# FE Warren Air Force Base IFS

## Table of Contents

### A. OVERVIEW .............................................................. 5
  A01. Facility Hierarchy ................................. 5
  A02. Facility Quality ................................. 5
  A03. Facility Districts ................................. 5

### B. INSTALLATION ELEMENTS .............................. 7
  B01. Comprehensive Planning ....................... 7
    B01.1. Installation Development Plan (IDP) .......... 7
    B01.1.1. IFS Component Plan of IDP
    B01.1.2. Brief History of Base
    B01.1.3. Future Development
  B02. Street Envelope Standards .................... 10
    B02.1. Hierarchy of Streets ....................... 11
    B02.1.1. Arterial Streets
    B02.1.2. Collector Streets
    B02.1.3. Local Streets
    B02.1.4. Special Routes
    B02.2. Hierarchy of Intersections .................. 15
    B02.2.1. Arterials
    B02.2.2. Arterial/Collector
    B02.2.3. Collectors
    B02.2.4. Special Intersections
    B02.2.5. Street Frontage Requirements
    B02.2.6. Sight Lines
    B02.3. Street Elements .................................. 17
    B02.3.1. Paving
    B02.3.2. Curb and Gutter
    B02.3.3. Utility Service Elements
    B02.3.4. Traffic Signs
    B02.3.5. Street Lighting
    B02.3.6. Other
  B03. Open Space / Public Space ...................... 20
    B03.1. Plazas, Monuments and Static Displays .... 21
    B03.1.1. Paved Plazas
    B03.1.2. Sculptures, Markers and Statuary
    B03.1.3. Static Display of Aircraft
    B03.2. Grounds and Perimeters .................... 23
    B03.2.1. Parade Grounds
    B03.2.2. Parks

### C. SITE DEVELOPMENT ........................................... 28
  C01. Site Design .............................................. 28
  C01.1. Site Design Considerations .................. 28
  C01.2. Building Orientation ......................... 29
  C02. Utilities .................................................. 30
    C02.1. Utility Components ............................. 31
  C03. Parking Areas .......................................... 31
    C03.1. Configurations and Design ................. 32
    C03.1.1. Paving and Striping
    C03.1.2. Curbing
    C03.1.3. Internal Islands and Medians
    C03.2. Parking Structures ............................ 35
    C03.3. Connectivity ......................................... 36
  C04. Stormwater Management ......................... 36
    C04.1. Stormwater Requirements ..................... 36
  C05. Sidewalks, Bikeways and Trails ............... 37
    C05.1. Circulation and Paving ....................... 37
    C05.1.1. Ramps and Paving
    C05.1.2. Lighting
  C06. Landscape ............................................... 39
    C06.1. Climate-based Materials ...................... 40
    C06.1.1. Landscape Design Concept
    C06.1.2. Xeriscape Design Principles
    C06.1.3. Minimizing Water Requirements
    C06.1.4. Plant Material Selection
    C06.1.5. Water Budgeting (Hydrozones)
    C06.1.6. Base Entrance Landscaping
    C06.1.7. Streetscape Landscaping
    C06.1.8. Pedestrian Circulation Landscaping
    C06.1.9. Parking Lot Landscaping
    C06.1.10. Screen/Accent Landscaping
    C06.1.11. Other
  C07. Site Furnishings ....................................... 46
    C07.1. Furnishings and Elements ................... 46

Table of contents continued on next page
C07.2. Site Furnishings Products, Materials / Color 48
C07.2.1. Barbeque Grills
C07.2.2. Benches
C07.2.3. Bike Racks
C07.2.4. Bike Lockers
C07.2.5. Bollards
C07.2.6. Bus Shelters
C07.2.7. Drinking Fountains
C07.2.8. Dumpster Enclosures / Gates
C07.2.9. Fencing
C07.2.10. Flagpoles
C07.2.11. Lighting – Landscape / Accent
C07.2.12. Litter and Ash Receptacles
C07.2.13. Picnic Tables
C07.2.14. Play Equipment
C07.2.15. Screen Walls
C07.2.16. Tree Grates
C07.2.17. Other

C07.3. Other

C07.4. Other

C07.5. Other

C08. Exterior Signs 60
C08.1. Colors and Types 61
C08.1.1. Materials and Color Specifications
C08.1.2. Installation and Gate Identification Signs
C08.1.3. Building Identification Signs
C08.1.4. Traffic Control Devices (Street Signs)
C08.1.5. Directional and Wayfinding Signs
C08.1.6. Informational Signs
C08.1.7. Motivational Signs
C08.1.8. Parking Lot Signs
C08.1.9. Regulatory Signs
C08.1.10. Other

C09. Lighting 69
C09.1. Fixtures and Lamping 70
C09.2. Light Fixture Types 71
C09.2.1. Street Lighting
C09.2.2. Parking Lot Lighting
C09.2.3. Lighted Bollards
C09.2.4. Sidewalk Lighting
C09.2.5. Walls / Stairs Lighting
C09.2.6. Other

D. FACILITIES EXTERIORS 75
D01. Supporting the Mission 75
D02. Sustainability 75
D03. Architectural Features 76
D03.1. Orientation, Massing and Scale 77
D03.2. Architectural Character 77
D03.3. Details and Color 77
D03.3.1. Climate-based Data
D03.3.2. Natural Ventilation System
D03.3.3. Thermal Mass
D03.4. Thermal Shading
D03.5. Renewable Heating/Cooling
D03.6. Solar Photovoltaic System
D03.7. Solar Thermal System

D04. Building Entrances 82
D04.1. Primary Entrances 83
D04.2. Secondary Entrances 83

D05. Wall Systems 84
D05.1. Hierarchy of Materials 85
D05.2. Layout, Organization and Durability 85
D05.3. Equipment, Vents and Devices 85
D05.4. Wall Systems Materials 86
D05.4.1. Flat Metal Panels
D05.4.2. Brick Veneer
D05.4.3. Architectural Precast
D05.4.4. Stucco Over Sheathing
D05.4.5. Curtain Wall
D05.4.6. Cast-in Place Concrete
D05.4.7. Tilt-up Concrete
D05.4.8. Ribbed Metal Sheeting
D05.4.9. EFIS
D05.4.10. GRFC
D05.4.11. Concrete Block
D05.4.12. Fiber Cement Siding
D05.4.13. Other

D06. Doors and Windows 91
D06.1. Types 92
D06.2. Layout and Geometry 92
D06.3. Glazing and Shading 92
D06.4. Hardware 92
D06.5. Doors and Windows Materials 93
D06.5.1. Anodized Aluminum
D06.5.2. Hollow Metal
D06.5.3. Aluminum-clad Wood
D06.5.4. Other

D07. Roof Systems 95
D07.1. Roof Type and Form 96
D07.2. Roof Slope 96
D07.3. Parapets and Copings 96
D07.4. Color and Reflectivity 96
D07.5. Gutters, Downspouts, Scuppers, Drains 97
D07.6. Roof Vents and Elements 97
D07.7. Clerestories and Skylights 98
D07.8. Vegetated Roof 98

Table of contents continued on next page
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>D07.9</td>
<td>Roof Systems Materials</td>
<td>98</td>
</tr>
<tr>
<td>D07.9.1</td>
<td>Standing Seam Metal</td>
<td></td>
</tr>
<tr>
<td>D07.9.2</td>
<td>Membrane Single-ply</td>
<td></td>
</tr>
<tr>
<td>D07.9.3</td>
<td>Built-up Multi-ply</td>
<td></td>
</tr>
<tr>
<td>D07.9.4</td>
<td>Concrete Tile</td>
<td></td>
</tr>
<tr>
<td>D07.9.5</td>
<td>Clay Tile</td>
<td></td>
</tr>
<tr>
<td>D07.9.6</td>
<td>Slate Shingles</td>
<td></td>
</tr>
<tr>
<td>D07.9.7</td>
<td>Vegetated System</td>
<td></td>
</tr>
<tr>
<td>D07.9.8</td>
<td>Ribbed Metal Sheeting</td>
<td></td>
</tr>
<tr>
<td>D07.9.9</td>
<td>Composite Shingles</td>
<td></td>
</tr>
<tr>
<td>D07.9.10</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>D08</td>
<td>Structural Systems</td>
<td>102</td>
</tr>
<tr>
<td>D08.1</td>
<td>Systems and Layouts</td>
<td>103</td>
</tr>
<tr>
<td>D08.2</td>
<td>Structural Systems Materials</td>
<td>103</td>
</tr>
<tr>
<td>D08.2.1</td>
<td>Concrete</td>
<td></td>
</tr>
<tr>
<td>D08.2.2</td>
<td>Insulated Concrete Forming (ICF)</td>
<td></td>
</tr>
<tr>
<td>D08.2.3</td>
<td>Steel</td>
<td></td>
</tr>
<tr>
<td>D08.2.4</td>
<td>Pre-Engineered Steel</td>
<td></td>
</tr>
<tr>
<td>D08.2.5</td>
<td>Masonry</td>
<td></td>
</tr>
<tr>
<td>D08.2.6</td>
<td>Heavy Timber</td>
<td></td>
</tr>
<tr>
<td>D08.2.7</td>
<td>Light-gauge Steel</td>
<td></td>
</tr>
<tr>
<td>D08.2.8</td>
<td>Lumber Framing</td>
<td></td>
</tr>
<tr>
<td>D08.2.9</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>D09</td>
<td>Mechanical, Electrical and Plumbing</td>
<td>106</td>
</tr>
<tr>
<td>D09.1</td>
<td>Passive and Active Systems</td>
<td>107</td>
</tr>
<tr>
<td>D09.2</td>
<td>Functionality and Efficiency</td>
<td>107</td>
</tr>
<tr>
<td>E</td>
<td>FACILITIES INTERIORS</td>
<td>108</td>
</tr>
<tr>
<td>E01</td>
<td>Building Configurations</td>
<td>109</td>
</tr>
<tr>
<td>E01.1</td>
<td>Layout and Common Areas</td>
<td>109</td>
</tr>
<tr>
<td>E01.1.1</td>
<td>Interior Design Process</td>
<td></td>
</tr>
<tr>
<td>E01.1.2</td>
<td>Codes and Regulations</td>
<td></td>
</tr>
<tr>
<td>E01.2</td>
<td>Quality and Comfort</td>
<td>110</td>
</tr>
<tr>
<td>E02</td>
<td>Floors</td>
<td>111</td>
</tr>
<tr>
<td>E02.1</td>
<td>Floor Materials</td>
<td>111</td>
</tr>
<tr>
<td>E02.1.1</td>
<td>Prepared Slabs</td>
<td></td>
</tr>
<tr>
<td>E02.1.2</td>
<td>Natural Stone and Terrazzo</td>
<td></td>
</tr>
<tr>
<td>E02.1.3</td>
<td>Quarry Tile</td>
<td></td>
</tr>
<tr>
<td>E02.1.4</td>
<td>Ceramic Tile</td>
<td></td>
</tr>
<tr>
<td>E02.1.5</td>
<td>Resilient Floor</td>
<td></td>
</tr>
<tr>
<td>E02.1.6</td>
<td>Carpet</td>
<td></td>
</tr>
<tr>
<td>E02.1.7</td>
<td>Rapidly-Renewable Products</td>
<td></td>
</tr>
<tr>
<td>E02.1.8</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>E03</td>
<td>Walls</td>
<td>116</td>
</tr>
<tr>
<td>E03.1</td>
<td>Wall Materials</td>
<td>116</td>
</tr>
<tr>
<td>E03.1.1</td>
<td>Concrete</td>
<td></td>
</tr>
<tr>
<td>E03.1.2</td>
<td>Masonry</td>
<td></td>
</tr>
<tr>
<td>E03.1.3</td>
<td>Ceramic Tile</td>
<td></td>
</tr>
<tr>
<td>E03.1.4</td>
<td>Gypsum Board</td>
<td></td>
</tr>
<tr>
<td>E03.1.5</td>
<td>Metal Panels</td>
<td></td>
</tr>
<tr>
<td>E03.1.6</td>
<td>Wood Paneling</td>
<td></td>
</tr>
<tr>
<td>E03.1.7</td>
<td>Rapidly-Renewable Products</td>
<td></td>
</tr>
<tr>
<td>E03.1.8</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>E04</td>
<td>Ceilings</td>
<td>119</td>
</tr>
<tr>
<td>E04.1</td>
<td>Ceiling Materials</td>
<td>119</td>
</tr>
<tr>
<td>E04.1.1</td>
<td>Exposed Framing (Roof / Floor Structure Above)</td>
<td></td>
</tr>
<tr>
<td>E04.1.2</td>
<td>Exposed Concrete</td>
<td></td>
</tr>
<tr>
<td>E04.1.3</td>
<td>Grid and Acoustical Tile</td>
<td></td>
</tr>
<tr>
<td>E04.1.4</td>
<td>Gypsum Board</td>
<td></td>
</tr>
<tr>
<td>E04.1.5</td>
<td>Metal Panels</td>
<td></td>
</tr>
<tr>
<td>E04.1.6</td>
<td>Wood</td>
<td></td>
</tr>
<tr>
<td>E04.1.7</td>
<td>Rapidly-Renewable Products</td>
<td></td>
</tr>
<tr>
<td>E04.1.8</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>E05</td>
<td>Doors and Windows</td>
<td>121</td>
</tr>
<tr>
<td>E05.1</td>
<td>Doors and Windows and Frames Materials</td>
<td>121</td>
</tr>
<tr>
<td>E05.1.1</td>
<td>Aluminum</td>
<td></td>
</tr>
<tr>
<td>E05.1.2</td>
<td>Hollow Metal</td>
<td></td>
</tr>
<tr>
<td>E05.1.3</td>
<td>Wood</td>
<td></td>
</tr>
<tr>
<td>E05.1.4</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>E06</td>
<td>Casework Systems</td>
<td>125</td>
</tr>
<tr>
<td>E06.1</td>
<td>Casework Materials</td>
<td>125</td>
</tr>
<tr>
<td>E06.1.1</td>
<td>Plastic Laminate</td>
<td></td>
</tr>
<tr>
<td>E06.1.2</td>
<td>Solid Polymer Surface</td>
<td></td>
</tr>
<tr>
<td>E06.1.3</td>
<td>Rapidly-Renewable Products</td>
<td></td>
</tr>
<tr>
<td>E06.1.4</td>
<td>Metal</td>
<td></td>
</tr>
<tr>
<td>E06.1.5</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>E06.2</td>
<td>Countertop Materials</td>
<td>128</td>
</tr>
<tr>
<td>E06.2.1</td>
<td>Plastic Laminate</td>
<td></td>
</tr>
<tr>
<td>E06.2.2</td>
<td>Solid Polymer Surface</td>
<td></td>
</tr>
<tr>
<td>E06.2.3</td>
<td>Natural Stone</td>
<td></td>
</tr>
<tr>
<td>E06.2.4</td>
<td>Cast Stone</td>
<td></td>
</tr>
<tr>
<td>E06.2.5</td>
<td>Metal</td>
<td></td>
</tr>
<tr>
<td>E06.2.6</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>E07</td>
<td>Furnishings</td>
<td>130</td>
</tr>
<tr>
<td>E07.1</td>
<td>Durability and Serviceability</td>
<td></td>
</tr>
<tr>
<td>E07.2</td>
<td>Accessories</td>
<td>130</td>
</tr>
<tr>
<td>E08</td>
<td>Interior Signs</td>
<td>130</td>
</tr>
<tr>
<td>E08.1</td>
<td>Types and Color</td>
<td>130</td>
</tr>
<tr>
<td>E08.2</td>
<td>Interior Signs Materials</td>
<td>131</td>
</tr>
<tr>
<td>E09</td>
<td>Lighting, Power and Communication</td>
<td>131</td>
</tr>
<tr>
<td>E09.1</td>
<td>Functionality and Efficiency</td>
<td>131</td>
</tr>
<tr>
<td>E09.2</td>
<td>Types and Color</td>
<td>131</td>
</tr>
<tr>
<td>F</td>
<td>Appendices</td>
<td>132</td>
</tr>
<tr>
<td>G</td>
<td>Appendices</td>
<td>132</td>
</tr>
</tbody>
</table>
A. OVERVIEW

This Installation Facilities Standards (IFS) document is part of the Air Force Corporate Facilities Standards (AFCFS) program to assist bases in implementing and maintaining facilities standards as appropriate for efficient operations within the respective climate region. IFS fully replaces, consolidates and simplifies existing facilities standards documents, such as the Architectural Compatibility Plan (ACP) or ACGs, FEPs, etc., and organizes information using the same structure, or Table of Contents, as the AFCFS website.

IFS reflects the AFCFS’ concepts of “Facility Hierarchy” (categorizing facilities into group numbers) and “Facility Quality” (assigning an appropriate level of quality to each group number) and applies these principles at the base level. Applicable DoD and Air Force criteria such as UFCs, AFI s, Memoranda, and UFGSs (Guide Specs) are referenced and linked within IFS to ensure the document is always current.

Navigating within this IFS is efficient and straightforward. Please use the interactive Table of Contents to locate subject matter, and click on the title of a section to access it. From any page, click on the “Back to Table of Contents” footer to return. Content is organized into 4 major sections: Installation Elements, Site Development, Facilities Exteriors and Facilities Interiors.

This IFS document begins as a fill-in PDF form, which is fully editable, and becomes a “living document” that can be regularly updated by base-level personnel following a format that is consistent across the Air Force. While the format is standardized, IFS content is customized for base operations and the local climate to ensure mission success while emphasizing reduced maintenance and reduced initial costs, life-cycle costs, energy use, and water use.

1. Conformance to Air Force Corporate Facilities Standards (AFCFS) and Installation Facilities Standards (IFS) are required by Air Force Instruction (AFI) 32-1023 and Air Force Memorandum. Please refer to the AFCFS website for links to documentation on current policy.

2. The IFS is a component plan of the Installation Development Plan (IDP) per Air Force Instruction (AFI) 32-7062 (replacing the Architectural Compatibility Plan). All military construction projects and Non-Appropriated Funds (NAF) facilities are required to comply with the IDP and its IFS component plan by AFI 32-1023. The Base Civil Engineer (BCE) maintains and implements the IDP and its component plans, to include the IFS.

3. Please refer to the AFCFS website as a portal to reference materials and requirements documents for design and construction projects (via links). Specific references to current DoD memoranda and Air Force criteria are updated periodically to provide the most current guidance and requirements. Programming, design and contract documents should list “current edition” for all reference and requirements documents. The documents in force at the date of execution of the design and/or construction contract shall be the governing version.

4. Advanced Modeling Requirements:
   For all Air Force projects requiring advanced modeling, to include 3D visualization, Building Information Modeling (BIM), facility data, quantity take-off, geospatial, etc., follow the Army standards. Refer to USACE Minimum Model Matrix (M3) and Project Execution Plan (PxP) which outline required model uses. Refer to CAD BIM Technology Center (Contract Requirements) for more information on M3 and PxP.

