<b>Power</b>		Per UFC 3-520-01
<b>Lighting</b>		Per UFC 3-530-01
<b>Communication</b>	<b>Tele.</b>	One per desk
	<b>Data</b>	NIPR
	<b>CCTV</b>	N/A
	<b>CATV</b>	N/A
	<b>Security</b>	N/A
<b>Acoustical Requirements</b>		Per UFC 3-450-01 for noise control
<b>Furnishings, Equipment and Casework</b>		Two workstations
<b>Special Requirements</b>		N/A

Figure 2-C.3.9 Pavement/Equipment Technical Library		
Index	C9	
Description/Usage	Room for file and information storage.	
Ceiling Height	9'-0" minimum	
Windows	Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02	
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of door
Finishes	Walls	Gypsum board – painted
	Floor	Sealed concrete, stained concrete, or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing	N/A	
HVAC	Air conditioned; heated; ventilation	
Fire Protection	Wet pipe sprinkler system	
Power	Per UFC 3-520-01	
Lighting	Per UFC 3-530-01	
Communication	Tele.	One per desk
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements	Per UFC 3-450-01 for noise control	
Furnishings, Equipment and Casework	Storage/shelving	
Special Requirements	N/A	



Figure 2-C.3.10 Pavement/Equipment Break Room		
Index		C10
Description/Usage		This area has counter/cabinets with sink and space for refrigerator.
Ceiling Height		9'-0" minimum
Windows		Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of doors
Finishes	Walls	Gypsum board – painted or CMU - painted
	Floor	Sealed concrete, stained concrete, or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		Sink with disposal, hot water
HVAC		Air Conditioned; heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		120V dedicated circuits for coffee maker, microwave, refrigerator; 120V convenience outlets per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	Yes
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		Refrigerator, microwave, sink with disposal.
Special Requirements		N/A

Figure 2-C.3.11 Pavement/Equipment Lockers		
Index		C11
Description/Usage		Area is for staff locker storage, open to pavement/equipment shop. Full-height lockers (18" x 18") for PPE shall be provided for all staff members.
Ceiling Height		9'-0" minimum
Windows		N/A
Doors	Type	No doors
	Security/ Hardware	N/A
	View Panels/ Kick Plates	N/A
Finishes	Walls	Gypsum board - painted
	Floor	Sealed concrete, stained concrete, or tile
	Base	Resilient base or ceramic/porcelain tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		N/A
HVAC		Heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		N/A
Furnishings, Equipment and Casework		28 full height lockers (18" x 18") and benches, dependent on authorized personnel (each assigned person to have individual lockers for PPE, etc.)
Special Requirements		N/A

Figure 2-C.3.12 Pavement/Equipment Hoteling		
Index	C12	
Description/Usage	Office area intended for staff to use on a temporary basis. Room should accommodate approximately 10 work carrels.	
Ceiling Height	9'-0" minimum	
Windows	Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02	
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of door
Finishes	Walls	Gypsum board -painted
	Floor	Sealed concrete, stained concrete or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing	N/A	
HVAC	Air conditioned; heated; ventilation	
Fire Protection	Wet pipe sprinkler system	
Power	Per UFC 3-520-01	
Lighting	Per UFC 3-530-01	
Communication	Tele.	One per desk
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements	Per UFC 3-450-01 for noise control	
Furnishings, Equipment and Casework	Ten work carrels	
Special Requirements	N/A	

Figure 2-C.3.13 Entrance Lobby		
Index		C13
Description/Usage		Entrance lobby to Structures and Pavement/Equipment Sub-Modules of the heavy repair element shop.
Ceiling Height		9'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for exterior doors and doors to shop area Kick plates both sides of door
Finishes	Walls	Gypsum board - painted
	Floor	Sealed concrete, stained concrete or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		N/A
HVAC		Air conditioned; heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		N/A
Special Requirements		Walk-off mat