5. Joint Bases shall implement IFS under their Joint-Base designation with volume numbers for individual installations following the IFS Development Tool template. For example, for Joint Base Langley-Eustis, provide: Vol. 1 Langley AFB and Vol. 2 Fort Eustis.

A.01. FACILITY HIERARCHY

Comply with AF Corporate Standards for Facility Hierarchy (and subsections):
http://afcfs.wbdg.org/facility-hierarchy/index.html

A.02. FACILITY QUALITY

Comply with AF Corporate Standards for Facility Quality (and subsections):
http://afcfs.wbdg.org/facility-quality/index.html

A.03. FACILITY DISTRICTS

Comply with AF Corporate Standards for Facility Districts (and subsections):
http://afcfs.wbdg.org/facility-districts/index.html
Note: Apply the base-wide standards in this IFS for Installation Elements, Site Development, Facilities Exteriors and Facilities Interiors (products, materials, color, etc.). Following application of the base-wide standards, refer to the Appendix and apply any additional requirements specifically related to the Facility District.
B. INSTALLATION ELEMENTS
Comply with Air Force Corporate Standards for Installation Elements:
http://afcfs.wbdg.org/installation-elements/index.html

B.01. COMPREHENSIVE PLANNING
Comply with Air Force Corporate Standards for Comprehensive Planning:
http://afcfs.wbdg.org/installation-elements/comprehensive-planning/index.html

B01.1. Installation Development Plan (IDP)

Applicable N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1

Applicable N/A Small graphics do not apply

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Application of DoD and Air Force Facilities Criteria

DoD Criteria

Air Force Criteria

UFCs, Memoranda, UFGS

AFIs, ETLs, AFCFS, Memoranda

AF Base IDP

AF Base IFS

Department of Defense, Department of the Air Force and Air Force Base Criteria

1. The Base Civil Engineer is responsible for developing, maintaining and implementing the installation's Comprehensive Planning documents and to ensure that the Installation Development Plan (IDP) is prepared, maintained, and implemented following AFI 32-7062.
1. Maintain this Installation Facilities Standards (IFS) as a Component Plan of the base's Installation Development Plan (IDP).

**B01.1.2. Brief History of Base**

- Applicable  N/A  Select number of graphics / images (large: 800 px x 440 px) to insert  1
- Applicable  N/A  Select number of graphics / images (small: 250 px x 188 px) to insert  6
Francis E. Warren AFB is the oldest continuously active military installation within the Air Force. The base had its beginning as a military post on July 4, 1867, when Fort D. A. Russell was established to protect Union Pacific Railroad track-laying crews while they were laying track to California. Fort D. A. Russell ultimately became one of the largest cavalry posts in the United States (U. S.) and remained an important Army post well into the next century. Over the years, the Army post supported artillery, cavalry, and infantry units. The post's name was changed to Fort Francis E. Warren on January 1, 1930 in honor of Francis Emory Warren, a Civil War Medal of Honor winner, the first Governor of the State of Wyoming, and a United States Senator.

During the 1930s, Fort Warren transitioned from cavalry horses and mules to motorized vehicles. Infantry and field artillery units left the post in 1940. They were replaced by the Quartermaster Replacement Training Center, which supported about 26,000 troops at its peak and remained active for the duration of World War II. The Air Force assumed control of the base in 1947 under the newly formed Air Training Command (now Air Education and Training Command) and two years later, the base was renamed Francis E. Warren Air Force Base. The installation was utilized as a training base until 1958, when it was assigned to the Strategic Air Command (SAC). At this time, it became the first Air Force installation dedicated solely to Intercontinental Ballistic Missile (ICBM) operations. Atlas D and E missiles were deployed to sites in northern Colorado, western Nebraska, and eastern Wyoming.

The 90th Strategic Missile Wing (90 SMW) was activated on July 1, 1963, becoming the free world's largest ICBM unit. In the early 1960s, 200 Minuteman I missiles replaced the Atlas ICBMs. By 1975, all Minuteman I missiles had been replaced by the Minuteman III weapon system.

In June 1992, as part of the restructuring of the Air Force, the 90 SMW was re-designated the 90th Missile Wing (90 MW) and reassigned to Air Combat Command (ACC), concurrent with the inactivation of SAC. On July 1, 1993, the realignment of the 20th Air Force (20 AF) from ACC to AFSPC placed the 90 MW under its third Major Command in less than two years. Twentieth Air Force, the headquarters for all the Nation's ICBM units, relocated to F.E.Warren AFB on October 1, 1993.

On October 1, 1997, the 90 MW was re-designated the 90th Space Wing. The 4th Command and Control Squadron (4CACS) was activated on July 7, 1999 and re-designated 153CACS in 2002. Deactivation of the Peacekeeper missile system began in October 2002.
B01.1.3. Future Development


2. Address all future development under the Installation Development Plan (IDP).

B02. STREET ENVELOPE STANDARDS

Comply with Air Force Corporate Standards for Installation Elements:
http://afcfs.wbdg.org/installation-elements/index.html

Comply with AF Corporate Standards for Street Envelope Standards:
1. Develop and evolve a hierarchical transportation network of arterial (primary), collector (secondary) and local (tertiary) streets following UFC 3-201-01 and its industry references.

2. Our Missile Field will be inclusive of this plan, and shall be treated according to its specific needs.

3. Provide consistent functionality throughout the installation and a level of visual quality relating to the adjacent Facility Group number.

4. Routes along facilities in Group 1 may have materials, finishes and features with a higher visual quality than Groups 2, 3 and 4. Reduce maintenance requirements by installing highly durable materials and finishes in routes along all Groups.

5. Special routes, Transporter Erector (TE), may have a visual quality comparable to those along facilities in Group 3.

6. Create and maintain arterials with two lanes of traffic in each direction with landscaped or paved medians as applicable to the local climate and adjacent facility group designation / land use.

7. Minimize stops and turns along arterials. Eliminate on-street parking along arterials and collector streets.

8. Connect arterials to local streets with appropriately scaled collector streets.

9. Provide appropriate landscape setbacks and pedestrian buffers along all streets.

10. Minimize and consolidate curb cuts along streets.

11. Ensure access for emergency and service vehicles.

12. Define bicycle traffic routes in the Installation Development Plan or its applicable component plans.

13. Provide illustrations in the Installation Facilities Standards (IFS) to include street cross-sections and plans for every type of street specified on the installation. At a minimum provide dimensions for vehicular traffic-lanes, curb radii, medians, bike lanes, pedestrian buffers, sidewalks, crosswalks, tree planting areas, and on-street parking configurations.

14. Define appropriate force protection features, site furnishings, signs, lighting, utilities, and paving in the IFS.

15. Increase intersection radii to appropriate standards when constructions projects are occurring.

16. Abandon in place or eliminate High Temp Hot Water lines (HTHW) that are part of the network.
B02.1.1. Arterial Streets

1. There are 23 primary road branches and 11 parking branches on base.

2. There are 45 paved primary road branches and 150 primary unpaved road branches in the field off base.
B02.1.2. Collector Streets

Applicable  N/A  Select number of graphics / images (large: 800 px x 440 px) to insert  1

Applicable  N/A  Select number of graphics / images (small: 250 px x 188 px) to insert  2

Travel Lane (a): 12’  Median (b): N/A  Curb and Gutter (c): 2’  Landscape (d): 10’  Sidewalk (e): 6’  Setback (f): Min. 15’ or per ATFP

1. There are 22 secondary road branches and 36 parking branches on base.
B02.1.3. Local Streets

1. Travel Lane (a): 11’
   - Median (b): N/A
   - Curb and Gutter (c): 1.5’
   - Landscape (d): 15’
   - Sidewalk (e): 6’
   - Setback (f): 15’ or per AT/FP reqts.

2. There are 27 tertiary road branches and 116 parking branches on base.

3. In addition there are 73 unpaved tertiary road branches and 41 unpaved parking branches.

4. In privatized housing there are 37 tertiary road branches and 11 parking branches.
B02.1.4. Special Routes

1. Develop all special routes consistently with those adjacent to Group 1 facilities. The TE has a Primary and Secondary route.

2. A fire lane needs to be completed on what is 5th Cavalry.

B02.2. Hierarchy of Intersections

1. Provide a hierarchy of intersections to include arterial, arterial-collector, collector, collector-local and local following UFC 3-201-01 and its industry references.

2. Passive systems such as traffic circles are preferred to active systems such as signalized intersections. Aggressively pursue passive systems to lower maintenance requirements and reduce energy use.

3. Use a level of visual quality for an intersection equal to the quality found in the related streetscape, which corresponds to the adjacent Facility Group number.

4. Intersection on base are notoriously tight, radii need to be increased throughout.

B02.2.1. Arterials

1. Passive systems such as traffic circles are preferred to active systems such as signalized intersections. Aggressively pursue passive systems to lower maintenance requirements and reduce energy use.

2. Use a level of visual quality for an intersection equal to the quality found in the related streetscape, which corresponds to the adjacent Facility Group number.
B02.2.2. Arterial/Collector

- Applicable  N/A  Large graphics do not apply
- Applicable  N/A  Small graphics do not apply

1. Passive systems such as traffic circles are preferred to active systems such as signalized intersections. Aggressively pursue passive systems to lower maintenance requirements and reduce energy use.

2. Use a level of visual quality for an intersection equal to the quality found in the related streetscape, which corresponds to the adjacent Facility Group number.

B02.2.3. Collectors

- Applicable  N/A  Large graphics do not apply
- Applicable  N/A  Small graphics do not apply

1. Passive systems such as traffic circles are preferred to active systems such as signalized intersections. Aggressively pursue passive systems to lower maintenance requirements and reduce energy use.

2. Use a level of visual quality for an intersection equal to the quality found in the related streetscape, which corresponds to the adjacent Facility Group number.

B02.2.4. Special Intersections

- Applicable  N/A  Large graphics do not apply
- Applicable  N/A  Select number of graphics / images (small: 250 px x 188 px) to insert

Diagram of Historical District Intersection

1. Develop all special intersections consistently with those adjacent to Group 3 facilities.

2. Some of these special intersections may require a 70' radius for the TE.
B02.2.5. Street Frontage Requirements

1. Consistently maintain open space buffers following B03.2.3. Preserves.
2. Refer to C06.1.7. Streetscape Landscaping for planting and screen wall requirements along street frontage.

B02.2.6. Sight Lines

1. Provide adequate sight lines for an effective and safe traffic operation per American Association of State Highway and Transportation Officials (AASHTO) standards and local municipality guidelines.

B02.3. Street Elements

1. Emulate the streetscape area's pre-development hydrology using passive and active design features to help sustain the adjacent regionally appropriate landscape. Coordinate with the base Stormwater Management Plan.
2. Employ systems, materials and techniques to maximize streetscape sustainability. Consider pervious paving and reflectivity of surfaces appropriate for the local climate.

3. Install at-grade curbing and/or raised-profile curb and gutter as applicable to direct stormwater to bioswales and rain gardens as source water for vegetation. Do not paint concrete curbing.

4. Provide all on-site utility service lines and equipment below grade when adjacent to Facility Group 1. In routes along Group 2, 3 and 4, when mounting elements such as utility cabinets, communications equipment and water valves above grade is unavoidable, paint these consistently and provide visual screening following Installation Facilities Standards (IFS).

5. Provide traffic control devices including access control point/entry control facility signs, speed limit signs and street name signs following the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) per UFC 3-120-01.

6. Follow UFC 3-120-01 for directional and wayfinding signs and address both vehicular and pedestrian traffic.

7. Reduce energy consumption and reduce maintenance requirements by providing street lighting only when functionally required to ensure safety and to address antiterrorism following UFC 4-010-01. Ensure the quality and quantities of lighting and fixtures are appropriate for the adjacent Facility Group number.

**B02.3.1. Paving**

- Applicable  N/A  Large graphics do not apply
- Applicable  N/A  Select number of graphics / images (small: 250 px x 188 px) to insert 1

![Asphaltic Concrete Paving](image)

1. The Maintain Base Pavements Specifications shall be used for all paving.
B02.3.2. Curb and Gutter

- **Applicable**  **N/A**  Large graphics do not apply

- **Applicable**  **N/A**  Select number of graphics / images (small: 250 px x 188 px) to insert 3

1. Three types of curb and gutter used at FE Warren AFB
   a. Mountable curb (follows WYDOT standards)
   b. Header curb
   c. ATFP curb

2. The Maintain Base Pavements Specifications shall be used for all curb and gutter.

B02.3.3. Utility Service Elements

- **Applicable**  **N/A**  Large graphics do not apply

- **Applicable**  **N/A**  Select number of graphics / images (small: 250 px x 188 px) to insert 3

1. Provide all utility service lines below grade. When mounting elements (such as utility cabinets, communications equipment and water valves) above grade is unavoidable, paint these consistently and provide visual screening following Site Development, Landscaping.

2. Overhead service lines along streets are not allowed.
B02.3.4. Traffic Signs

- Applicable  N/A Large graphics do not apply
- Applicable  N/A Select number of graphics / images (small: 250 px x 188 px) to insert 2

1. Refer to Exterior Signs, Colors and Types for Traffic Control Devices, which includes signs.

B02.3.5. Street Lighting

- Applicable  N/A Large graphics do not apply
- Applicable  N/A Small graphics do not apply

1. Refer to the Lighting section for appropriate applications along streets.

B02.3.6. Other

- Applicable  N/A Large graphics do not apply
- Applicable  N/A Small graphics do not apply

B03. OPEN SPACE / PUBLIC SPACE

Comply with Air Force Corporate Standards for Installation Elements:
http://afcfs.wbdg.org/installation-elements/index.html

Comply with AF Corporate Standards for Open Space / Public Space:
B03.1. Plazas, Monuments and Static Displays

1. Monuments should be located in the Historic/Landmark District, due to its central location and visual prominence. Traditional style monuments are acceptable in the Historic District.

2. Natural features and culturally or historically significant features or events may be recognized and acknowledged with physical elements such as plazas, monuments and static displays. However, limit these elements on the base to ensure judicious use of resources and to reduce ongoing maintenance requirements.

3. Design highly durable plazas, monuments and static displays with a level of quality comparable to Facility Group 1.

4. Link plazas, monuments and static displays to the pedestrian circulation system. Install landscaping, site furnishings and lighting appropriate for the application and local climate following Installation Facilities Standards (IFS).

5. Select systems, products and materials for paving, walls, and structures following IFS.

6. Make the monuments highly visible and well-lit at night for security purposes.

B03.1.1. Paved Plazas

- Concrete with Brick Accent Pavers
- Natural Gray Concrete
- Colored Concrete Paving
1. The design of outdoor plazas and courtyards is flexible, and should be sensitive to the context of the surrounding environment. Design should reflect the heritage of the base.

2. Durable materials and low maintenance details should be used in plaza and courtyard designs to enhance the space visually and functionally. Materials should relate to adjacent buildings, walkways, and other surrounding architectural elements.

3. Pavement patterns can add interest and reflect historic context, while meeting force protection visibility requirements and minimizing maintenance.

4. Place furnishings of appropriate scale and number, according to the size of the space, at logical locations to encourage the desired use.

5. Utilize plant materials to provide shelter from sun and to screen unsightly items often found around buildings, such as utility service points.

6. Planting beds located within courtyards and plazas should include automatically controlled irrigation for all plantings. Where possible, there should be protective barriers that prevent walking in planting beds.

B03.1.2. Sculptures, Markers and Statuary

☐ Applicable  ☑ N/A   Large graphics do not apply

☐ Applicable  ☑ N/A   Select number of graphics / images (small: 250 px x 188 px) to insert 1 Image Tool 250 x 188

Park Pavilion Marker

1. Static displays should be used to convey past and present functions of the installation and instill a sense of pride and history to people on the base.

2. Displays should be placed at prominent locations, such as at important intersections or the Main Gate.

3. Displays should be elevated above the surrounding ground or otherwise be separated from adjacent activities.

4. The exhibit should provide labeling, lighting, and protection for the display without creating a maintenance liability.
B03.1.3. Static Display of Aircraft

Applicable N/A Large graphics do not apply

Applicable N/A Select number of graphics / images (small: 250 px x 188 px) to insert 2

![Missile Array](image1.jpg) ![Dynamic Elevated Mounting](image2.jpg)

1. Displays of aircraft, missiles, or other modern assets are more appropriate at the gates to the installation.

2. Follow IFS base-wide standards for all elements of the display area with specific attention to traffic sight lines, pedestrian circulation, site furnishings, signs, and lighting. Address requirements for the Facility District as well.

B03.2. Grounds and Perimeters

Applicable N/A Large graphics do not apply

Applicable N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3

![Water Feature](image3.jpg) ![Preserved Open Space](image4.jpg) ![Integrated Renewable Energy Systems](image5.jpg)

1. Provide formal spaces for parade and review functions, recreational areas and parks following the base's Installation Development Plan (IDP) and Installation Facilities Standards (IFS). Refer to the Site Furnishings topic for additional information.

2. Maintain preservation areas following the IDP and IFS.

3. Comply with UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings and UFC 4-022-03 Security Fences and Gates for all elements associated with the base's gates and perimeter fence.

4. Identify and describe base-wide utility corridors in the IDP.
5. Base-wide utility infrastructure shall be inconspicuous. Bury all utility service lines below grade. Consolidate new service utility lines in underground utility corridors when feasible.

6. Follow the requirements of this IFS regarding all utility structures and service lines located above grade that visually impact the installation.

7. Where screening of utility equipment and structures is provided, allow adequate and proper clearance for safety and maintenance.

8. Reduce visual clutter and visual impact of the following items through a combination of careful placement, screen walls, landscaping and painting:
   • Electrical switch-stations.
   • Sewage lift stations.
   • Water well pumps, storage tanks and/or related structures.
   • Gas piping, meters and similar incidental items.
   • Above ground fuel storage tanks.
   • Any ground-mounted freestanding utility item exposed to view.

9. Larger structures such as electrical switch-stations, sewage lift stations, fuel storage tanks and mechanical/electrical equipment shall be screened from view, using materials, forms, and colors in the screen walls which match materials in the Historic District or those respective design elements present at adjacent buildings.

10. Paint above-ground equipment and associated components such as electrical piping or exposed plumbing lines Dark Brown to match existing utilities in a matte (low-luster) finish.

11. Maintain currently buried utility service lines as a visual asset.

**B03.2.1. Parade Grounds**

☐ Applicable ☐ N/A Large graphics do not apply

☐ Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3

1. Follow UFC 3-201-02, Appendix B for the planning and design process and criteria for parade grounds.

2. Establish and maintain parade grounds only where there is a confirmed need and provide landscape materials appropriate for the locale following IFS.