Figure 2-D.3.1 Stock Storage Area		
Index		D1
Description/Usage		Approximately 16,350 sf; high bay general storage area for bulk supplies, parts, etc., and deliveries. Warehouse area has a loading dock (recessed if required depending on site grading conditions).
Ceiling Height		20'-0" minimum
Windows		Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02 or Translucent Wall Panels
Doors	Type	Hollow metal, 3' x 7' Overhead coiling doors, 14' x 14' power operated
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" at all exterior doors and bench stock room Kick plates both sides of all doors
Finishes	Walls	CMU - painted wainscot to 8', pre-finished metal wall or liner panels above to roof deck
	Floor	Epoxy - non-slip (fuel resistant) or sealed concrete
	Base	No base
	Ceiling	Exposed structure – painted
Plumbing		Eyewash shower/eyewash stations per UFC 3-420-01
HVAC		Heated with overhead infrared heaters; ventilation with exhaust fans and intake louvers
Fire Protection		Wet pipe or dry pipe sprinkler system as required by UFC 3-600-01
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	One per space
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		N/A
Special Requirements		Wall and doors separating shops (non-conditioned space) and administration (conditioned spaces) to be insulated.

Figure 2-D.3.2 Material Control Administration Office		
Index	D2	
Description/Usage	This room is an open office area with desks for the material control/warehousing superintendents and material control section (6 positions). This area also has a file storage niche.	
Ceiling Height	9'-0" minimum	
Windows	N/A	
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of door
Finishes	Walls	Systems furniture, demountable partitions or gyp. board - painted
	Floor	Sealed concrete, stained concrete, or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing	N/A	
HVAC	Air conditioned; heated; ventilation	
Fire Protection	Wet pipe sprinkler system	
Power	Per UFC 3-520-01	
Lighting	Per UFC 3-530-01	
Communication	Tele.	One per desk
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements	Per UFC 3-450-01 for noise control	
Furnishings, Equipment and Casework	8 desks/workstations and work counter for two persons.	
Special Requirements	N/A	

Figure 2-D.3.3 Lobby		
Index	D3	
Description/Usage	This space consists of a lobby area with a customer counter that accesses the stock storage area and the material control administration office.	
Ceiling Height	9'-0" minimum	
Windows	N/A	
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor and to office Kick plates both sides of door
Finishes	Walls	Gypsum board - painted
	Floor	Sealed concrete, stained concrete or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing	N/A	
HVAC	Air conditioned; heated; ventilation	
Fire Protection	Wet pipe sprinkler system	
Power	Per UFC 3-520-01	
Lighting	Per UFC 3-530-01	
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements	Per UFC 3-450-01 for noise control	
Furnishings, Equipment and Casework	1 to 2 customer chairs	
Special Requirements	N/A	

Figure 2-D.3.4 Internal Self-Help		
Index	D4	
Description/Usage	Room with one desk/workstation accessing the stock storage area and lobby.	
Ceiling Height	9'-0" minimum	
Windows	N/A	
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" Kick plates both sides of door
Finishes	Walls	Gypsum board - painted
	Floor	Sealed concrete, stained concrete, or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing	N/A	
HVAC	Air conditioned; heated; ventilation	
Fire Protection	Wet pipe sprinkler system	
Power	Per UFC 3-520-01	
Lighting	Per UFC 3-530-01	
Communication	Tele.	One per desk
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements	Per UFC 3-450-01 for noise control	
Furnishings, Equipment and Casework	One desk/workstation, storage/filing casework	
Special Requirements	N/A	



Figure 2-D.3.5 Break Room		
Index		D5
Description/Usage		This area has counter/cabinets with sink and space for refrigerator.
Ceiling Height		9'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of doors
Finishes	Walls	Gypsum board – painted
	Floor	Sealed concrete, stained concrete, or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		Sink with disposal, hot water
HVAC		Air conditioned; heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		120V dedicated circuits for coffee maker, microwave, refrigerator; 120V convenience outlets per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	Yes
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		Refrigerator, microwave, sink with disposal
Special Requirements		N/A

Figure 2-D.3.6 Copy/File/Storage		
Index		D6
Description/Usage		This room is an open area with storage for files and space for a copier/printer.
Ceiling Height		9'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of door
Finishes	Walls	Gypsum board - painted
	Floor	Sealed concrete, stained concrete or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		N/A
HVAC		Air conditioned; heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		Work counter, copy machine, file/storage casework
Special Requirements		N/A

Figure 2-D.3.7 Entrance Vestibule		
Index		D7
Description/Usage		Entrance vestibule into lobby area of module.
Ceiling Height		9'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for exterior doors and doors to shop area Kick plates both sides of door
Finishes	Walls	Gypsum board - painted
	Floor	Sealed concrete, stained concrete, or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		N/A
HVAC		Air conditioned; heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		N/A
Special Requirements		Walk-off mat