3. Bleachers may be installed only when there is a documented requirement at parade grounds. Nonferrous metals that do not require painting or going maintenance are preferred. The Base Civil Engineer shall determine quantities, sizes, and products on a case basis.
B03.2.2. Parks

- Bleachers may be installed only when there is a documented requirement at parks and fields for recreational events. Follow guidance under Parade Grounds.

- Picnic pavilions may be provided in parks where there is a documented need.
B03.2.3. Preserves

1. Development should not be located in natural drainage ways, scenic areas, or where adverse environmental impacts will result.

2. Open spaces, such as natural ravines, habitat areas, and historic park/parade grounds, are especially important to maintain.

3. Existing wooded areas and areas with mature vegetation should be preserved, especially those adjacent to housing, because they serve as natural buffers between incompatible land uses and they create a residential scale.

4. Preserve Crow Creek to prevent further development.

B03.2.4. Perimeter Fence

1. Design, install and maintain the base's perimeter fence following UFC 4-022-03.

2. Stringently comply with AT / FP requirements following UFC 04-010-01 for all spaces adjacent to the base's perimeter fence and all gates.
3. Fencing, gates and other elements that are associated with the main gates shall be a level of quality equivalent to Facility Group 1.

4. Maintain a positive visual quality along the traffic corridor on both sides of the main gates. Specifically address pedestrian access, circulation and common areas.
C. SITE DEVELOPMENT
Comply with Air Force Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

C01. SITE DESIGN
Comply with Air Force Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html
Comply with AF Corporate Standards for Site Design / NEPA:
http://afcfs.wbdg.org/site-development/site-design-nepa/index.html

C01.1. Site Design Considerations

☐ Applicable  ☐ N/A  Large graphics do not apply

☐ Applicable  ☐ N/A  Select number of graphics / images (small: 250 px x 188 px) to insert  3

Landscape Scheme Reinforcing Connection
Separation of Public and Private Space
Adjacent Gathering Space

1. Collect documentation to validate approvals and completion of the NEPA process.
2. Ensure site design compliance with the Installation Development Plan (IDP) and its component plans and Installation Facilities Standards (IFS).
3. Promote integrated design with on-site solutions such as engineered small-scale hydrologic controls versus base-wide infrastructure; consider open space, natural features, bioswales, building roofs, streets, and paved surfaces.
4. Limit the impact of development on land and water resources. All site elements and infrastructure shall reinforce an image of sustainability, with reduced energy demand, renewable-energy usage, and water conservation.
5. Consider energy conservation during site design for the following categories: building and site lighting, auxiliary systems and equipment (refrigerators, elevators, etc.), building envelope, electric power and distribution, HVAC systems and equipment, service hot water, energy management (metering, EMCS).
6. Coordinate on-site renewable-energy systems and components to minimize area requirements and maximize efficiencies. Appropriately buffer and screen these and other mechanical systems and equipment.
7. New building projects should preserve open space and protect natural habitat.
8. Conform to existing topography to the greatest extent possible and use slopes to increase site and building efficiencies. Design sites to minimize irrigation and impacts to stormwater runoff.
9. Carefully study new project sites to identify the character of adjacent buildings, streets, landscaping, and site design elements. Reinforce the existing character in new site design.
10. Consider relationships to adjacent facilities and district / centralized heating and cooling infrastructure and cost effectively connect building systems to harvest heat, grey water or other beneficial byproducts.

11. Minimize existing and planned obstructions from landscaping, structures, topography, and adjacent developments to preserve solar access and natural ventilation.

12. Purposefully integrate service access, receiving and storage areas to eliminate the need for visual screening.

13. Appropriately connect to the base network of streets, sidewalks and trails using drive aisles, parking areas, walkways, paths, and bicycle routes addressing both vehicles and pedestrians.

14. Applicably coordinate heat island mitigation in paving and roof designs when implementing an integrated approach to stormwater management.

15. Consider the location of “Designated Tobacco Areas.”

**C01.2. Building Orientation**

- **Applicable** ☑ N/A  Select number of graphics / images (large: 800 px x 440 px) to insert  1
- **Applicable** ☑ N/A  Select number of graphics / images (small: 250 px x 188 px) to insert  6

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**Conceptual Site Analysis and Site Design Diagram**
1. Ensure the site will accommodate optimum requirements for building orientation, which is with the long axis parallel to the east/west direction for rectilinear CONUS buildings.

2. Meet Installation Facilities Standards (IFS) requirements for the locations of the building's passive and renewable-energy systems—including geothermal and solar systems—and exterior shading systems.

3. Locate the building(s) and permitted ancillary structures to promote solar gain, solar shading, natural ventilation, rainwater harvesting, wind buffering and other beneficial passive systems. Consider natural ventilation during the design of HVAC systems. Openings should be oriented to the east and south to maximize solar gain.

4. Consider relationships to adjacent sites and their facilities and infrastructure, and cost effectively integrate building systems to harvest heat, grey water or other beneficial byproducts.

5. Consider the “public side” of the building, its views and the location of the main entrance.

**C02. UTILITIES**

Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Utilities:
http://afcfs.wbdg.org/site-development/utilities/index.html
C02.1. Utility Components

- Applicable ☑ N/A Large graphics do not apply
- Applicable ☑ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3

Adjacent Standard Color Utility Cabinet  
Remotely Located Utility Cabinet  
Controlled Access Service Drive

1. Provide all on-site utility service lines below grade for Facility Group 1; when mounting elements (such as utility cabinets, communications equipment and water valves) above grade is unavoidable, paint these consistently and provide visual screening following Installation Facilities Standards (IFS).

2. Provide installation of utility infrastructure to support near term and future electric vehicle charging stations.

3. Define all service entry points into the building and route distribution below grade into an interior space within the facility; exposed conduits, cables and wires on exterior walls are not permitted for Facility Group 1 or 2.

4. Include consideration of appropriate placement of meters in support of Automated Revenue Management Services (ARMS).

5. Limit exterior mechanical distribution systems such as exterior steam, chilled water, and hot water distribution to Group 3 facilities; when required for Group 1 and 2 facilities integrate with the architecture and provide visual screens following IFS.

6. Direct roof drainage to underground collection when feasible or provide splash blocks / paved channels to intercept roof drainage at grade.

C03. PARKING AREAS

Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Parking Areas:
http://afcfs.wbdg.org/site-development/parking-areas/index.html
C03.1. Configurations and Design

☐ Applicable  ☐ N/A  Large graphics do not apply

☐ Applicable  ☐ N/A  Select number of graphics / images (small: 250 px x 188 px) to insert  3

1. Evaluate adjacent sites and cost-effectively consolidate parking areas to maximize efficient use; ensure that all areas meet accessibility guidelines.

2. Generally envision on-site parking as a series of small connected singular areas selectively placed around the facility served, rather than a single large area, except when a single large area makes the most sense; buffer parking areas from the facility main entrance with a transition space and provide drop-offs to decrease close-in parking. Comply with IFS standards while meeting AT/FP requirements.

3. Integrate at-grade and raised-profile curbing, permeable paved areas, and parking islands with the stormwater system and direct stormwater to bioswales and rain gardens as source water for regionally appropriate native vegetation.

4. Define pedestrian access with approved hardscape and provide shading along the primary path from the parking area to the main entrance of the building.

5. Coordinate suitable landscape or barriers integrated with walls and fences to ensure adequate force protection.

6. Accessible parking spaces shall be marked according to UFC 3-120-01 and its references in ABAAS and the MUTCD.

7. Consider locations and requirements of near term and future electric vehicle charging stations.

8. Designate preferred parking spaces for electric vehicles and carpools near the main entrance.

9. Consider cost-effectively integrating solar photovoltaic arrays into covered parking structures.

10. Reserved parking is based on AFGSC Parking Policy Letter.

11. On-street parking is discouraged except in multi-use areas. When used, provide approved on-street parking configurations following UFC 3-201-01.

12. Access and service drives should accommodate the largest vehicle serving the facility.
C03.1.1. Paving and Striping

Facility Group 1 paving materials shall be as follows.
Primary: Asphaltic concrete
Secondary: Permeable pavers
Accent: Concrete

Facility Group 2 paving materials shall be as follows.
Primary: Asphalt
Secondary: N/A
Accent: Concrete

Facility Group 3 paving materials shall be as follows.
Primary: Asphalt
Secondary: Concrete
Accent: Concrete

Facility Group 4 paving materials shall be as follows.
Primary: Asphalt
Secondary: Concrete
Accent: Concrete

1. All new parking lots shall be constructed of hot mixed asphalt (HMA) paving. Portland cement concrete (PCC) may be used in specific locations and conditions.

2. Porous paving may be considered on a case basis.

3. Dirt, gravel, and grass lots are not allowed, except as temporary lots.

4. Use consistent striping, angles and stall sizes in all parking areas.

5. All parking shall be marked with white stripes of paint or applied vinyl coatings as specified. Red or yellow markings shall only be used for safety purposes and must be kept to a minimum. All lines shall be four inches (4") wide.
C03.1.2. Curbing

- Applicable ☐ N/A  Large graphics do not apply

- Applicable ☑ N/A  Select number of graphics / images (small: 250 px x 188 px) to insert 3

Insert Curbing graphic
Size image to: 250 pixels width x 188 pixels height
Click here to insert image

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1. Define all parking lots with either raised profile or at-grade curbing to promote drainage and protect paving edges. All raised curbs shall be the rolled (mountable) type.

2. Integrate curbing to direct stormwater to bioswales and rain gardens as source water for regionally appropriate native vegetation.

3. Wheel stops are not permitted except at locations where car bumpers could contact adjacent items such as poles, signs or pedestrians.
C03.1.3. Internal Islands and Medians

- Applicable  N/A  Large graphics do not apply

- Applicable  N/A  Select number of graphics / images (small: 250 px x 188 px) to insert 2

1. Install landscape islands and medians as visual breaks only when absolutely necessary for lighting or stormwater removal consideration for snow removal is a priority. Coordinate suitable landscape or barriers integrated with walls and fences to ensure adequate force protection.

2. When lighting is necessary poles shall be placed on the exterior, contain fixture bases within medians or internal landscape islands as required.

C03.2. Parking Structures

- Applicable  N/A  Large graphics do not apply

- Applicable  N/A  Small graphics do not apply

1. Parking structures are encouraged in land-constrained locations when economically feasible, or when the mission requires a protected environment from either the elements or security.

2. Consider near term and future electric vehicle charging stations and renewable energy generation development during the analysis and design.

3. Consider opportunities for integrating parking structures into multi-use developments with pedestrian-oriented uses located on the ground floor and parking on upper levels; ensure ATFP guidelines are fully addressed.

4. Structures may be constructed below grade with roofs serving as vegetated areas or plazas.
C03.3. Connectivity

- Applicable ☐ N/A Large graphics do not apply
- ☑ Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3

1. Refer to the Installation Development Plan (IDP) for locations of transit stops and pedestrian and cycling networks; provide appropriately sized sidewalks and bike paths to connect facilities and users to these networks.

2. Provide amenities such as rain and shade shelters, trees, and benches to encourage and facilitate use of public transportation.

3. Evaluate the IDP for the current and planned network of roads and optimally develop vehicular access to and from the site.

C04. STORMWATER MANAGEMENT

Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Stormwater Management:

C04.1. Stormwater Requirements

- Applicable ☐ N/A Large graphics do not apply
- ☑ Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 5
1. Design all stormwater systems including retention ponds, detention areas, channels, etc. as on-site amenities that are consistent with natural systems and drainage patterns, that help sustain the base landscape with beneficial functionality and that provide aesthetic appeal; coordinate with the base Stormwater Management Plan.

2. Incorporate bioswales into the design of all roadway, parking and facility roof systems to enhance water quality and support the overall stormwater system.

3. When underground drainage systems are required establish a maintenance program to include removal of sediments and debris; inspect joints seasonally for alignment to prevent leakage and the development of voids and surface failures.


5. The basis for our Stormwater Management Plan is the FE Warren AFB Storm Drainage Requirements report dated June 2001 that was created to correct deficiencies discovered during the flood of 1985.

C05. SIDEWALKS, BIKEWAYS AND TRAILS

Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Sidewalks, Bikeways and Trails:
http://afcfs.wbdg.org/site-development/sidewalks-bikeways-trails/index.html

C05.1. Circulation and Paving

☐ Applicable ☐ N/A   Large graphics do not apply

☐ Applicable ☐ N/A   Select number of graphics / images (small: 250 px x 188 px) to insert
Facility Group 1 sidewalks, plazas, and courtyards paving materials shall be as follows.

- Primary: Concrete
- Secondary: Permeable Pavers
- Accent: Colored Concrete

Facility Group 2 sidewalks, plazas, and courtyards paving materials shall be as follows.

- Primary: Concrete
- Secondary: Permeable Pavers
- Accent: N/A

Facility Group 3 sidewalks, plazas, and courtyards paving materials shall be as follows.

- Primary: Concrete
- Secondary: N/A
- Accent: N/A

Facility Group 4 sidewalks, plazas, and courtyards paving materials shall be as follows.

- Primary: Concrete
- Secondary: N/A
- Accent: N/A

1. Maintain efficient geometry and accessibility to connect building entrances to adjacent parking areas and activity areas and to the base transportation system following AT/FP. Efficiently use materials to optimize life-cycle costs and to minimize maintenance.

2. Generally conform horizontal layouts of sidewalks to the geometric configuration of adjacent buildings, streets, parking lots, and other adjacent related site amenities. Occasional meanders and/or jogs may be included to capture views, to coordinate with landscaping or accommodate site constraints.

3. Walks in parking areas shall provide a direct path using “safe islands” and “peninsulas” to encourage safety. Walks parallel to streets shall follow streetscape guidelines. Clearly mark pedestrian crossings at vehicular routes.

4. Mitigate heat island by providing high-albedo, shaded sidewalks. Pervious pavers shall be used on all sidewalks, plazas and courtyards in Facility Groups 1 and 2; use pervious concrete in Groups 3 and 4. The designer shall incorporate appropriate expansion and construction joints.

5. Only experienced contractors will install pervious pavements.

6. Consider an integrated approach that could include stormwater management (permeable surfaces) and complement the design of the storm drainage system when appropriate.

7. Pedestrian paths should be at least 5’ in width to allow for comfortable side-by-side walking.

8. Sidewalks leading to a building main entrance and at the interior of parking lots shall be a minimum width of 6’. Walks greater than 10’ wide may be used at high-density pedestrian areas where volumes of traffic justify added material.
9. Where cars park adjacent and head-in to the sidewalk and wheel stops are not used, such perimeter walks shall be increased to a minimum width of 8' to accommodate overhangs of the parked vehicles.

10. All sidewalks shall have positive drainage to prevent ponding of water or ice accumulation with slopes ranging from 2.1% to 4.2%. Walks with a slope greater than 4.2% shall be designed as ramps following accessibility guidelines. All walks shall have a minimum cross slope of 2.1%.

11. Pavers shall conform to the following range of color: Red brick. Pavers used on walks shall typically be 4"x8" in size.

12. Connect to the bicycle circulation system and provide bicycle parking with a suitable means for securing bicycles following IFS. Consider changing/shower facilities for use by cyclists.

13. Refer to the Installation Development Plan for future trails, bicycle paths, and sidewalks.

**C05.1.1. Ramps and Stairs**

☐ Applicable  ☐ N/A  Large graphics do not apply

☐ Applicable  ☐ N/A  Select number of graphics / images (small: 250 px x 188 px) to insert  1

![Image Tool 250 x 188](Image Tool 250 x 188)

Ramp along Accessible Route

1. Use ramps instead of stairs for sidewalks, bikeways and trails and at all buildings where possible. Where steps are unavoidable, follow UFC 1-200-01 and its references to the international Building Code.

**C05.1.2. Lighting**

☐ Applicable  ☐ N/A  Large graphics do not apply

☐ Applicable  ☐ N/A  Small graphics do not apply

1. Provide lighting for all stairs and landings where traffic warrants.

2. Refer to the Lighting section for path lighting along sidewalks, bikeways and trails.

**C06. LANDSCAPE**

Comply with AF Corporate Standards for Site Development:  
[http://afcfs.wbdg.org/site-development/index.html](http://afcfs.wbdg.org/site-development/index.html)

Comply with AF Corporate Standards for Landscape:  
C06.1. Climate-based Materials

1. Use only native, naturally occurring, drought tolerant indigenous plant species (including grasses) appropriate for the locale to promote energy efficiency and water conservation, preserve drainage patterns, inhibit erosion, improve air quality, lower maintenance, and add beauty.


C06.1.1. Landscape Design Concept

1. Develop, maintain and implement a climate-based plant list with landscape features using a regionally appropriate palette of materials to promote energy efficiency, preserve drainage patterns, inhibit erosion, improve air quality, lower maintenance and add beauty. Follow UFC 3-201-02 Landscape Architecture.

2. Landscaping is required for all newly developed sites and facilities; preserve existing native landscape where possible and avoid overplanting.

3. Concentrate landscaping in Facility Group 1 and along major thoroughfares and integrate these landscaped areas into the base's stormwater management plan. Refer to the Streetscape Envelope Standards in this IFS.
4. All Facility Group 1 and 4 sites shall be landscaped at their entire perimeter; limit formal planting arrangements to formal spaces typically associated with Group 1. Landscape public spaces near the main entrances of Group 1 facilities.

5. Facility Group 2 and 3 sites may have a native undisturbed landscape except at the main entrances of Group 2, which should be newly landscaped.

6. Facility plantings shall follow the Installation Facilities Standards (IFS) plant list, which is based on the specific microclimates created by the adjacent building: shadow areas, protected areas, zones adjacent to thermal mass, and availability of rainwater and/or grey water.

7. Provide open spaces as transitions between developed and native areas that promote quality of life and provide visual relief and allow walkable connections to the transportation system.

8. Return suitable areas to a natural state to minimize and, whenever possible, eliminate ground maintenance requirements; expand prairie areas where appropriate with native plants to eliminate mowing and maintenance requirements.

9. In tree clusters replace grass with naturalized shrub beds and leaf litter mulch to eliminate mowing requirements.

10. Use plantings in open spaces to reinforce the space as a visual asset.

11. Consider landscape windbreaks when suitable for the local climate.

12. Integrate security requirements into the landscape design. Coordinate the heights of trees and shrubs and note restrictions for plantings following UFC 4-010-01.

13. Berms may be used as an integral part of the overall landscape strategy for screening, security and/or visual interest.