Figure 2-E.3.1 Facility Break Room		
Index	E1	
Description/Usage	The facility break room is the primary break room and ready room for the facility and is used as informal gathering space for personnel during lunch and breaks, training/conference area, and a transitional space before and after shifts. This space will have cabinets/counter with sink, space for refrigerators (1 per shift), dishwasher, vending machines, and recycling bins. Break room (ready room) accommodates approximately 72 personnel, approximately 1,665 sf.	
Ceiling Height	9'-0" minimum	
Windows	Exterior – Aluminum framed, insulated fixed, blast resistant; Meeting daylighting requirements of UFC 1-200-02	
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	View panels, 5" x 20" for door to corridor Kick plates both sides of doors
Finishes	Walls	Gypsum board – painted or CMU - painted
	Floor	Sealed concrete, stained concrete or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing	Sink with disposal, hot water	
HVAC	Air conditioned; heated; ventilation	
Fire Protection	Wet pipe sprinkler system	
Power	120V dedicated circuits for coffee maker, microwave, refrigerator; 120V convenience outlets Per UFC 3-520-01	
Lighting	Per UFC 3-530-01	
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	Yes
	Security	N/A
Acoustical Requirements	Per UFC 3-450-01 for noise control	
Furnishings, Equipment and Casework	Refrigerator, microwave, dishwasher, double sink with disposal; vending machines; Wall-mounted bulletin boards (2) and wall-mounted TV monitors. 18 tables with 4 chairs each.	
Special Requirements	Recycling Area	

Figure 2-F.3.1 Vestibule Room Data Sheet		
Index		F1
Description/Usage		Entry area for toilet rooms. Space includes two water fountains (one ABA-compliant).
Ceiling Height		8'-0" minimum
Windows		N/A
Doors	Type	N/A
	Security/ Hardware	N/A
	View Panels/ Kick Plates	N/A
Finishes	Walls	Gypsum Board - Painted
	Floor	Porcelain Tile or Quartz Epoxy
	Base	Porcelain Tile or Quartz Epoxy
	Ceiling	Gypsum Board - Painted
Plumbing		
HVAC		Heating, ventilation, air conditioning. Exhaust directly outdoors. Combine exhaust with toilet rooms' exhaust.
Fire Protection / Life Safety		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical		Per UFC 3-450-01 for noise control
Furnishings / Equipment / Casework		N/A
Special Requirements		Water-resistant gypsum board throughout.

Figure 2-F.3.2 Men's Toilet, Shower, Locker		
Index		F2
Description/Usage		Men's toilet, shower, locker area
Ceiling Height		8'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Privacy lock set
	View Panels/ Kick Plates	No view panels Kick plates on both sides of door
Finishes	Walls	Gypsum board - painted
	Floor	Porcelain tile or quartz epoxy
	Base	Porcelain tile or quartz epoxy
	Ceiling	Gypsum board - painted
Plumbing		Water closets, urinals, lavatories. Floor drains in restroom and shower area.
HVAC		Heating, ventilation, air conditioning. Exhaust directly outdoors. Combine exhaust with janitor's closet.
Fire Protection / Life Safety		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical		Per UFC 3-450-01 for noise control
Furnishings / Equipment / Casework		Three lockers (one bench). Fixture count shall be determined by the number of building occupants at maximum load per International Plumbing Code latest edition, Chapter 29; wall hung water closets and urinals, lavatories in counter tops.
Special Requirements		Water-resistant gypsum board throughout

Figure 2-F.3.3 Women's Toilet, Shower, Locker		
Index		F3
Description/Usage		Women's toilet, shower, locker area
Ceiling Height		8'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Privacy lock set
	View Panels/ Kick Plates	No view panels Kick plates on both sides of door
Finishes	Walls	Gypsum board - painted
	Floor	Porcelain tile or quartz epoxy
	Base	Porcelain tile or quartz epoxy
	Ceiling	Gypsum board - painted
Plumbing		Water closets, lavatories. Floor drains in restroom and shower area.
HVAC		Heating, ventilation, air conditioning. Exhaust directly outdoors. Combine exhaust with janitor's closet.
Fire Protection / Life Safety		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical		Per UFC 3-450-01 for noise control
Furnishings / Equipment / Casework		Fixture count shall be determined by the number of building occupants at maximum load per International Plumbing Code latest edition, Chapter 29; wall hung water closets and lavatories in counter tops.
Special Requirements		Water-resistant gypsum board throughout

Figure 2-F.3.4 Men's Toilet		
Index		F4
Description/Usage		Men's toilet room with four water closets (one ABA-compliant), four urinals (one ABA-compliant) and 4 lavatories (one ABA-compliant).
Ceiling Height		8'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Privacy lock set
	View Panels/ Kick Plates	No view panels Kick plates on both sides of door
Finishes	Walls	Gypsum board – painted
	Floor	Porcelain tile or quartz epoxy
	Base	Porcelain tile or quartz epoxy
	Ceiling	Gypsum board – painted
Plumbing		Water closets, urinals, lavatories. Floor drain in restroom area.
HVAC		Heating, ventilation, air conditioning. Exhaust directly outdoors. Combine exhaust with janitor's closet.
Fire Protection / Life Safety		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical		Per UFC 3-450-01 for noise control
Furnishings / Equipment / Casework		Fixture count shall be determined by the number of building occupants at maximum load per International Plumbing Code latest edition, Chapter 29; wall hung water closets and urinals, lavatories in counter tops.
Special Requirements		Water-resistant gypsum board throughout



Figure 2-F.3.5 Women's Toilet		
Index		F5
Description/Usage		Women's toilet room with three water closets (one ABA-compliant) and three lavatories (one ABA-compliant).
Ceiling Height		8'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Privacy lock set
	View Panels/ Kick Plates	No view panels Kick plates on both sides of door
Finishes	Walls	Gypsum board - painted
	Floor	Porcelain tile or quartz epoxy
	Base	Porcelain tile or quartz epoxy
	Ceiling	Gypsum board - painted
Plumbing		Water closets, urinals, lavatories. Floor drain in restroom area.
HVAC		Heating, ventilation, air conditioning. Exhaust directly outdoors. Combine exhaust with janitor's closet.
Fire Protection / Life Safety		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical		Per UFC 3-450-01 for noise control
Furnishings / Equipment / Casework		Fixture count shall be determined by the number of building occupants at maximum load per International Plumbing Code latest edition, Chapter 29; wall hung water closets and lavatories in counter tops.
Special Requirements		Water-resistant gypsum board throughout

Figure 2-F.3.6 Janitor		
Index		F6
Description/Usage		Custodial room for general maintenance for the building. One each for men's/women's toilet and men's/women's toilet/shower areas.
Ceiling Height		8'-0" minimum
Windows		N/A
Doors	Type	Hollow metal, 3' x 7'
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	No view panels Kick plates both sides of door
Finishes	Walls	Gypsum Board - Painted, Ceramic Tile at mop sink
	Floor	Porcelain Tile or Quartz Epoxy
	Base	Porcelain Tile or Quartz Epoxy
	Ceiling	Gypsum Board - Painted
Plumbing		Mop sink with vacuum breaker, floor drain
HVAC		Heating, ventilation, air conditioning. Exhaust directly outdoors. Combine exhaust with toilet rooms' exhaust.
Fire Protection / Life Safety		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical		Per UFC 3-450-01 for noise control
Furnishings / Equipment / Casework		Fixture count shall be determined by the number of building occupants at maximum load per International Plumbing Code latest edition, Chapter 29
Special Requirements		Water-resistant gypsum board throughout.

Figure 2-G.3.1 Mechanical		
Index		G1
Description/Usage		Mechanical equipment and service.
Ceiling Height		No ceiling, 9'-0" minimum clearance
Windows		N/A
Doors	Type	Hollow metal, pair 3' x 7', exterior access required
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	No view panels Kick plates each side of door
Finishes	Walls	CMU – painted
	Floor	Sealer hardener
	Base	No base
	Ceiling	Open to structure - painted
Plumbing		Floor drains as required
HVAC		Heated & ventilated
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	One per space
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		N/A
Special Requirements		N/A

Figure 2-G.3.2 Electrical		
Index		G2
Description/Usage		Electrical equipment and service.
Ceiling Height		No ceiling, 9'-0" minimum clearance
Windows		N/A
Doors	Type	Hollow metal, 3' x 7', exterior access required
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	No view panels Kick plates each side of door
Finishes	Walls	Gypsum board – painted or CMU - painted
	Floor	Sealer hardener
	Base	No base
	Ceiling	Open to structure - painted
Plumbing		N/A
HVAC		Heated & ventilated
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		N/A
Furnishings, Equipment and Casework		N/A
Special Requirements		N/A