**C06.1.2. Xeriscape Design Principles**

Applicable  N/A  Large graphics do not apply

Applicable  N/A  Select number of graphics / images (small: 250 px x 188 px) to insert  2

1. Apply xeriscape principles following UFC 3-201-02, Appendix B, and Air Force Corporate Facilities Standards.

2. Facility plantings are encouraged to use native plant species and to consider specific microclimates created by the adjacent building: shadow areas, protected areas, zones adjacent to thermal mass, and availability of rainwater and/or grey water.
C06.1.3. Minimizing Water Requirements

1. Reasonably reduce demand on potable water while seeking opportunities to increase alternative water sources for irrigation. Reduce or eliminate the use of potable/domestic water for purposes of landscape architecture maintenance, consistent with existing legal or contractual obligations, and prohibit potable-water irrigation in new construction beyond establishment following current DoD and Air Force policy.

C06.1.4. Plant Material Selection

1. Use only native, naturally occurring plant materials including grasses or turf suited for the local climatic conditions in the landscape design; potable-water irrigation systems are discouraged beyond the establishment period.

2. New facilities are encouraged to use native plant species as indicated on the installation plant list. Obtain the current Plant List from the Base Civil Engineer.

3. Trees should be the focus of landscape plantings and, where possible, should be a mix of deciduous and evergreen species for variety; provide tree grates when appropriate and use tree guards on smaller trees.

4. Ground covers are only recommended when minimal maintenance is required.

5. Turf areas should be limited to those that can be sustained by natural rainfall or grey water (non-potable) irrigation systems; turf may be defined by at-grade concrete mow strips to lessen maintenance.

6. Analyze soils and provide organic amendments as needed to improve plant growth and conserve water.

7. All plant material shall have one-year warranty and is subject to approval by the Base Landscape Architect.
C06.1.5. Water Budgeting (Hydrozones)

1. Comply with DoD and Air Force policy on potable-water irrigation systems.

2. Provide irrigation systems in new construction to establish plant materials following "Water for Landscaping" in UFC 1-200-02. Note the climate zone and annual rainfall for the locale.

3. New buildings shall cost-effectively integrate a grey-water reclamation system following UFC 1-200-02, which provides source water for an automatic drip irrigation system; connect adaptive plantings adjacent to facilities to a grey-water irrigation system when available and discontinue the use of potable water for irrigation after the establishment period.

4. Provide irrigation design following UFC 3-201-02. Install drip irrigation products and components following UFGS Section 32 84 24 Irrigation Sprinkler Systems. Match the color of valve box lids to the adjacent ground treatment (i.e. green at turf & native seed areas, brown at wood mulch & rock areas).

5. Life cycle cost-effectively equip irrigation systems to sense soil moisture, rainfall and wind to minimize unnecessary watering; incorporate drip irrigation systems as the primary source.

C06.1.6. Base Entrance Landscaping

1. Comply with DoD and Air Force policy on potable-water irrigation systems.

2. Provide irrigation systems in new construction to establish plant materials following "Water for Landscaping" in UFC 1-200-02. Note the climate zone and annual rainfall for the locale.

3. New buildings shall cost-effectively integrate a grey-water reclamation system following UFC 1-200-02, which provides source water for an automatic drip irrigation system; connect adaptive plantings adjacent to facilities to a grey-water irrigation system when available and discontinue the use of potable water for irrigation after the establishment period.

4. Provide irrigation design following UFC 3-201-02. Install drip irrigation products and components following UFGS Section 32 84 24 Irrigation Sprinkler Systems. Match the color of valve box lids to the adjacent ground treatment (i.e. green at turf & native seed areas, brown at wood mulch & rock areas).

5. Life cycle cost-effectively equip irrigation systems to sense soil moisture, rainfall and wind to minimize unnecessary watering; incorporate drip irrigation systems as the primary source.
1. At the main gate, reinforce a sense of arrival through a well-designed concentration of landscape elements consistent in visual quality with Facility Group 1.

2. Ensure landscaping has seasonal features with spring and fall color and a combination of evergreen and deciduous trees and shrubs for winter interest.

3. Integrate base signs and street and pedestrian lighting whenever feasible.

**C06.1.7. Streetscape Landscaping**

- Applicable ☐ N/A Large graphics do not apply
- Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 2

![Native Trees and Grasses](Image Tool 250 x 188)

![Trees as a Focal Point](Image Tool 250 x 188)

1. Provide landscape designs with plant materials appropriately representing the level of quality of the adjacent Facility Group number. Refer to the Installation Elements section.

2. Select a variety of regionally appropriate streetscape plantings and grading to create a visual interest.

**C06.1.8. Pedestrian Circulation Landscaping**

- Applicable ☐ N/A Large graphics do not apply
- Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 2

![Defining Space and Providing Interest](Image Tool 250 x 188)

![Providing Shade, Texture and Scale](Image Tool 250 x 188)

1. Define walkways with landscaping where appropriate.

2. Provide rest areas along the pedestrian circulation network with human-scaled deciduous shade trees. Supplement tree plantings with finely textured shrubs when appropriate for the climate.
3. Provide wind breaks where required.

C06.1.9. Parking Lot Landscaping

☐ Applicable  ☑ N/A  Large graphics do not apply

☐ Applicable  ☑ N/A  Select number of graphics / images (small: 250 px x 188 px) to insert  1

![Native Deciduous Species](image)

1. Integrate appropriate landscaping elements into areas surrounding parking lots to visually soften the appearance surrounding the parking lot.

2. Avoid trees that drop sap, fruit, or seeds, and use long-lived species; keep trees trimmed, removing dead and dying trees or branches.

3. Provide planting along perimeter of parking lots for shade and appeal following IFS and the base stormwater management plan.

4. Parking islands are not recommended. Rain garden islands shall be landscaped to receive rainwater runoff from adjacent impervious parking areas to be absorbed into the ground/planting bed. Native plants and groundcovers are recommended within the rain garden areas, which can survive without supplemental irrigation once established.

C06.1.10. Screen/Accent Landscaping

☐ Applicable  ☑ N/A  Large graphics do not apply

☐ Applicable  ☑ N/A  Select number of graphics / images (small: 250 px x 188 px) to insert  2

![Screening at Dumpster Enclosure](image)

1. Provide complimentary accent landscaping at monuments and static displays.

![Screening at Utilities](image)
2. At Facility Group 1, provide landscaping adjacent to all freestanding signs without distracting from the written communication.

3. Provide landscape screening of utility elements adjacent to Facility Group 1.

4. Providing landscaping as visual screening is preferred to the construction of walls and fences; bermsing and mounding may supplement landscape screening.

C06.1.11. Other

- Applicable ☐ N/A Large graphics do not apply
- Applicable ☐ N/A Small graphics do not apply

C07. SITE FURNISHINGS

Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Site Furnishings:
http://afcfs.wbdg.org/site-development/site-furnishings/index.html

C07.1. Furnishings and Elements

- Applicable ☐ N/A Large graphics do not apply
- Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert

Insert Furnishings and Elements graphic
Size image to: 250 pixels width x 188 pixels height
Click here to insert image

1. Provide a coordinated consistent inventory of site furnishings to positively contribute to the visual environment, image, and identity of the base; ensure durability, low maintenance, reduced visual clutter, and compatibility with the adjacent architecture.

2. Remove poorly located or redundant litter / ash receptacles, newspaper and bicycle racks, telephone booths, vending machines, walls and fences to reduce visual clutter and to lessen the requirements for maintenance.

3. Site furnishing shall be durable materials and low maintenance. Generally match the site furniture of adjacent facilities and the facility district.

4. Install needed outdoor seating (benches and low walls) in public gathering spaces near main and secondary building entrances. Low walls shall match facility architecture.
5. Benches in Groups 1, 2 and 3 shall be concrete. Provide metal benches in Group 4 and parks.

6. Integrate functional bicycle racks with the design of the building's main entrance grounds in Facility Groups 1 and 2 while meeting AT/FP requirements.

7. Limit the use of bollards, but when necessary for force protection use black cast-iron bollards in Groups 1 and 2; simple, round or square concrete bollards in Group 3; and simple, round or square concrete bollards in Group 4 and parks and trails. Illuminated bollards may be used as approved on a case basis.
   a. Use black cast-iron bollards in the Historic District, such as the Sternberg 4201-LB bollard.

8. Locate architecturally coordinated containers for recycling, litter, ash, vending, etc., to minimize visual clutter and not visible from the building’s main entrance. Minimize the use of freestanding planters.

9. Generally limit picnic tables, barbecue grills and drinking fountains to lodging, dormitories, housing areas, parks and recreation areas following IFS.

10. Flagpoles using approved materials may be installed at locations designated by IFS, and in accordance with AFI 34-1201.

11. Refer to the Overview Section “Facility Hierarchy” topic of this AFCFS for guidelines regarding ancillary structures such as pavilions and shade shelters.

12. Bus shelters shall be provided only where there is a documented need and when approved on a case basis. Generally emulate the designs of adjacent shelters using Classic black metal piping with plexiglass.

13. Monuments and static displays shall be limited. New elements are generally discouraged unless these are fully vetted through the base’s approval process and designed following IFS.

14. When visual screening is necessary, consider landscaping as the first option; screen walls are permitted only in Group 1 finished with red brick if in the Historic District, or of materials similar to the surrounding buildings in other Character Areas if outside the Historic District.

15. For fencing, apply the standards for “Products, Materials and Color” in the following section. Limit those with the highest visual quality to Facility Group 1 where there is sustained maintenance. Define all levels of security and visual quality.

16. Use decorative, black metal fencing with brick piers for highly visible areas within the Historic District/Historic Influence and Barracks/Administration Character Areas.

17. Do not use chain-link fencing at Group 1, 2 or 4 facilities; Limit the use of barbed-wire outriggers on chain-link fencing at industrial sites, unless required for additional security or protection of assets.

18. Wood fencing may be used in Facility Group 4 and in recreation areas following IFS for material and finish when there is sustained periodic maintenance.

19. Provide trash dumpster enclosures for Group 1 with red brick in Historic District or natural stone to match adjacent facilities and for Groups 2 and 3 with wood picket fence; all gates shall be metal factory finished black.

20. Specify screen wall materials and finishes that do not require painting or maintenance beyond periodic cleaning.

21. Group 1, 2 and 3 picnic tables and seating shall be concrete. Group 4 and recreational areas shall have metal picnic tables and seating. Generally limit picnic tables, barbecue grills and drinking fountains to lodging, dormitories, housing areas, parks and recreation areas.

22. Limit the use of freestanding planters to areas with ongoing maintenance.

23. Provide kiosks only where there is a documented need for visual communication of posted messages. When used, match adjacent facilities in materials and detailing and consolidate kiosks with other site furnishings within 30 feet of major pedestrian paths. Limit kiosks to facility Groups 1 and 2 and parks.
24. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

**C07.2. Site Furnishings Products, Materials and Color**

**Note:** Apply the below base-wide standards for Site Furnishings (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.

### C07.2.1. Barbeque Grills

<table>
<thead>
<tr>
<th>Applicable</th>
<th>N/A</th>
<th>Number of base standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

#### Charcoal

<table>
<thead>
<tr>
<th>Applies to:</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mfr:</td>
<td>Most Dependable Fountains, Inc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color:</td>
<td>Natural stainless steel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finish:</td>
<td>Mill</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model #:</td>
<td>SS BBQ Grill</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Other:</td>
<td>Concrete foundation, coordinate with Base Architect</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>UFGS:</th>
<th>N/A</th>
</tr>
</thead>
</table>

#### Natural Gas

<table>
<thead>
<tr>
<th>Applies to:</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mfr:</td>
<td>BBQ Coach</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color:</td>
<td>Natural stainless steel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finish:</td>
<td>Mill</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model #:</td>
<td>32&quot; 4-Burner</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Other:</td>
<td>Built-in Concrete or masonry, coordinate with Base Architect</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UFGS:</th>
<th>N/A</th>
</tr>
</thead>
</table>
### C07.2.2. Benches

- **Type:** Metal Slatted
- **Mfr:** Belson Outdoors
- **Color:** Black
- **Finish:** Factory powder coat
- **Model #:** Model CBPB-6SB-BK
- **Other:** N/A
- **UFGS:** N/A

### C07.2.3. Bike Racks

- **Type:** Style 1
- **Mfr:** Brandir International Inc.
- **Color:** Black or galvanized
- **Finish:** Factory
- **Model #:** The Ribbon Bike Rack, RB-07
- **Other:** N/A
- **UFGS:** N/A

### C07.2.4. Bike Lockers

- **Applicable**
- **Other:** N/A
### Lighted Round Top

- **Type:** Lighted Round Top
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr:** TBD
- **Color:** Black
- **Finish:** Factory finished cast iron
- **Model #:** Round top, fluted post, flared base
- **Other:** 3000K LED Lamp, 360° downlighting
- **UFGS:** N/A

### Lighted Round Dome Top

- **Type:** Lighted Round Dome Top
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr:** Lithonia Lighting Products
- **Color:** Dark Bronze
- **Finish:** Anodized aluminum
- **Model #:** KBA
- **Other:** Flared cone, 3000K LED Lamp
- **UFGS:** N/A
Type: **Building Protection, steel**

Applies to:  
- Select Group 1
- Group 2
- Group 3
- Select Group 4
- Select Other

Mfr: (Bollard Cover) Reliance Foundry

Color: Brown cover may be field painted dark bronze

Finish: Factory

Model #: 6" Steel pipe, concrete filled, Cover: R-7173

Other: A 1" (25.4 mm) rigid conduit and box with shroud may be provided at top of bollard with a receiver/key switch application

UFGS: N/A

---

**C07.2.6. Bus Shelters**

Applicable:  
- Select N/A

Number of base standards: 1

Type: **Dome Top, Open Corners**

Applies to:  
- Select Group 1
- Select Group 2
- Select Group 3
- Select Group 4
- Select Other

Mfr: Belson Outdoors or Handi-Hut

Color: Dark Bronze

Finish: Powder coated

Model #: Domed roof

Other: Provide concrete slab

UFGS: N/A
### C07.2.7. Drinking Fountains

<table>
<thead>
<tr>
<th>Type: Pedestal</th>
<th>Applies to:</th>
<th>Mfr: Most Dependable Fountains, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color: Natural</td>
<td>Finish: Stainless Steel</td>
<td>Model #: MDF 440 SMSS</td>
</tr>
<tr>
<td>Other: Accessible</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| UFGS: N/A |

### C07.2.8. Dumpster Enclosures / Gates

<table>
<thead>
<tr>
<th>Type: 1: Brick and Steel</th>
<th>Applies to:</th>
<th>Mfr: Custom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color: Red brick blend, dark brown doors</td>
<td>Finish: Face brick, powder coated doors</td>
<td></td>
</tr>
<tr>
<td>Model #: Match adjacent building</td>
<td>Other: Steel gates and hardware, dark brown, dumpsters shall be painted dark brown</td>
<td></td>
</tr>
</tbody>
</table>

| UFGS: Section 04 20 00 Unit Masonry |
## C07.2.9. Fencing

**Applicable** □  □ N/A  Number of base standards 7

<table>
<thead>
<tr>
<th>Type: Style A Barrier: High security, high visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to: □ Group 1  □ Group 2  □ Group 3  □ Group 4  □ Other</td>
</tr>
<tr>
<td>Mfr: Custom</td>
</tr>
<tr>
<td>Color: Dark bronze</td>
</tr>
<tr>
<td>Finish: Powder coat</td>
</tr>
<tr>
<td>Model #: Steel posts, rails and pickets (vertical, bent outward at top)</td>
</tr>
<tr>
<td>Other: Posts, rails, and pickets in heights, lengths and gauges as required, (see Appendix for Facility Districts requirements, if applicable); brick piers may be provided in Group 1</td>
</tr>
<tr>
<td>UFGS: Section 05 50 13 Miscellaneous Metal Fabrications</td>
</tr>
</tbody>
</table>

![Image of Style A Barrier](image-url) **Recommended Image:** Example of Fencing Type  Size image to: 250 pixels width x 188 pixels height

<table>
<thead>
<tr>
<th>Type: Style B Barrier: High security, medium visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to: □ Group 1  □ Group 2  □ Group 3  □ Group 4  □ Other</td>
</tr>
<tr>
<td>Mfr: Custom</td>
</tr>
<tr>
<td>Color: Dark brown</td>
</tr>
<tr>
<td>Finish: Powder coat</td>
</tr>
<tr>
<td>Model #: Steel grid: flat bar stock verticals, round rod horizontals</td>
</tr>
<tr>
<td>Other: Steel posts, horizontal bars, braces, and accessories, in heights, lengths, and gauges as required; Close all ends of tubing</td>
</tr>
<tr>
<td>UFGS: Section 05 50 13 Miscellaneous Metal Fabrications</td>
</tr>
</tbody>
</table>

![Image of Style B Barrier]
**Style C Barrier: High security, low visibility**

**Applies to:**
- [ ] Group 1
- [ ] Group 2
- [ ] Group 3
- [ ] Group 4
- [ ] Other

**Mfr:** General Wire Co.

**Color:** Dark Brown

**Finish:** PVC coating over galvanized steel

**Model #:** Chain link, steel posts and rails, gates and accessories

**Other:** N/A

**UFGS:** Section 32 31 13 Chain Link Fences and Gates

---

**Style D Barrier: Low security, High visibility**

**Applies to:**
- [ ] Group 1
- [ ] Group 2
- [ ] Group 3
- [ ] Group 4
- [ ] Other

**Mfr:** Custom

**Color:** Red brick blend, dark brown fencing

**Finish:** Face brick, powder coated metal

**Model #:** Brick Piers with steel posts, rails and pickets

**Other:** Brick: 2’x2’ (Height as required, equally spaced 12’ to 40’), Steel posts: 4”x4” (equally spaced), Rails: 2”x2”, Pickets: 1”x1” (6”o.c.); close all ends of tubing

**UFGS:** Section 04 20 00 Unit Masonry, Section 05 50 13 Misc. Metal
### Style E Barrier: Low security, High visibility

**Applies to:**
- [ ] Group 1
- [ ] Group 2
- [ ] Group 3
- [ ] Group 4
- [ ] Other

**Mfr:** Custom

**Color:** Red brick blend, dark brown fencing

**Finish:** Powder coated metal

**Model #:** Brick Piers with steel posts, rails and alternating panels

**Other:** Brick: 2’x2’ (Height as required, equally spaced 8’ to 40’), Steel posts: 4”x4” (equally spaced), Rails: 1-1/4”x1-1/2”, vertical steel panels spaced alternately on each side of the rails; matching gates; close all ends

**UFGS:** Section 04 20 00 Unit Masonry, Section 05 50 13 Misc. Metal

### Style F Barrier: Very low security, high visibility

**Applies to:**
- [ ] Group 1
- [ ] Group 2
- [ ] Group 3
- [ ] Group 4
- [ ] Other

**Mfr:** Custom

**Color:** Integral mixed Davis Colors: dark warm gray

**Finish:** Factory

**Model #:** Post and rail

**Other:** Concrete 3-rail, wood-grain textured (4,000 psi at 28 days); Posts: 39” height, 8’ spacing, set 30” deep below grade with footing, typical