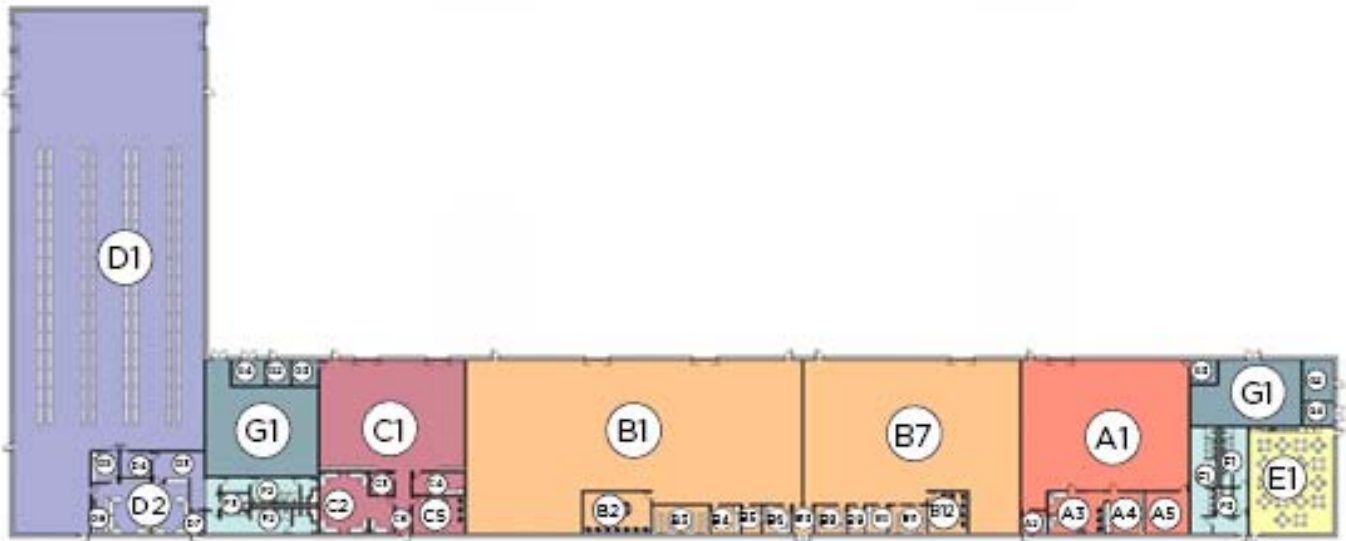
Figure 2-G.3.3 IT/Communication		
Index		G3
Description/Usage		Communication and UPS service.
Ceiling Height		No ceiling, 9'-0" minimum clearance
Windows		N/A
Doors	Type	Hollow metal, 3' x 7', interior access
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	No view panels Kick plates each side of door
Finishes	Walls	Gypsum board – painted or CMU - painted
	Floor	Sealer hardener
	Base	No base
	Ceiling	Open to structure - painted
Plumbing		N/A
HVAC		Heated dedicated cooling for comm.
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		N/A
Furnishings, Equipment and Casework		N/A
Special Requirements		One wall to have ¾" fire retardant A-C plywood to 8'-0" minimum.

Figure 2-G.3.4 Fire Pump Room		
Index		G4
Description/Usage		Fire pumps, equipment and service.
Ceiling Height		No ceiling, 9'-0" minimum clearance
Windows		N/A
Doors	Type	Hollow metal, pair 3' x 7', exterior access required
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	No view panels Kick plates each side of door
Finishes	Walls	CMU – painted
	Floor	Sealer hardener
	Base	No base
	Ceiling	Open to structure – painted
Plumbing		Floor drains as required
HVAC		Heated & ventilated
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	NIPR
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		Per UFC 3-450-01 for noise control
Furnishings, Equipment and Casework		N/A
Special Requirements		Walls around FP to be 1-hour rated