**UFGS:** SECTION 03 33 00 Cast-In-Place Architectural Concrete
### Style G Barrier (Alternate): Very low security, high visibility

**Type:** Style G Barrier (Alternate): Very low security, high visibility

**Applies to:**
- Group 1
- Group 2
- Group 3
- Group 4
- Other

**Mfr:** James Hardie Building Products, Inc.

**Color:** Off white and Earth tones

**Finish:** Factory

**Model #:** Post and rail with vertical boards

**Other:** Posts: Height as required, 8’ max. spacing; apply boards to outside face.

---

### C07.2.10. Flagpoles

- **Type:** 1
- **Mfr:** Eder Flag
- **Color:** Natural aluminum
- **Finish:** Satin Lustre
- **Model #:** ECL30 IH, Internal Halyard
- **Other:** 5” Butt Dia. 33’ H (30’ Exposed)

---

### C07.2.11. Lighting - Landscape / Accent

Please refer to the Lighting section.
### C07.2.12. Litter and Ash Receptacles

**Type:** Style 1: Metal Slatted

**Applies to:** Group 1, Group 2, Group 3, Group 4, Other

- **Mfr:** Belson Outdoors
- **Color:** Black
- **Finish:** Factory powder coat
- **Model #:** CBTR-FT-BK
- **Other:** Rigid internal liner

**UFGS:** N/A

---

### C07.2.13. Picnic Tables

**Type:** Aluminum Top, Steel Frame

**Applies to:** Group 1, Group 2, Group 3, Group 4, Other

- **Mfr:** Belson Outdoors
- **Color:** Natural aluminum, black frame
- **Finish:** Factory
- **Model #:** PMB-8AA
- **Other:** N/A

**UFGS:** N/A
### Table Type

**Type:** Metal, vinyl coated

**Applies to:** Group 1, Group 2, Group 3, Group 4, Other

**Mfr:** Wabash Valley

**Color:** Brown or as approved

**Finish:** Factory vinyl coated

**Model #:** Signature Series, 46" Square Pedestal Tables with 4 Seats

**Other:** Perforated Pattern, In-ground mount

**UFGS:** N/A

### Planter Type

**C07.2.14. Planters**

| Applicable | N/A | Number of base standards | 1 |

**Type:** Precast concrete

**Applies to:** Group 1, Group 2, Group 3, Group 4, Other

**Mfr:** Materials, Inc.

**Color:** Weatherstone Gray

**Finish:** Smooth

**Model #:** Santa Fe

**Other:** N/A

**UFGS:** N/A
C07.2.15. Play Equipment

Type: Steel

Applies to: • Group 1  • Group 2  • Group 3  • Group 4  • Other

Mfr: Little Tikes Commercial

Color: Varies

Finish: Powdercoated Steel

Model #: N-R-G Freestyle

Other: Coordinate with Base Architect

UFGS: N/A

---

C07.2.16. Screen Walls

Type: Brick / Steel

Applies to: • Group 1  • Group 2  • Group 3  • Group 4  • Other

Mfr: Custom

Color: Red brick blend, dark brown fencing

Finish: Powder coated metal

Model #: Brick Piers with steel posts, rails and alternating panels

Other: Brick: 2’x2’ (Height as required, equally spaced 8’ to 40’), Steel posts: 4”x4” (equally spaced), Rails: 1-1/4”x1-1/2”, vertical steel panels spaced alternately on each side of the rails; matching gates; close all ends

UFGS: Section 04 20 00 Unit Masonry, Section 05 50 13 Misc. Metal
### C07.2.17. Tree Grates

- **Type:** Cast Iron
- **Mfr:** Neenah Enterprises, Inc.
- **Color:** Natural cast iron
- **Finish:** Cast
- **Model #:** 2-Piece, round or square
- **Other:** N/A

### C08. EXTERIOR SIGNS

Comply with AF Corporate Standards for Site Development:
[http://afcfs.wbdg.org/site-development/index.html](http://afcfs.wbdg.org/site-development/index.html)

Comply with AF Corporate Standards for Exterior Signs:
1. Provide concise functional signs as a visually unifying element with consistent colors and types for all Installation and Gate Identification Signs; Building Identification Signs; Traffic Control Devices; Directional and Wayfinding Signs; and Informational and Motivational Signs.

2. Provide signs with the lowest overall life cycle costs considering initial cost, ongoing maintenance and lifespan while meeting quality standards. Follow IFS for specifications appropriate for the local climate to withstand weathering.

3. Reduce the number of signs, reduce visual clutter and provide only essential signs required for identification, directions, instructions, and customer service following UFC 3-120-01. Remove non-conforming signs during renovation projects.

4. Use clear concise terms for content consistent with UFC 3-120-01.

5. Display of emblems on building exterior walls or other permanent structures is prohibited by UFC.

6. Raised “standout” letters and numbers may be used for Group 1 with approval on a case basis.

7. Group 2 and 3 facilities shall have wall mounted facility signs with sizes and layouts following UFC 3-120-01. Signs are not permitted for Group 4 facilities.

8. One identification sign is permitted at each building entrance. Include a building address consistent with US Postal Service protocols following UFC 3-120-01.

9. Traffic Control Devices, which regulate vehicular traffic on the installation, shall conform to the standards in the Manual of Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Administration. Coordinate street signs with this IFS.

10. Provide Directional and Wayfinding Signs and address both pedestrian and vehicular traffic following UFC 3-120-01 for size, layout and content.

11. Historic interpretive signs should be used to identify and explain items of significant historical significance.

12. Reserved parking signs should be kept to a minimum. When approved, provide post-mounted sign faces in base standard materials and colors. Consider “bracketing” a designated area with a single sign at each end.

13. Parking lot identification signs may be used to identify areas or rows within large lots.

14. Follow the guidelines and requirements in ABAAS and the MUTCD for accessible parking signs.
15. Follow UFC 3-120-01 for Informational and Motivational Signs for size, layout and content.

16. Symbols or pictographs (graphic expressions of actual objects) may be used to indicate service, mandatory / prohibitory, sports, and recreation when rapid communication is necessary.

17. Force Protection signage may be applied to glass doors using white vinyl lettering.

18. Refer to UFC 3-120-01 for prohibited signs, which include those with animated, blinking, chasing, flashing, or moving effects.

19. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

**C08.1.1. Materials and Color Specifications**

- Large graphics do not apply
- Small graphics do not apply

1. Fabricate sign panels from aluminum, painted brown. Sign posts shall be 3” square aluminum with capped ends in a concrete base.

2. Fence mounted sign panels may be attached with exposed fasteners.

3. Freestanding signs shall have white letters on brown background. Finish shall be fluoropolymer (e.g. Kynar 500) coating or equal.

4. Directional signs shall be aluminum post and panel design with 3-inch square posts. Finish to match building identification signage.

5. All signage shall follow Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) using standard colors. Refer to MUTCD color specifications, which provide cross-referenced Pantone Matching System (PMS) numbers.

   - Standard Blue
   - Standard Dark Bronze (also Federal Standard Color 30040)
   - Standard Red
   - Standard Black (non-reflective)
   - Standard White
   - Standard Brown
### Materials and Color Specifications

**Type:** Typical Sign Fce

- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Custom
- **Color:** Medium bronze
- **Finish:** Matte vinyl
- **Model #:** Aluminum flat sheet
- **Other:** Mount to square posts. Provide sizes following UFC.

**UFGS:** Section 05 50 13 Miscellaneous Metal Fabrications

---

### Typical Sign Post

- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Custom
- **Color:** Dark bronze, powder coat finish
- **Finish:** Matte
- **Model #:** Extruded aluminum with capped top ends
- **Other:** Square posts and squared ends. Provide engineered sizes.

**UFGS:** Section 05 50 13 Miscellaneous Metal Fabrications
**Typical Sign Base**

**Type:** Typical Sign Base

**Applies to:** [ ] Group 1 [ ] Group 2 [ ] Group 3 [ ] Group 4 [ ] Other

**Mfr:** Custom

**Color:** Natural Gray

**Finish:** Sonotube-formed

**Model #:** 24” height x 12” diameter, as engineered.

**Other:** At grade with 3/4” chamfer. Provide engineered sizes.

**UFGS:** UFGS 03 30 00 Cast-in-place Concrete

**C08.1.2. Installation and Gate Identification Signs**

**Type:** Primary, Secondary and Tertiary (Uses per UFC)

**Applies to:** [ ] Group 1 [ ] Group 2 [ ] Group 3 [ ] Group 4 [ ] Other

**Mfr:** Custom

**Color:** Dark bronze, brushed aluminum, accents per UFC

**Finish:** Powder coat or vinyl sign face

**Model #:** Metal frame and panels, buff stone base

**Other:** White vinyl lettering. Provide dimensions per UFC. Secondary signs shall match primary sign’s materials, but shall be smaller in size per UFC. Tertiary signs shall follow the UFC.

**UFGS:** Section 05 50 13 Miscellaneous Metal Fabrications
C08.1.3. Building Identification Signs

- **Type:** Freestanding Primary Sign (Sizes and Uses per UFC)
- **Applies to:**  
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr:** Custom
- **Color:** Medium brown face, dark bronze posts, white vinyl lettering
- **Finish:** Powder coat or vinyl sign face
- **Model #** Aluminum sheet face, extruded aluminum posts
- **Other:** Provide layout and sizes per UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

---

- **Type:** Freestanding Secondary Sign (Sizes and Uses per UFC)
- **Applies to:**  
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr:** Custom
- **Color:** Medium brown face, dark bronze posts, white vinyl lettering
- **Finish:** Powder coat or vinyl sign face
- **Model #** Aluminum sheet face, extruded aluminum posts
- **Other:** Provide layout and sizes per UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications
<table>
<thead>
<tr>
<th><strong>Type:</strong></th>
<th>Freestanding Tertiary Sign (Sizes and Uses per UFC)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applies to:</strong></td>
<td>□ Group 1 □ Group 2 ● Group 3 □ Group 4 □ Other</td>
</tr>
<tr>
<td><strong>Mfr.:</strong></td>
<td>Custom</td>
</tr>
<tr>
<td><strong>Color:</strong></td>
<td>Medium brown face, dark bronze posts, white vinyl lettering</td>
</tr>
<tr>
<td><strong>Finish:</strong></td>
<td>Powder coat or vinyl sign face</td>
</tr>
<tr>
<td><strong>Model #:</strong></td>
<td>Aluminum sheet face, extruded aluminum posts</td>
</tr>
<tr>
<td><strong>Other:</strong></td>
<td>Provide layout and sizes per UFC.</td>
</tr>
<tr>
<td><strong>UFGS:</strong></td>
<td>Section 05 50 13 Miscellaneous Metal Fabrications</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Type:</strong></th>
<th>Wall Mounted</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applies to:</strong></td>
<td>● Group 1 ● Group 2 ● Group 3 ● Group 4 □ Other</td>
</tr>
<tr>
<td><strong>Mfr.:</strong></td>
<td>Custom</td>
</tr>
<tr>
<td><strong>Color:</strong></td>
<td>Medium brown, white lettering</td>
</tr>
<tr>
<td><strong>Finish:</strong></td>
<td>Satin vinyl applied to aluminum sheet</td>
</tr>
<tr>
<td><strong>Model #:</strong></td>
<td>Aluminum sheet with vinyl face and vinyl lettering</td>
</tr>
<tr>
<td><strong>Other:</strong></td>
<td>Provide layout and sizes following UFC.</td>
</tr>
<tr>
<td><strong>UFGS:</strong></td>
<td>N/A</td>
</tr>
</tbody>
</table>
### Glass Mounted Sign

- **Type:** Glass Mounted
- **Mfr:** Custom
- **Color:** White vinyl lettering
- **Finish:** Matte vinyl
- **Model #:** Machine-cut sheet vinyl
- **Other:** Apply vinyl lettering to glass. Provide sizes following UFC.
- **UFGS:** N/A

#### C08.1.4. Traffic Control Devices (Street Signs)

- **Type:** Street Signs
- **Mfr:** Custom
- **Color:** White reflective lettering on a Standard Brown background
- **Finish:** Powder coat or vinyl sign face
- **Model #:** Aluminum sign face, control arm or pole mounted
- **Other:** Mount 7' above grade minimum, pictographs and logos are prohibited on street name signs per UFC.
- **UFGS:** Section 05 50 13 Miscellaneous Metal Fabrications
C08.1.5. Directional and Wayfinding Signs

**Type:** Vehicular

**Applies to:**
- Group 1
- Group 2
- Group 3
- Group 4
- Other

**Mfr.:** Custom

**Color:** Medium brown face, dark bronze posts, white reflective lettering

**Finish:** Powder coat or vinyl sign face

**Model #:** Aluminum sheet face, extruded aluminum posts

**Other:** Conform to the requirements of the MUTCD and its DoD Supplement. Provide types and sizes where required by UFC.

**UFGS:** Section 05 50 13 Miscellaneous Metal Fabrications

---

**Type:** Pedestrian

**Applies to:**
- Group 1
- Group 2
- Group 3
- Group 4
- Other

**Mfr.:** Custom

**Color:** Medium brown face, dark bronze posts

**Finish:** Powder coat or vinyl sign face

**Model #:** Aluminum sheet face, extruded aluminum posts

**Other:** White vinyl lettering. Provide types and sizes where required by UFC.

**UFGS:** Section 05 50 13 Miscellaneous Metal Fabrications

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C08.1.6. Informational Signs

- **Applicable**  - **N/A**  Large graphics do not apply

- **Applicable**  - **N/A**  Small graphics do not apply

1. Minimize informational signs such as static display signs, hours of operation, and project signs to reduce visual clutter.

2. Static display signs shall have a standard brown color.

3. Hours of operation signs shall have a level of quality equivalent to the Facility Group number.
4. Temporary / Project Signage shall be judiciously placed to avoid visual clutter. Schedule and arrange for the removal of these signs prior to installation.

**C08.1.7. Motivational Signage**

- Applicable  N/A  Large graphics do not apply
- Applicable  N/A  Small graphics do not apply

1. Provide professionally produced motivational signs as important elements of campaigns to boost morale, improve safety, aid in recruiting, and accomplish other motivational objectives. Consolidate this signage to reduce visual clutter.

2. Motivational signs shall be limited to an electronic "marquee" type changeable sign near each gate. Temporary signs are not permitted. Motivational information may also be posted in a small, printed format on kiosks in specified, high pedestrian use areas. Refer to kiosks under Site Furnishings.

3. Follow UFC 3-120-01 for color and layout. Note that animated, blinking, chasing, flashing, or moving effects are prohibited by the UFC.

4. Mount marquee signs on reinforced concrete bases with a natural warm gray color or brick façade in the Historic District.

**C08.1.8. Parking Lot Signs**

- Applicable  N/A

**C08.1.9. Regulatory Signs**

- Applicable  N/A

1. Regulatory signage, which restricts, warns and advises, shall be limited to those mandated under Highway/Traffic, Government Warning, and/or Parking Regulation. Follow UFC 3-120-01 and its industry references for color and layout.

2. Provide a comprehensive, systematic approach to regulatory signage to avoid clutter and confusion from "over signage."

3. Maintain base warning signs for safety and security at the base perimeter and at specific secure areas. Use these to notify visitors of restrictions governing conduct on the base, as well as other security procedures.

**C08.1.10. Other**

- Applicable  N/A

**C09. LIGHTING**

Comply with AF Corporate Standards for Site Development: [http://afcfs.wbdg.org/site-development/index.html](http://afcfs.wbdg.org/site-development/index.html)

Comply with AF Corporate Standards for Lighting: [http://afcfs.wbdg.org/site-development/lighting/index.html](http://afcfs.wbdg.org/site-development/lighting/index.html)
C09.1. Fixtures and Lamping

1. Provide, coordinate and efficiently install street, parking lot, sidewalk and facility lighting with appropriate luminaires, lamping, placement and spacing following Installation Facilities Standards (IFS); ensure the level of quality is consistent with the adjacent facility group number. Pole-mounted, wall-mounted and bollard fixtures are permitted.

2. Integrate controls to automatically reduce lighting power during periods of non-activity; automatically turn off power when sufficient daylight is available.

3. Ensure continuity and consistency of lighting elements. In new construction generally match post types, fixture types, styles, heights, sizes, materials, colors, and lamp types of adjacent facilities and the facility district.

4. Economically provide renewable-energy power sources such as solar photovoltaic when feasible.

5. Use appropriately designed or shielded luminaires to direct light downward to minimize light pollution and intrusion onto adjacent sites and to facilitate night training.

6. Calculate illuminant levels for all lighting applications following UFC 3-530-01 and ensure compliance with pre-curfew maximum brightness level requirements.

7. Sufficiently address environmental factors to prevent corrosion and weathering of fixtures, plinths and other components.

8. Wall mounted fixtures should respond to the architectural character of the facility.
9. Efficient accent lighting of architectural and landscape features may be provided for Group 1, lodging and historical applications. Accent lights in ground-mounted locations may be provided for static displays and signs when these do not conflict or cause hazards with overhead aircraft.

10. Comply with UFC 3-530-01 for light source technology and lamp types. High efficiency lamping such as LED is preferred for most applications.

11. Provide round tapered, square non-tapered, or round non-tapered aluminum poles and aluminum fixtures with square, rectangular or circular housings in colors and shapes to match adjacent facilities and the facility district.

12. Install lighted bollards only at Group 1 and high-traffic Group 2 facilities. Generally match materials, colors and shapes of adjacent facilities and the facility district.

13. Install natural warm gray color, smooth finished concrete bases for all poles in heights appropriate for the facility group and application. Generally Groups 1, 2 and 4 shall have at-grade bases. Group 3 shall have taller bases for added durability.

14. When parking lot lighting is necessary, provide an illuminated path to the building’s main entrance. Pole bases should be contained within an internal landscape median or island.

15. Consistently install lighting for sidewalks, bikeways and trails to match adjacent facilities.

16. Landscape accent lighting may be used in public gathering spaces and in Group 1 facilities. Coordinate the design, luminaire selection, and placement with the location of trees, shrubs, and site furnishings.

17. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

### C09.2. Light Fixture Types

**Note:** Apply the below base-wide standards for Light Fixtures (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.

#### C09.2.1. Street Lighting

- **Type:** Style 1
- **Mfr:** Hubbell, Kim Lighting
- **Color:** Dark Bronze Anodized (or Clear Anodized as approved by BCE)
- **Finish:** Factory
- **Model #:** Cutoff, Single Arm or Dual Arm Mount
- **Other:** Lamp: LED. Follow manufacturer’s recommendations for fixture base.

**UFGS:** N/A
C09.2.2. Parking Lot Lighting

Type: **Parking Lot Style 1**

- **Applicable:** Group 1, Group 2, Group 3
- **Other:** No

**Mfr:** Hubbell, Kim Lighting

**Color:** Dark Bronze Anodized (or Clear Anodized as approved by BCE)

**Finish:** Factory

**Model #:** Rectilinear or Round Cutoff, Single Arm or Dual Arm Mount

**Other:** Lamp: LED. Follow manufacturer’s recommendations for fixture base.

**UFGS:** N/A

---

Type: **Parking Lot Fixture Base**

- **Applicable:** Group 1, Group 2, Group 3
- **Other:** No

**Mfr:** Custom

**Color:** Natural gray

**Finish:** Trowel

**Model #:** Form-cast, round

**Other:** N/A

**UFGS:** Section 03 33 00 Cast-In-Place Architectural Concrete
### C09.2.3. Lighted Bollards

**Applicable** ☑ N/A  Number of base standards 2

<table>
<thead>
<tr>
<th>Type: Lighted Round Dome Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to: ○ Group 1 ○ Group 2 ○ Group 3 ○ Group 4 ○ Other</td>
</tr>
<tr>
<td>Mfr: Lithonia Lighting Products</td>
</tr>
<tr>
<td>Color: Dark Bronze</td>
</tr>
<tr>
<td>Finish: Anodized aluminum</td>
</tr>
<tr>
<td>Model #: KBA</td>
</tr>
<tr>
<td>Other: Flared cone, 3000K LED Lamp. Follow manufacturer's recommendations for fixture base.</td>
</tr>
<tr>
<td>UFGS: N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type: Lighted Round Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to: ○ Group 1 ○ Group 2 ○ Group 3 ○ Group 4 ○ Other</td>
</tr>
<tr>
<td>Mfr: TBD</td>
</tr>
<tr>
<td>Color: Black</td>
</tr>
<tr>
<td>Finish: Factory finished cast iron</td>
</tr>
<tr>
<td>Model #: Round top, fluted post, flared base</td>
</tr>
<tr>
<td>Other: 3000K LED Lamp, 360° downlighting</td>
</tr>
<tr>
<td>UFGS: N/A</td>
</tr>
</tbody>
</table>
C09.2.4. Sidewalk Lighting

Type: Curvilinear Cutoff

Applicable: [ ] Group 1 [ ] Group 2 [ ] Group 3 [ ] Group 4 [ ] Other
Mfr: Hubbell, Kim Lighting
Color: Dark Bronze Anodized (or Clear Anodized as approved by BCE)
Finish: Anodized aluminum
Model #: Curvilinear Cutoff, Single Arm or Dual Arm Mount
Other: Lamp: LED. Follow manufacturer’s recommendations for fixture base.

UFGS: N/A

C09.2.5. Walls / Stairs Lighting

Type: Style 1

Applicable: [ ] Group 1 [ ] Group 2 [ ] Group 3 [ ] Group 4 [ ] Other
Mfr: Vista Lighting
Color: Dark bronze anodized
Finish: Smooth
Model #: Aluminum Step and Brick Lights, 5230 round louvered
Other: Lamp: LED

UFGS: N/A

C09.2.6. Other

Applicable: [ ] N/A
D. FACILITIES EXTERIORS
Comply with Air Force Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

D01. SUPPORTING THE MISSION
Comply with AF Corporate Standards for Supporting the Mission:

D02. SUSTAINABILITY
Comply with Air Force Corporate Standards for Sustainability:
D03. ARCHITECTURAL FEATURES

Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Architectural Features:
http://afcfs.wbdg.org/facilities-exteriors/architectural-features/index.html

Insert 3 photos for each facility group.

Group 1

Group 2

Group 3

Group 4
D03.1. Orientation, Massing and Scale

1. Orient new buildings to maximize energy efficiency, passive solar and daylighting potential of the building; narrow buildings oriented along an east-west axis are preferred to minimize heat gain in the summer months and maximize heat gain in the winter months resulting in less overall energy usage.

2. Provide orthogonal geometry for principal building form; angular geometry may be used sparingly for Group 1 and used only for emphasis at specific areas such as building entrances and stairwells.

3. Maintain a human scale and reduce the visual scale of large buildings with sub-massing related to interior functional operations; create consistent form and scale in adjacent buildings with compatible profiles or silhouettes.

4. Building heights shall not be limited; however, building heights over 2 stories shall be considered on a case basis.

5. Combine functions where practical to avoid a proliferation of small, independent structures.

6. Use and coordinate shading devices with orientation and for function.

D03.2. Architectural Character


2. Respond to the local climate and regional influences with environmentally functional architectural features.

3. For new facilities design generally maintain consistency and visual unity in the character of the adjacent buildings through compatible architectural features: repeated use of similar forms such as roofs, and through recurring elements such as doors, windows, materials and colors.

4. Reinforce the regional vernacular theme with subtle references to the base's historical architecture. Develop facades with proportions and organizational layouts that are compatible with the historic architecture without direct stylistic imitation.

5. All facilities shall express sustainability through their orientation, massing, shape, form, materials, and detailing. Provide roof overhangs, louvers, fins and other shading devices to control heat gain and glare and to and improve energy efficiency.

6. Strive for economical construction without compromising a high-quality, professional appearance.

D03.3. Details and Color

1. Provide a palette of red-brick and earth-tone colors related to the native landscape in brick, block, stucco and powder-coated metals. Refer to wall systems for detailed material listings.

2. Relate the level of architectural detailing to the Facility Group number.

3. Use only integrally colored materials as the predominant exterior building material; do not use materials that require field painting and ongoing maintenance.

4. Provide consistent and compatible colors for every exterior building feature, including walls, roofs, doors, windows, gutters, downspouts, utility and mechanical elements, and other visible elements.

5. Noncorrosive metals with factory applied color finishes are required.

6. Combine details and color with orientation, massing, scale and architectural character to maintain base compatibility.

7. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

D03.3.1. Climate-based Data and Life-Cycle Cost-Effective Passive and Natural Design Strategies:

- Climate dominated by mechanical cooling
- Climate dominated by mechanical heating
- Climate with similar mechanical cooling / heating needs
- Climate with minimal mechanical cooling / heating needs
- Climate with high humidity
- Climate with moderate humidity
- Climate with low humidity
- High Solar Insolation
- Moderate Solar Insolation
- Low Solar Insolation
- Soils with High Thermal Conductivity
- Soils with Average Thermal Conductivity
- Soils with Low Thermal Conductivity

Other: Installation is located near an area of high average wind speeds to support generation of electricity

Other:

---

**Facility:** Narrow buildings along E-W axis are preferred

**Wall:** Integral shading features and devices / interior masonry thermal mass walls (for heating)

**Doors:** Recessed are preferred

**Windows:** Limit north-facing windows / maximize windows on south façades with shading

**Roof:** High to medium albedo, minimal to moderate slope

**Structure:** Do not expose ferrous metals. Provide factory finished non-ferrous metals or concrete

**MEP:** Ground-source and solar photovoltaic following LCCA

**Other:** Optimize shading devices to provide summer shade and allow winter solar heat gain

**Other:** Internal thermal mass walls may be used for heating following LCCA

**Note:** Apply the below base-wide standards for Architectural Features (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.
### D03.3.2. Natural Ventilation System

<table>
<thead>
<tr>
<th>Type:</th>
<th>Style 1 Aluminum Windows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>Group 1</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Kawneer (or equivalent)</td>
</tr>
<tr>
<td>Color:</td>
<td>Dark Bronze (or clear anodized as approved by BCE)</td>
</tr>
<tr>
<td>Finish:</td>
<td>Anodized</td>
</tr>
<tr>
<td>Model #:</td>
<td>2x4, slider or awning type</td>
</tr>
<tr>
<td>Other:</td>
<td>Provide thermally broken frames.</td>
</tr>
</tbody>
</table>

**UFGS:** Section 08 41 13 Aluminum-Framed Entrances and Storefronts

---

### D03.3.3. Thermal Mass

<table>
<thead>
<tr>
<th>Type:</th>
<th>Style 1 Interior Wall Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>Group 1</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Custom, TBD</td>
</tr>
<tr>
<td>Color:</td>
<td>Red brick blend</td>
</tr>
<tr>
<td>Finish:</td>
<td>Light texture</td>
</tr>
<tr>
<td>Model #:</td>
<td>Coursed unit masonry</td>
</tr>
<tr>
<td>Other:</td>
<td>Brick is preferred. Concrete block may only be used in Group 3 when approved by the BCE.</td>
</tr>
</tbody>
</table>

**UFGS:** Section 04 20 00 Unit Masonry
### D03.3.4. Thermal Shading

- **Applicable**: Yes
- **N/A**: No
- **Number of base standards**: 1

#### Type: Style 1 Wall Devices

- **Applies to**: Group 1, Group 2, Group 3, Group 4, Other
- **Mfr**: Kawneer (or equivalent) or custom
- **Color**: Dark bronze
- **Finish**: Factory, to match frames
- **Model**: Louver
- **Other**: Shading devices may be attached to frames or structure

#### UFGS: Section 08 41 13 Aluminum-Framed Entrances and Storefronts

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### D03.3.5. Renewable Heating/Cooling

- **Applicable**: Yes
- **N/A**: No
- **Number of base standards**: 1

#### Type: Style 1 Geothermal (Ground Source)

- **Applies to**: Group 1, Group 2, Group 3, Group 4, Other
- **Mfr**: Climate Master
- **Color**: N/A
- **Finish**: N/A
- **Model**: N/A
- **Other**: Vertical ground loop well field

#### UFGS: Section 23 81 47 Water-Loop and Ground-Loop Heat Pump Systems

---

### D03.3.6. Solar Photovoltaic System

- **Applicable**: Yes
- **N/A**: No
D03.3.7. Solar Thermal System

☐ Applicable ☐ N/A
**D04. BUILDING ENTRANCES**

Comply with AF Corporate Standards for Facilities Exteriors:

Comply with AF Corporate Standards for Building Entrances:

Insert 3 photos for each facility group.
D04.1. Primary Entrances

1. Emphasize the primary entrance in the overall building design with a projecting or recessed covering for weather protection following Installation Facilities Standards (IFS) for Facility Group designations.

2. Provide vestibules at entries in Groups 1, 2 and 3 unless used infrequently or serving unconditioned space following ASHRAE 90.1.

3. Fully integrate all elements including the design of handicap ramps in the overall design of the primary entrance in an organized uncluttered appearance.

4. Install paved transitional spaces sized for the building function and occupancy.

5. Install appropriate lighting and site furniture following ATFP and IFS.

6. Protect entrances in cold climates from falling ice and snow.

7. Provide porte cocheres or covered drop-offs when justified for lodging and medical facilities; do not use for prestige or architectural accents.

D04.2. Secondary Entrances

1. Provide vestibules at entries in Groups 1, 2 and 3 unless used infrequently or serving unconditioned space following ASHRAE 90.1; use of stair towers as vestibules for multi-story buildings is encouraged when building and / or energy codes are satisfied.

2. Reflect the character of the primary entrance to a lesser extent with a smaller scale.

3. Include a recess or projection for weather protection and shading.

4. Integrate service and egress doors and loading areas with the building design by matching the materials and detailing and reflect the overall quality of the facility.

5. Incorporate egress structures such as stair towers into the facility design.

6. Canopies may be used for service and loading areas; weather protection beyond weatherstripping is not required at doors used only for life safety egress.

7. Develop building massing and orientation to minimize the appearance of service and loading areas; physically and visually separate these from primary entrances.

8. Loading areas must be organized, orderly and have an uncluttered appearance.
D05. WALL SYSTEMS

Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Doors and Windows:

Comply with AFCFS Recommended Materials:

Insert 3 photos for each facility group.
**D05.1. Hierarchy of Materials**

1. Group 1 facilities may have more refined detailing than Group 2 and Group 2 may have more definition than Group 3.

2. Group 1 and 2 facilities shall be a combination of brick and limestone. Horizontal wood siding, painted white, and wood detailing and Tuscan columns painted white (at porches, entrances, cornices) may be used also. Red batten metal, split faced concrete metal units (used to simulate limestone) and cast concrete materials (used to simulate stone headers, sills and other details) are acceptable for Group 3 facilities and inconspicuous areas of Group 2 facilities. Refer to the Appendix for special requirements of Facility Districts.

3. Group 4 shall be a combination of two of the following materials: brick, stucco, and horizontal siding.

4. Multi-story Group 1 facilities may include a transition in material, color or detailing to create a visual base. Generally limit brick and limestone to a single color on Group 2, 3 and 4 facilities.

5. Use high-performance building envelopes following UFC 1-200-02.

6. Use detailing not subject to excessive weathering. Provide wall accents consistently throughout the base.

7. Use integrally colored materials and factory-finished metals. Do not paint concrete block.

8. Translucent wall panels may be used in Facility Group 1 and recreational uses in Group 2 when protected from direct solar gain. Provide insulating panels and shading appropriate for the orientation and exposure.

9. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

**D05.2. Layout, Organization and Durability**

1. Organize wall components including doors, windows, accents, shading devices, control joints, etc., to provide an ordered, professional appearance. Minimize windows on north exposures to reduce heat loss.

2. Integrate shading devices into the overall composition of the wall.

3. Integrate fixed shading devices as at all exterior glazing exposed to summer UV heat gain as a passive design measure to reduce energy use. Ensure adequate shading at west entrances. Deciduous trees may be used for shading.

4. Shading systems may be included as part of a manufacturer's window system or may be custom systems integrated into the wall.

5. Provide appropriate transitions between dissimilar materials to mitigate effects of thermal expansion and galvanic action.

6. All joint sealants shall be slightly darker than adjacent surfaces.

7. Materials requiring regular maintenance are not permitted; do not use exposed structural steel or other materials that require painting.

8. Refer to C07.2.16. Screen Walls for materials and colors of freestanding walls.

**D05.3. Equipment, Vents and Devices**

1. Arrange all mechanical, electrical, fire alarm, lightning protection and other system components to create an orderly appearance that integrates with the wall system.

2. Do not expose conduits, cables, piping, lightning protection components, etc. on exterior walls; if unavoidable in renovations, finish these elements to match the adjacent wall surface.

3. Avoid visual clutter and where surface-mounted elements are required they shall match the wall color.
D05.4 Wall Systems Materials

**Facility Group 1** wall materials shall be as follows.

- **Primary:** Metal Panels or Brick
- **Secondary:** Cast-in-place Conc. or (with brick) Arch. Precast
- **Accent:** Optional: (with brick) Metal Panels

**Facility Group 2** wall materials shall be as follows.

- **Primary:** Brick
- **Secondary:** Architectural precast or Metal Panels
- **Accent:** Optional: Cast-in-Place Concrete

**Facility Group 3** wall materials shall be as follows.

- **Primary:** Ribbed metal sheeting or Stucco
- **Secondary:** Similar Material in Alternate Color or Brick
- **Accent:** Optional: Brick

**Facility Group 4** wall materials shall be as follows.

- **Primary:** Fiber Cement Siding
- **Secondary:** Fiber Cement Siding, Trim Boards
- **Accent:** Concrete or Brick Foundation Cladding

**Note:** Apply the below base-wide standards for Wall Systems (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.

### D05.4.1. Flat Metal Panels

- **Type:** **Style 1**
- **Applies to:** [ ] Group 1 [ ] Group 2 [ ] Group 3 [ ] Group 4 [ ] Other
- **Mfr:** Alucobond
- **Model #:** Alucobond Classic, Rainscreen I
- **Color:** Anodic Clear Mica PVDF 2
- **Finish:** Matte
- **Other:** Route and Return Dry Seal

**UFGS:**
- Section 07 42 63 Fabricated Wall Panel Assemblies: [http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 63.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 63.pdf)
D05.4.2. Brick Veneer

- **Type:** Modular Face Brick
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Local, TBD
- **Model #:** Face Brick
- **Color:** Red blend
- **Finish:** Straight Edges, smooth texture
- **Other:** Nominal size: 4x8x2.6
- **UFGS:** Section 04 20 00 Unit Masonry: [http://www.wbdg.org/FFC/DOD/UFGS/UFGS 04 20 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 04 20 00.pdf)

D05.4.3. Architectural Precast

- **Type:** Coursed precast
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Vaugh Concrete
- **Model #:** Smooth Casting
- **Color:** Light Beige
- **Finish:** Very Light texture
- **Other:** N/A
- **UFGS:** Section 03 45 00 Precast Architectural Concrete: [http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 45 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 45 00.pdf)
## D05.4.4. Stucco Over Sheathing

**Type:** Cementitious Stucco System

<table>
<thead>
<tr>
<th>Applies to:</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mfr:</td>
<td>El Rey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model #:</td>
<td>Three-coat system</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Color:</td>
<td>Medium terra cotta as approved by BCE</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finish:</td>
<td>Sand</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td>Coordinate joint pattern with adjacent buildings</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>


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## D05.4.5. Curtain Wall

<table>
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<tr>
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</tr>
</thead>
</table>

## D05.4.6. Cast-In-Place Concrete

<table>
<thead>
<tr>
<th>Applicable</th>
<th>N/A</th>
</tr>
</thead>
</table>

## D05.4.7. Tilt-Up Concrete

<table>
<thead>
<tr>
<th>Applicable</th>
<th>N/A</th>
</tr>
</thead>
</table>
### D05.4.8. Ribbed Metal Sheeting

**Type:** Flush Seam

**Applies to:**
- [ ] Group 1
- [ ] Group 2
- [x] Group 3
- [ ] Group 4
- [ ] Other

**Mfr:** Berridge

**Model #:** Flush Seam Panel

**Color:** Light beige

**Finish:** Embossed Texture, factory finished

**Other:** 24 Gauge Steel

**UFGS:** Section 07 42 13 Metal Wall Panels: [http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 13.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 13.pdf)

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**Type:** Flush Seam

**Applies to:**
- [ ] Group 1
- [ ] Group 2
- [x] Group 3
- [ ] Group 4
- [ ] Other

**Mfr:** Berridge

**Model #:** Flush Seam Panel

**Color:** Terra Cotta / Red as approved by the BCE

**Finish:** Embossed Texture, factory finished

**Other:** 24 Gauge Steel

**UFGS:** Section 07 42 13 Metal Wall Panels: [http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 13.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 13.pdf)

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### D05.4.9. EFIS

- Applicable [x] N/A

### D05.4.10. GRFC

- Applicable [x] N/A
D05.4.11. Concrete Block

Applicable  N/A  Number of base standards 1

Type: Concrete Masonry Unit (CMU) Split Face

Applies to: Group 1  Group 2  Group 3  Group 4  Other

Mfr: Local TBD

Model #: 8x8x16 Nominal, face and corner units

Color: Light or medium beige

Finish: Heavy texture

Other: N/A

UFGS: Section 04 20 00 Unit Masonry: http://www.wbdg.org/FFC/DOD/UFGS/UFGS 04 20 00.pdf

D05.4.12. Fiber Cement Siding

Applicable  N/A  Number of base standards 1

Type: Style 1

Applies to: Group 1  Group 2  Group 3  Group 4  Other

Mfr: James Hardie Building Products, Inc.