Figure 2-X-3.1 Entrance & Circulation Room Data Sheet		
Index		
Description/Usage		All areas of general facility circulation. This includes facility entrances, vestibules or corridor spaces. An air lock type entrance vestibule may be required.
Ceiling Height		9'-0" minimum
Windows		No windows required
Doors	Type	Hollow metal, 3' x 7' (egress), 3' x7' aluminum framed with full glass (medium stile) at entrance vestibule.
	Security/ Hardware	Keyed lock set
	View Panels/ Kick Plates	Side lites and transom at entrance vestibule doors Kick plates both sides of door
Finishes	Walls	Gypsum board - painted
	Floor	Sealed concrete, stained concrete or tile
	Base	Resilient or tile
	Ceiling	Acoustical Ceiling Tile
Plumbing		N/A
HVAC		Air conditioned; heated; ventilation
Fire Protection		Wet pipe sprinkler system
Power		Per UFC 3-520-01
Lighting		Per UFC 3-530-01
Communication	Tele.	N/A
	Data	N/A
	CCTV	N/A
	CATV	N/A
	Security	N/A
Acoustical Requirements		N/A
Furnishings, Equipment and Casework		N/A
Special Requirements		Walk-off mat at entry vestibule.

### 2.4.F. Floor Plan

The floor plan below is a composite of the Modules within the approved Functional Adjacency Diagram which is based on the criteria listed within this Standard Design document. The scaled drawing showing conceptual fixture and furniture information is located within the Standard Design drawings.



DRAWINGS NOT TO SCALE



#### **2.4.G. Interactive Programming Worksheet**

This tool is provided in two formats. A snapshot of the programming sheet is provided in this section primarily as a reference and reflects the baseline standard facility program based on the criteria as discussed in this document. The additional interactive programming sheet provides a tool for planners and programmers. It allows the input of authorized personnel positions and special purpose spaces. Updated inputs are automatically calculated and provide new required square footage for each space and the estimated overall facility size.