Model #: Horizontal Lap Siding, Shingle Siding

Color: Earth Tones

Finish: Wood Texture

Other: Hardie Plank, Hardie Shingle

UFGS: SECTION 074646 Fiber Cement Siding: (Not Available on UFGS)

D05.4.13. Other

Applicable  N/A
**D06. DOORS AND WINDOWS**

Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Doors and Windows:

Comply with AFCFS Recommended Materials:

Insert 3 photos for each facility group.

---

**Group 1**

---

**Group 2**

---

**Group 3**

---

**Group 4**

---
D06.1. Types

1. Clear anodized aluminum doors, windows and frames with thermal breaks are preferred in brick wall for Facility Groups 1-3; match the color of the door and frame. Dark bronze may be used in CMU walls in Group 3. For renovation projects the color of new windows, doors and frames may match existing.

2. White aluminum clad wood windows are preferred for Facility Group 4.

3. Standard-sized hinged doors are preferred. Use sliding, folding, overhead, sectional and other door configurations only to support mission operations.

4. Automatic doors are allowed only where functionally necessary.

5. Limit hollow metal doors and frames to security doors, utility rooms and mechanical rooms in Groups 1 and 2 and to any application in Group 3 facilities.

6. Utility and emergency egress doors shall match the wall color.

7. Passive thermal comfort methods of ventilation are encouraged where life cycle cost justified.

8. Windows must meet force protection requirements.

9. Adjacent joint sealants should be slightly darker than the frame color.

10. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

D06.2. Layout and Geometry

1. Visually and functionally compose openings in walls for the climate-specific exposure while reinforcing the standard architectural theme.

2. Consistently use opening type, size, placement, mullion pattern, and color in the overall architectural design.

3. Openings shall augment interior lighting and space conditioning needs.

4. Protect against vandalism, intrusion and coordinate sound ratings.

D06.3. Glazing and Shading

1. Tinted, energy-efficient, low-e, double-pane glazing is encouraged; provide triple-pane glazing in north-facing exposed facades.

2. Glazing color shall follow Installation Facilities Standards (IFS).

3. Translucent wall panels may be integrated into wall systems.

4. Do not use mirrored glazing.

5. Fully integrate applicable shading designs for overhangs, louvers, light shelves and grilles.

6. Where appropriate, install window screens to take advantage of natural ventilation.

D06.4. Hardware

1. Provide hardware appropriate for the Facility Group while considering activity and frequency of use and local climate; hardware may be of higher visual quality for Facility Group 1.

2. Ensure hardware will perform throughout the facility’s lifespan without showing extreme wear.

3. Select finishes that will not degrade by intensity of operation or exposure to the elements.
4. Use consistent finishes and color on window and door systems throughout a facility. For renovation projects the color of new hardware may match the existing hardware.

5. Design building systems to eliminate the need for security screens whenever possible.

**D06.5. Doors and Windows Materials**

**Note:** Apply the below base-wide standards for Doors and Windows (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.

**D06.5.1. Anodized Aluminum**

| Type:                  | Anodized Aluminum Doors, Windows and Frames
|------------------------|---------------------------------------------------
| Applies to:            | [ ] Group 1  [ ] Group 2  [ ] Group 3  [ ] Group 4  [ ] Other |
| Mfr:                   | Kawneer (or equivalent)                           |
| Color:                 | Clear anodized or white powder coat               |
| Finish:                | Matte                                             |
| Model #:               | 2x4                                               |
| Other:                 | Provide thermally broken frames                   |

**UFGS:** Section 08 41 13 Aluminum-Framed Entrances and Storefronts: [http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 41 13.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 41 13.pdf)

| Type:                  | Anodized Aluminum Doors, Windows and Frames
|------------------------|---------------------------------------------------
| Applies to:            | [ ] Group 1  [ ] Group 2  [ ] Group 3  [ ] Group 4  [ ] Other |
| Mfr:                   | Kawneer (or equivalent)                           |
| Color:                 | Dark bronze anodized                             |
| Finish:                | Matte                                             |
| Model #:               | 2x4                                               |
| Other:                 | Provide thermally broken frames                   |

**UFGS:** Section 08 41 13 Aluminum-Framed Entrances and Storefronts: [http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 41 13.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 41 13.pdf)
D06.5.2. Hollow Metal

Applicable ☑ N/A Number of base standards 1

Type:

Applies to:   ☑ Group 1 ☑ Group 2 ☑ Group 3 ☑ Group 4 ☑ Other

Mfr: Hollow Metal Doors, Windows and Frames

Color: Dark Brown

Finish: Powder Coated, Satin

Model #: 2x4 frame

Other: Provide thermally broken frames

UFGS: Section 08 11 13 Steel Doors and Frames:

---

D06.5.3. Aluminum-clad Wood

Applicable ☑ N/A Number of base standards 1

Type: Aluminum-clad Residential

Applies to:   ☑ Group 1 ☑ Group 2 ☑ Group 3 ☑ Group 4 ☑ Other

Mfr: Marvin

Color: White or Earth tones

Finish: Powder coated, satin

Model #: Aluminum-clad wood windows

Other: Double hung

UFGS: Section 08 14 00 Wood Doors
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 14 00.pdf

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D06.5.4. Other

Applicable ☑ N/A
D07. ROOF SYSTEMS

Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Roof Systems:

Comply with AFCFS Recommended Materials:

Insert 3 photos for each facility group.

Image Tool 250 x 188
D07.1. Roof Type and Form

1. Use proven, cost-effective roof systems with high durability, weather resistance, and low maintenance that are compatible with Installation Facilities Standards (IFS) and requirements for the designated Facility Group.

2. Group 1 & 2 buildings of simple geometry shall use a sloped standing seam metal roof, with gabled ends and color-coated metal rakes. Group 1 & 2 buildings of complex geometry and large footprints shall use a combination of sloped standing seam metal roofs and low sloped roof with parapet.

3. Do not use rooftop mechanical units unless mandatory on sloped roofs. Provide color-coated metal screens when unavoidable.

4. Roof forms may recall clerestory elements of the historical buildings. Translucent panels are only permitted in vertical planes of clerestories with project specific approval by the BCE.

5. Group 3 facilities may use standing seam metal roof with gabled ends. Larger facilities may use low sloped roofs with parapet.

6. Group 4 facilities shall have gabled composite shingle roofs.

7. Roof eaves where provided, shall extend beyond the exterior wall for roof drainage and shading.

8. Keep roofs uncluttered and minimize penetrations.

9. Increase the insulation value of existing roofing systems during renovations for conformance with Energy Code compliance.

10. Roofs shall be maintained for the life of the system and replaced in accordance with UFC 3-110-04 and AFI 32-1051. A warranty is required on all new roofs.

11. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

D07.2. Roof Slope

1. Group 1 and 2 buildings and smaller Group 3 building, use sloped roofs, min. 3½:12, preferred 5:12.

2. Low-sloped roofs with parapet are allowed for larger structures or to match existing conditions on renovation projects.

3. For larger Group 3 buildings use minimal-sloped ½:12 roofs.

4. Group 4 facilities shall use 4:12 to 6:12 roof slopes.

5. Ensure adequate drainage, and connect to the subsurface rain collection system where available.

6. Provide roof slopes to accommodate solar photovoltaic, solar thermal, passive systems and daylighting when applicable following UFC 1-200-02.

7. Provide additional components as required for the roofing type as directed by UFC 3-110-03.

D07.3. Parapets and Copings

1. Extend wall materials vertically above the roof line and provide metal copings of dark bronze. Ensure copings are properly flashed and detailed to avoid roof leaks.

D07.4. Color and Reflectivity

1. Groups 1 and 2 and smaller facilities in Group 3 shall be dark bronze to match adjacent facilities and follow requirements of IFS.

2. All minimal-slope membrane roofs shall use only use high-albedo, high reflectivity color to help decrease the temperature around the buildings and minimize damage to human and wildlife habitat.
3. Group 4 sloped roofs shall be earth tones.

4. Comply with UFC 3-110-03 and ASHRAE 90.1 for Solar Reflectance Index (SRI) and thermal requirements.

5. All roof flashing shall match the color of the predominant background material.

6. Elements (mechanical equipment, roof screening, vents, handrails) color shall be approved by the BCE.

D07.5. Gutters, Downspouts, Scuppers, Drains

1. All sloped roofs shall use gutters and downspouts. Gutters shall be outside the fascia.

2. Internal roof drainage systems are not permitted in new construction. Minimal-sloped roofs shall be sloped to drain to the building perimeter through scuppers into downspouts.

3. All gutters and fascias shall match the roof color.

4. Size the roof drainage system per IBC and SMACNA for the region. Ensure overflow drains are in compliance.

5. Use scuppers in parapet walls. Arrange scuppers in an orderly manner consistent with other elements of the wall system.

6. When open scuppers are connected to downspouts, provide transitions consistent with adjacent facilities.

7. Integrate downspouts with the architectural details of the wall system and arrange in an orderly, non-prominent appearance. Generally, blend downspouts with the color of the wall rather than contrasting it.

8. Fabricate downspouts from non-corrosive materials such as aluminum or zinc-coated steel. Provide powder-coated finishes to match or complement the wall.

9. All downspouts shall be open face.

10. Provide angled transitional pieces for downspouts to fit closely against the wall for their entire length. Fastening and detailing must be approved by the BCE.

11. Coordinate locations of downspouts to conceal control joints in masonry walls when possible.

12. Place downspouts away from building entries. Water discharged should not run across sidewalks.

13. Provide concrete splash blocks, cast iron receivers at grade, or tie into storm drainage system.

D07.6. Roof Vents and Elements

1. Minimize and consolidate roof penetrations into a single, inconspicuous point whenever possible.

2. On sloped roofs, clad pipe penetrations to match the roofing material.

3. Avoid the use of rooftop mechanical equipment, however for renovations and unavoidable configurations ensure units are painted and screened.

4. Provide access points and service routes to equipment. Protect the roof following UFGS.

5. Combine roof vents whenever possible and place them on the least visible slope of the building.

6. Ensure attic spaces are properly vented at ridges and soffits.

7. All exposed equipment and vents shall be painted dark bronze.

8. Avoid roof-mounted antenna systems unless in conflict with SOW.
9. Arrange Lightning Protection Systems (LPS) components in an ordered, uncluttered, inconspicuous appearance and integrated into the organization of the roof and wall systems. Ensure that LPS roof mounting systems are approved by the roofing manufacturer. Additions to a roof shall not interfere with LPS or other rooftop systems that may be required.

10. Permanent fall protection shall be included to a roof with a slope above 3:12 per UFC 3-110-03.

**D07.7. Clerestories and Skylights**

1. Clerestories are permitted in Group 1, 2 and 3 facilities. Ensure installations serve passive systems and are justifiable by lifecycle analysis.

2. Skylights are not permitted to eliminate leakage.

3. Design clerestories using the same principles for seasonal shading that are required for walls and roof overhangs.

4. Translucent panel systems are preferred in clerestory applications due to lack of window cleaning.

5. Clerestories must comply with UFC 4-10-01.

**D07.8. Vegetated Roof**

1. Not applicable.

**D07.9. Roof Systems Materials**

**Note:** Apply the below base-wide standards for Roof Systems (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.

**D07.9.1. Standing Seam Metal**

- **Applicable** ☑ N/A Number of base standards 1

<table>
<thead>
<tr>
<th>Type:</th>
<th><strong>Style 1</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>☑ Group 1 ☑ Group 2 ☑ Group 3 ☑ Group 4 ☑ Other</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Berridge</td>
</tr>
<tr>
<td>Color:</td>
<td>Dark bronze</td>
</tr>
<tr>
<td>Finish:</td>
<td>Matte</td>
</tr>
<tr>
<td>Model #:</td>
<td>Tee-Panel</td>
</tr>
<tr>
<td>Other:</td>
<td>Shed, gabled or hipped standing seam metal</td>
</tr>
</tbody>
</table>

**UFGS:** Section 07 61 14 Steel Standing Seam Roofing
D07.9.2. Membrane Single-ply

Type: **Style 1**

Applies to: [ ] Group 1  [ ] Group 2  [x] Group 3  [ ] Group 4  [ ] Other

Mfr: Carlisle Systems

Color: Off-white

Finish: Smooth

Model #: TPO single-ply, “flat” minimal slope

Other: N/A

UFGS: Section 07 53 23 Ethylene-Propylene-Diene-Monomer Roofing
Section 07 54 50 TPO Thermoplastic Single-Ply Roofing
(Not Available on UFGS)

---

D07.9.3. Built-up Multi-ply

- Applicable  - N/A

D07.9.4. Concrete Tile

- Applicable  - N/A

D07.9.5. Clay Tile

- Applicable  - N/A

D07.9.6. Slate Shingles

- Applicable  - N/A

D07.9.7. Vegetated System

- Applicable  - N/A
D07.9.8. Ribbed Metal Sheeting

- Type: **Style 1**
- Applies to: [ ] Group 1 [ ] Group 2 [ ] Group 3 [ ] Group 4 [ ] Other
- Mfr: Berridge
- Color: Galvalume
- Finish: Factory
- Model #: High Seam Tee-Panel
- Other: 24 gauge steel, Width: 16" Batten height: 1-3/4"
- UFGS: Section 07 41 13.19 Batten-Seam Metal Roof Panels (Not Available on UFGS)

D07.9.9. Composite Shingles

- Type: **Style 1**
- Applies to: [ ] Group 1 [ ] Group 2 [ ] Group 3 [ ] Group 4 [ ] Other
- Mfr: Tamko
- Color: Earth Tones
- Finish: Factory
- Model #: Heritage
- Other: Gabled or hipped with transverse gable or hipped features
- UFGS: Section 07 31 13 Glass-fiber-reinforced Asphalt Shingles
D07.9.10. Other

- Applicable: Yes
- N/A: No

Number of base standards: 1

**Type:** Synthetic Slate Tile

**Applies to:**
- Group 1
- Group 2
- Group 3
- Group 4
- Other

**Mfr:** Brava

**Color:** Charcoal or as approved by the BCE

**Finish:** Factory

**Model #:** Old World Slate

**Other:** N/A

**UFGS:** Section 07 31 26 Slate Shingles

D08. STRUCTURAL SYSTEMS

Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteiors/index.html

Comply with AF Corporate Standards for Structural Systems:

Comply with AFCFS Recommended Materials:

Insert 3 photos for each facility group.

Group 1

Group 2

Group 3

Group 4
D08.1. Systems and Layouts

1. Pre-engineered structural steel framing may be used for Groups 1, 2 and 3 facilities; Installation-appropriate thermal envelopes, materials and detailing are required.

2. Select economical structural systems that integrate roof and wall systems.

3. Narrow buildings 60’ or less in width with column-free interiors are preferred for office, administrative and personnel spaces; when interior columns are required optimize the structural grid layout for open-plan arrangements.

4. Fully coordinate structural grids with exterior window systems to align columns with window frames or wall systems.

5. When structure is exposed provide an organized appearance and coordinate with mechanical, electrical, plumbing, fire protection, information technology, and communications systems.

6. Limit the use of specialty systems (such as space frames, vaults or domes) and of structure as a visual feature.

7. Cost-effectively design interior bearing walls as thermal mass.

8. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

D08.2. Structural Systems Materials

**Note:** Apply the below base-wide standards for Structural Systems (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.

**D08.2.1. Concrete**

- Applicable: Yes
- N/A: Yes

**D08.2.2. Insulated Concrete Forming (ICF)**

- Applicable: Yes
- N/A: Yes
D08.2.3. Steel

Type: Rigid Framing
Appplies to: □ Group 1  ☐ Group 2  ☐ Group 3  ☐ Group 4  ☐ Other
Mfr: US Steel
Color: Shop primed
Finish: Matte
Model #: Structural steel shapes
Other: N/A

UFGS: Section 05 12 00 Structural Steel
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 05 12 00.pdf

D08.2.4. Pre-Engineered Steel

Type: Moment Frame
Appplies to: □ Group 1  ☐ Group 2  ☐ Group 3  □ Group 4  □ Other
Mfr: Behlen Building Systems
Color: Factory primed
Finish: Matte
Model #: Moment Frame
Other: Draped insulation may be used behind wall system; Behlen standing seam roof system may be used for Group 3

UFGS: Section 13 12 00 Steel Building Systems
(Not Available on UFGS)
Section 13 34 19 Metal Building Systems

D08.2.5. Masonry

☐ Applicable  ☐ N/A
D08.2.6. Heavy Timber
☐ Applicable ☐ N/A

D08.2.7. Light-gauge Steel
☐ Applicable ☐ N/A

D08.2.8. Lumber Framing
☐ Applicable ☐ N/A Number of base standards 1

<table>
<thead>
<tr>
<th>Type:</th>
<th>Lumber Framing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>☐ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Boise Cascade Wood Products</td>
</tr>
<tr>
<td>Color:</td>
<td>N/A</td>
</tr>
<tr>
<td>Finish:</td>
<td>S4S</td>
</tr>
<tr>
<td>Model #:</td>
<td>Structural dimensional lumber</td>
</tr>
<tr>
<td>Other:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

UFGS: Section 06 10 00 Rough Carpentry
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 06 10 00.pdf
Section 06 11 00 Wood Framing and Sheathing
(Not Available on UFGS)

D08.2.9. Other
☐ Applicable ☐ N/A
D09. MECHANICAL, ELECTRICAL AND PLUMBING

Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Mechanical, Electrical and Plumbing:

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1

Group 2

Group 3

Group 4
D09.1. Passive and Active Systems

1. Fully integrate passive heating and cooling systems into facility designs whenever practical for the local climate prior to the design of active mechanical systems.

2. Provide optimized passive and active systems; design active mechanical systems to supplement thermal mass walls and floors.

3. Develop renewable energy systems including geo-exchange (ground source heat pumps) when life cycle cost effective.

4. Performance display screens, which report energy performance and utility savings, are encouraged; when provided locate these in building lobbies or common areas.

5. Solar domestic hot water systems are required when life cycle cost effective.

6. Integrate shading into building exteriors to reduce solar heat gain during the summer.

D09.2. Functionality and Efficiency

1. Fully coordinate mechanical, electrical, plumbing (MEP) and fire protection systems with each other and with the building structure, enclosure, thermal envelope and interior design.

2. Ensure direct exterior access is provided (for CE) to main mechanical and electrical rooms.

3. Screen exterior equipment from primary views (landscape, building masses, screen walls) and comply with ATFP requirements.