CES WAREHOUSE FACILITY  
INTERACTIVE PROGRAMMING WORKSHEET

MODULE NO.	AREA	NO. OCCUP	SF PER USER	NO. OF ROOMS REQUIRED	INDIVIDUAL ROOM ROOMNTS	NET USER REQUIREMENTS		COMMENTS
						SF	SM	
<b>A FACILITY SYSTEMS ELEMENT</b>								
A1	FACILITY SYSTEMS SHOP	1		1	4,040	4,040	375.32	
A2	ENTANCE LOBBY	1		1	110	110	10.22	
A3	ADMINISTRATION OFFICE	6		1	425	425	39.48	4
A4	BREAK/LOCKER AREA			1	295	295	27.41	
A5	TOOL STORAGE	1		1	340	340	31.59	
<b>SUBTOTAL FACILITY SYSTEMS ELEMENT AREA</b>						<b>5,210</b>	<b>484.01</b>	
<b>B INFRASTRUCTURE ELEMENT</b>								
B1	INFRASTRUCTURE SHOPS	22		1	3,050	3,050	283.35	
B2	INFRASTRUCTURE ADMINISTRATION OFFICES	5		1	720	720	66.89	4
B3	COPY / FILE STORAGE			1	100	100	9.29	
B4	INFRASTRUCTURE BREAK ROOM			1	230	230	21.37	
B5	INFRASTRUCTURE HOTELING	9		1	365	365	33.91	
B6	ENTANCE LOBBY			1	70	70	6.50	
<b>SUBTOTAL INFRASTRUCTURE ELEMENT AREA</b>						<b>4,535</b>	<b>421.30</b>	
<b>C HEAVY REPAIR ELEMENT</b>								
C1	STRUCTURES SHOP	38		1	9,190	9,190	853.75	10
C2	STRUCTURES HOTELING ROOM			1	520	520	48.31	
C3	STRUCTURES LOCKER AREA			1	295	295	27.41	
C4	STRUCTURES BREAK ROOM			1	150	150	13.94	
C5	STRUCTURES TECHNICAL LIBRARY			1	100	100	9.29	
C6	STRUCTURES ADMINISTRATION	2		1	145	145	13.47	4
C7	PAVEMENT / EQUIPMENT SHOP	24		1	5,870	5,870	545.32	
C8	PAVEMENT / EQUIPMENT ADMINISTRATION	2		1	165	165	15.33	4
C9	PAVEMENT / EQUIPMENT TECHNICAL LIBRARY			1	85	85	7.90	
C10	PAVEMENT / EQUIPMENT BREAK ROOM			1	110	110	10.22	
C11	PAVEMENT / EQUIPMENT LOCKER AREA			1	195	195	18.12	
C12	PAVEMENT / EQUIPMENT HOTELING ROOM			1	300	300	27.87	
C13	ENTRANCE LOBBY			1	105	105	9.75	
<b>SUBTOTAL HEAVY REPAIR ELEMENT AREA</b>						<b>17,230</b>	<b>1,600.67</b>	
<b>D MATERIAL CONTROL / WAREHOUSING</b>								
D1	STOCK STORAGE AREA			1	16,410	16,410	1,524.49	
D2	MATERIAL CONTROL ADMINISTRATION OFFICE	16		1	775	775	72.00	4
D3	LOBBY			1	335	335	31.12	
D4	INTERNAL SELF-HELP			1	145	145	13.47	
D5	BREAK ROOM			1	150	150	13.94	
D6	COPY/FILE STORAGE			1	150	150	13.94	
D7	ENTRANCE VESTIBULE			1	60	60	5.57	
<b>SUBTOTAL MATERIAL CONTROL / WAREHOUSING AREA</b>						<b>18,025</b>	<b>1,674.52</b>	
<b>E FACILITY BREAK ROOM</b>								
E1	FACILITY BREAK ROOM			1	1,635	1,635	151.89	5
<b>SUBTOTAL BREAK ROOM AREA</b>						<b>1,635</b>	<b>151.89</b>	
<b>F TOILET</b>								
F1	TOILET VESTIBULE			2	95	190	17.65	
F2	MEN'S TOILET			1	465	465	43.20	7
F3	WOMEN'S TOILET			1	365	365	33.91	7
F4	MEN'S TOILET/SHOWER			1	470	470	43.66	7
F5	WOMEN'S TOILET/SHOWER			1	350	350	32.52	7
F6	JANITOR			2	85	170	15.79	
<b>SUBTOTAL TOILET AREA</b>						<b>2,010</b>	<b>186.73</b>	
<b>G BUILDING SUPPORT</b>								
G1	MECHANICAL			2	1,565	3,130	290.78	9
G2	ELECTRICAL			2	175	350	32.52	9
G3	I T/COMM			2	120	240	22.30	9
G4	FIRE PUMP			2	145	290	26.94	9
<b>SUBTOTAL BUILDING SUPPORT AREA</b>						<b>4,010</b>	<b>372.53</b>	
<b>FACILITY CORRIDOR</b>								8
<b>TOTAL FACILITY NET FLOOR AREA</b>						<b>48,645</b>	<b>4,519.12</b>	
		CIRCULATION MULTIPLIER	5%			51,075		
		NET TO GROSS MULTIPLIER	10%			56,185		9
<b>TOTAL FACILITY GROSS AREA (ROUNDED)</b>						<b>56,200</b>	<b>5,220</b>	<b>10,11,12</b>

COMMENTS:								
1	Facility Personnel Count : 150							
2	Includes all areas listed in Air Force Manual 32-1084, Chapter 1 and Chapter 6							
3	Reference Tables in Chapter 6 of Air Force Manual 32-1084 for additional information.							
4	Administration Areas include circulation factor of 10% per Chapter 1 Air Force Manual 32-1084							
5	Break Room also serves as Training / Classroom - sized per Table 6.4 Classroom (25-50 typical, up to 75); 25 sf per occupant							
6	Snow Barn for storage of snow and ice removal vehicles and Salt Barn are not programmed into this Design Guide. Criteria to be confirmed with AFCEC, where required.							
7	Male/Female ratio of 70/30. Actual fixture count shall be based on International Plumbing Code, latest edition, Chapter 29 and the UFC 3-420-01, latest edition, Plumbing Systems. This 70/30 ratio shall be verified at each installation							
8	Circulation areas are based on Proof of Concept and a circulation multiplier of up to 10% per Air Force Manual 32-1084, used 5% since most circulation is within each room area.							
9	Building Support areas are estimates only and actual size is dependent on requirements for climate zone, location, system, etc. (Sq. Ft. not included in Total Concept Plan Net Floor Area as this area is included in Net to Gross Multiplier of 25%)							
10	Per AFM 32-1084 Chapter 1, net-to-gross multiplier of up to 25%, used 10% per Standard Design Plan which would include any additional Building Support Areas that may be required. Also included in multipliers are column furr-outs and mechanical/plumbing chases.							
11	All area SFs are rounded to nearest whole 5 number.							
12	This worksheet represents a facility rounded up to 56,200 Square Feet.							