4. Keep equipment away from main building entrances; locate service area/yard on least visible side of a building.

5. Coordinate the location of all exterior meters, equipment and devices to provide convenient access and an overall coordinated and orderly appearance.

6. Design emergency generator systems integrally with all other building systems and avoid incompatible building additions; locate generators near service areas and ensure they are not visible from primary entrances.

7. When structure is exposed as a finished ceiling, fully integrate MEP and fire protection systems to provide an organized uncluttered appearance.

8. Conceal ducts, piping, conduits, devices, etc., when permanent walls, suspended ceilings or raised floors are provided; locate sprinkler heads in orderly configuration.

9. Limit interior wall-mounted equipment in occupied personnel spaces; avoid surface-mounted conduit and pipes.

10. Provide efficient utility rooms with layouts to facilitate system performance and maintenance; provide convenient access to controls, clearly label systems and include operating and maintenance instructions.

11. Separate mechanical and electrical and communications rooms.

12. Integrate recessed and wall-mounted fixtures such as fire standpipe cabinets and drinking fountains within permanent walls.
E. FACILITIES INTERIORS
Comply with Air Force Corporate Standards for Facilities Interiors:
http://afcfs.wbdg.org/facilities-interiors/index.html

Insert 3 photos for each facility group.

Recommended Image:
Typical facility interior
Size image to: 250 pixels width x 188 pixels height
Click here to insert image

Recommended Image:
Interior features
Size image to: 250 pixels width x 188 pixels height
Click here to insert image

Recommended Image:
Interior detail
Size image to: 250 pixels width x 188 pixels height
Click here to insert image

Group 1

Group 2

Group 3

Group 4
E01. Building Configurations
Comply with Air Force Corporate Standards for Building Configurations:

1. Provide open-plan configurations for office, administrative, operational and related activities and spaces for maximum flexibility. Use a “core and shell” approach in which all building systems, infrastructure and permanent interior partitions anticipate two or more uses (operations) during a facility’s lifespan.

2. Create flexible interior configurations using Furniture, Fixtures & Equipment (FF&E) and limit private offices and private rooms. Refer to AFMAN 32-1084 for space requirements. To the greatest extent, limit permanent partitions to core areas such as toilet rooms, stairs, mechanical and utility rooms.

3. Use more durable long-lasting finishes in core areas for walls, ceilings, floor coverings and built-in casework. Coordinate interior FF&E layouts with structural grids during space planning.

4. Provide high-performance building configurations following UFC 1-200-02. Ensure passive design strategies are cost effectively incorporated before active mechanical systems are designed.

5. Comply with UFC 1-200-01, 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.


7. Comply with AFCFS for supporting mission requirements, addressing human comfort and wellbeing, and creating highly flexible interiors while satisfying metrics for high performance and sustainable buildings.

8. Provide a level of quality for interior features, materials and finishes that is appropriate for the Facility Group number. Group 1 may receive higher quality than Groups 2 thru 4. Refer to Facility Hierarchy.

9. Through open-plan configurations, preserve all passive and natural design strategies and fully integrate facility interiors with overall building systems.

10. Professional interior designers, or architects with significant interior design experience, must accomplish the design and review of applicable new construction, renovations and maintenance projects.

11. Consult with the State Historic Preservation Officer (SHPO) and base-level Historic Preservation offices regarding proposed changes to properties listed on or eligible for listing on the National Register of Historic Places. Follow requirements of The National Historic Preservation Act and Secretary of the Interior Standards for the Treatment of Historic Properties.

12. Maintain architectural compatibility following AFCFS and this Installation Facilities Standards (IFS) document to create continuity while avoiding monotony.

E01.1. Layout and Common Areas
Comply with Air Force Corporate Standards for Layout and Common Areas:

1. Create open-plan interior environments to accommodate changes.

2. Limit interior partitions, private offices and rooms; use furniture or modular systems to provide privacy and acoustic control.

3. When partitions are functionally justified such as for conference rooms, use systems furniture and moveable (demountable) floor-to-ceiling wall systems for acoustical or visual privacy.

4. Proportion lobbies and common spaces based on type of function, activity and facility group.

5. Allow no direct sight lines into restrooms.
6. Situate utility and core areas to minimize impact on daylighting and to maximize use as thermal buffers.

7. Ensure electrical, lighting and communications system can be adaptable to configuration changes.

8. Avoid power poles to the maximum extent; when poles are necessary minimize the number and coordinate locations with furniture placement and other elements.

9. Avoid sloping floors to maintain flexibility and eliminate future structural changes.

10. Special consideration may apply to Sensitive Compartmented Information Facilities (SCIFs).

E01.1.1. Interior Design Process

1. Comply with UFC 3-120-10 for the Comprehensive Interior Design (CID,) which includes both Structural Interior Design (SID) and Furniture, Fixtures & Equipment (FF&E) design services.

2. Use a collaborative, integrated planning and design team, composed of user, government support staff, and appropriate professionals. Integrate architectural features using simple detailing to create a professional appearance; avoid extravagant or excessive detailing.

3. Ensure interior designs satisfy the functional requirements within the context of flexibility, sustainability and the building’s energy performance.

4. Base space planning on square foot allocations from AFM 32-1084. Identify special requirements if any, such as privacy separation, VIP areas, gathering spaces and storage. Note: The occupant’s rank and position will influence the square footage and selection of materials.

5. Provide clear circulation and pathway finding for both horizontal and vertical directions that accommodate the number of personnel in the facility.

6. Maximize efficiencies in the space plan for functional relationships and adjacencies for all facility users. Efficiently create and situate rooms and support rooms such as conference/meeting rooms and break rooms.

7. Provide interior design building-related illustrations, drawings, schedules, materials selections, specifications and cost estimates as listed in UFC 3-120-10. Refer to Furnishings in this IFS also.

8. SID Format shall follow HQ AFCEC standards.

9. Base the FF&E package on the furniture footprint developed in the SID. Identify all new or existing equipment needed and its users within each facility or each area of the facility. Provide specific information on: equipment sizes, electrical requirements, ventilation requirements, weight (if heavy), quantity, and security level if required. Presume all administrative spaces have computers and supporting equipment.

E01.1.2. Codes and Regulations

1. Refer to UFC 1-200-01 for modifications to the International Building Code (IBC) to determine applicable sections of the IBC. Both the IBC Chapter 3 and UFC 3-600-01 govern “Use and Occupancy Classification” for example.

2. Fire code requirements shall be as defined in the International Building Code (IBC) and must be used where dictated by UFC 1-200-01 DoD Building Code (General Building Requirements) except where noted in UFC 3-600-01 (Fire Protection Engineering For Facilities).

3. National Fire Protection Association (NFPA) 101 must be utilized to determine the occupancy classification as it relates to fire/smoke resistance rating of interior non-load bearing partitions (other than occupancy separation), means of egress, interior finish, features of fire protection (including vertical openings) and associated requirements.

E01.2. Quality and Comfort

Comply with Air Force Corporate Standards for Quality and Comfort:
1. Include durability in the life cycle cost analysis for best-value material selections with long life expectancies that do not show excessive wearing.

2. Select long-lasting materials and finishes for permanent core areas such as lobbies, restrooms and stairs.

3. Select low-maintenance materials and products that reduce ongoing servicing and repair and that are easy to clean.

4. Relate the visual quality of finishes to the Facility Group number.

5. Building and interior configurations should address both operations and climatic responses.

6. Convey a professional image; avoid trendy patterns and textures.

7. Use materials and finishes that provide a healthy indoor environment.

8. Orient interior spaces toward views while maintaining cost-effective building performance and efficiency.


E02. Floors


E02.1. Floor Materials

Facility Group 1 floor materials shall be as follows.

Primary: Prepared Slabs (Ground, Polished)
Secondary: Porcelain tile
Tertiary: Carpet, Rubber Stair Treads

Facility Group 2 floor materials shall be as follows.

Primary: Prepared Slabs (Ground, Polished)
Secondary: Ceramic tile
Tertiary: Carpet, Rubber Stair Treads

Facility Group 3 floor materials shall be as follows.

Primary: Prepared Slabs (Ground)
Secondary: Prepared Slabs (Sealer)
Tertiary: N/A

Facility Group 4 floor materials shall be as follows.

Primary: Carpet
Secondary: Ceramic tile
Tertiary: N/A

1. Natural stone and terrazzo flooring may be used in high traffic areas of Group 1 as approved on a case basis.

2. Resilient and rapidly renewable flooring may be used in low traffic areas in Group 1, 2 and 4.

3. Hardwood floors may be used in Group 1, 2 and 4 facilities within the historic district boundary.

4. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

Note: Apply the below base-wide standards for Floors (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.
E02.1.1. Prepared Slabs

Applicable: Yes  N/A  Number of base standards 2

Image Tool 250 x 188

Number of base standards 2

<table>
<thead>
<tr>
<th>Type: Style 1, Ground and Polished</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to: Group 1  Group 2  Group 3  Group 4  Other</td>
</tr>
<tr>
<td>Mfr: Local (TBD)</td>
</tr>
<tr>
<td>Color: Natural gray cement, light to dark beige aggregates</td>
</tr>
<tr>
<td>Finish: Fine polished texture</td>
</tr>
<tr>
<td>Model #: Medium to small aggregate</td>
</tr>
<tr>
<td>Other: N/A</td>
</tr>
</tbody>
</table>

UFGS: Section 03 35 45 Polished Concrete Finishing (Not Available on UFGS)

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E02.1.2. Natural Stone and Terrazzo

Applicable: Yes  N/A
E02.1.3. Quarry Tile

Type: **Style 1**

Applies to: [ ] Group 1 [ ] Group 2 [ ] Group 3 [ ] Group 4 [ ] Other

Mfr: Daltile

Color: Earth tones

Finish: Matte, slip resistant

Model #: N/A

Other: Use in commercial kitchen flooring.

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling

---

E02.1.4. Ceramic Tile

Type: **Style 1 Porcelain**

Applies to: [ ] Group 1 [ ] Group 2 [ ] Group 3 [ ] Group 4 [ ] Other

Mfr: Daltile

Color: Earth tones

Finish: Matte, slip resistant

Model #: Porcelain tile

Other: Use in high traffic areas. Epoxy grout is recommended.

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling
### Style 2 Ceramic

- **Type:** Style 2 Ceramic  
- **Mfr.:** Daltile  
- **Color:** Earth tones  
- **Finish:** Matte, slip resistant  
- **Model #:** Ceramic tile  
- **Other:** Use in low traffic area toilet rooms.  

**UFGS:** Section 09 30 10 Ceramic, Quarry, and Glass Tiling  

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#### E02.1.5. Resilient Floor

- **Applicable**  
- **Number of base standards:** 1  

- **Type:** Style 1 Stair Treads  
- **Mfr.:** Roppe  
- **Color:** Neutral tones  
- **Finish:** Factory  
- **Model #:** Raised design rubber tread  
- **Other:** Stair treads material  

**UFGS:** Section 09 65 00 Resilient Flooring  
[http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 65 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 65 00.pdf)
E02.1.6. Carpet

Type: Style 1

Applies to: Group 1, Group 2, Group 3

Mfr: Mohawk Group

Color: Neutral multi-colored tones/patterned/solid

Finish: Yarn: Nylon 6 or 6.6/cut pile or loop pile

Model #: Broadloom, 6’ wide rolled, carpet tiles, entry walk-off carpet

Other: N/A

UFGS: UFGS 09 68 00 Carpeting
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 68 00.pdf

Type: Style 2

Applies to: Group 1, Group 2, Group 3, Group 4

Mfr: Mohawk Group

Color: Earth tones

Finish: Factory

Model #: Broadloom, residential loop, “Smartstrand”

Other: N/A

UFGS: UFGS 09 68 00 Carpeting
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 68 00.pdf

E02.1.7. Rapidly-Renewable Products

Applicable: N/A
**E02.1.8. Other**

- **Applicable**: Yes
- **N/A**: No
- **Number of base standards**: 1

<table>
<thead>
<tr>
<th>Type</th>
<th>T&amp;G Solid Hardwood Flooring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to</td>
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</tr>
<tr>
<td>Mfr</td>
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<tr>
<td>Color</td>
<td>Match Existing</td>
</tr>
<tr>
<td>Finish</td>
<td>Match Existing</td>
</tr>
<tr>
<td>Model #</td>
<td>Match Existing</td>
</tr>
<tr>
<td>Other</td>
<td>Wood flooring is permitted in renovations projects when matching original flooring.</td>
</tr>
</tbody>
</table>

**UFGS**: UFGS 06 20 00 Finish Carpentry

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**E03. Walls**

Comply with Air Force Corporate Standards for Walls:

**E03.1. Wall Materials**

**Facility Group 1** wall materials shall be as follows.
- **Primary**: Concrete or Brick
- **Secondary**: Gypsum board (painted)
- **Tertiary**: Ceramic tile (restrooms)

**Facility Group 2** wall materials shall be as follows.
- **Primary**: Brick
- **Secondary**: Gypsum board (painted)
- **Tertiary**: Ceramic tile (restrooms)

**Facility Group 3** wall materials shall be as follows.
- **Primary**: Ground face block, sealed (do not paint)
- **Secondary**: N/A
- **Tertiary**: Ceramic tile (restrooms)

**Facility Group 4** wall materials shall be as follows.
- **Primary**: Gypsum board (painted)
- **Secondary**: N/A
- **Tertiary**: Ceramic tile (restrooms)

1. Follow UFC 3-450-01 (Vibration and Noise Control) for acoustic design issues including speech privacy, sound isolation or sound masking.

2. Select and apply paint with sheens (gloss levels) appropriate for the application following UFGS Section 09 90 00 Paints and Coatings.
3. Provide ceramic tile on wet walls of kitchens, toilet rooms, locker rooms, etc., in all facility groups.

4. Neutral split-face or ground-face integrally colored block with a clear sealer may be used in Group 3. Do not paint block.

5. Provide rubber base on drywall partitions in Groups 1 and 2.

6. Hardwood base may only be used in Group 1 as approved on a case basis.

7. Hardwood chair rails / bumper rails may be used in high-use areas of Groups 1 and 2; aqueous clear finishes are preferred to reduce maintenance; plastic chair rails are permitted only in medical applications.

8. Decorative moldings may be used only in Group 1 when approved on a case basis.

9. Corner guards are permitted only in high traffic spaces with wheeled or cart use such as private service areas in Groups 1 and 2; stainless steel corners guards with a brushed finish may be judiciously used in Group 3.

10. Group 4 may use painted composite wood base.

11. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

**Note:** Apply the below base-wide standards for Walls (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.

### E03.1.1. Concrete

<table>
<thead>
<tr>
<th>Type:</th>
<th>Modular Face Brick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>Group 1</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Local (TBD)</td>
</tr>
<tr>
<td>Color:</td>
<td>Red blend</td>
</tr>
<tr>
<td>Finish:</td>
<td>Light texture</td>
</tr>
<tr>
<td>Model #:</td>
<td>Coursed unit masonry</td>
</tr>
<tr>
<td>Other:</td>
<td>Brick is preferred. Concrete block may only be used in Group 3 when approved by the BCE.</td>
</tr>
<tr>
<td>UFGS:</td>
<td>Section 03 33 00 Cast-In-Place Architectural Concrete [<a href="http://www.wbdg.org/FFC/DOD/UFGS/UFGS">http://www.wbdg.org/FFC/DOD/UFGS/UFGS</a> 03 33 00.pdf](<a href="http://www.wbdg.org/FFC/DOD/UFGS/UFGS">http://www.wbdg.org/FFC/DOD/UFGS/UFGS</a> 03 33 00.pdf)</td>
</tr>
</tbody>
</table>
E03.1.3. Ceramic Tile

- Type: Style 1
- Applies to: Group 1, Group 2, Group 3, Group 4
- Mfr: Daltile
- Color: Earth tones
- Finish: Gloss, Semi-gloss
- Model #: Ceramic wall tile
- Other: Located on wet walls in restrooms

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling

E03.1.4. Gypsum Board

- Type: Style 1
- Applies to: Group 1, Group 2, Group 3, Group 4
- Mfr: US Gypsum
- Color: Solid Earth tone colors
- Finish: Paint (Sheen per UFGS)
- Model #: Tapered edge
- Other: N/A

UFGS: Section 09 29 00 Gypsum Board
http://www.wbdg.org/FFC/DOD/UFGS/UFGS.09.29.00.pdf
Section 09 90 00 Paints and Coatings
http://www.wbdg.org/FFC/DOD/UFGS/UFGS.09.90.00.pdf

E03.1.5. Metal Panels

- Type: Style 1
- Applies to: Group 1, Group 2, Group 3, Group 4
- Mfr: N/A
- Color: N/A
- Finish: N/A
- Model #: N/A
- Other: N/A

UFGS: N/A
E03.1.6. Wood Paneling
☐ Applicable  ☑ N/A

E03.1.7. Rapidly-Renewable Products
☐ Applicable  ☑ N/A

E03.1.8. Other
☐ Applicable  ☑ N/A

E04. Ceilings
Comply with Air Force Corporate Standards for Ceilings:
http://afcfs.wbdg.org/facilities-interiors/ceilings/index.html

E04.1. Ceiling Materials

Facility Group 1 ceiling materials shall be as follows.

Primary: Exposed Framing (Roof / Floor Structure Above)
Secondary: Grid and Acoustical Tile
Tertiary: 

Facility Group 2 ceiling materials shall be as follows.

Primary: Exposed Framing (Roof / Floor Structure Above)
Secondary: Grid and Acoustical Tile
Tertiary: Gypsum board (painted)

Facility Group 3 ceiling materials shall be as follows.

Primary: Exposed Framing (Roof / Floor Structure Above)
Secondary: Exposed Framing (Roof / Floor Structure Above)
Tertiary: Gypsum board (painted)

Facility Group 4 ceiling materials shall be as follows.

Primary: Gypsum board (painted)
Secondary: N/A
Tertiary: N/A

Note: Apply the below base-wide standards for Ceilings (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.
E04.1.1. Exposed Framing (Roof / Floor Structure Above)

Type: **Style 1**

Applies to: Group 1, Group 2, Group 3

Mfr: Vulcraft

Color: Neutral colors reviewed on a case basis

Finish: Field painted (Sheen per UFGS)

Model #: Formlok floor and roof decking

Other: N/A

UFGS: Section 05 30 00 Steel Decks
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 05 30 00.pdf

---

E04.1.2. Exposed Concrete

Type: **Style 1**

Applies to: Group 1, Group 2, Group 3

Mfr: Armstrong

Color: White

Finish: Factory

Model #: 2’x2’ Tegular with reveal edge and fine texture, grid 15/16”

Other: Performance characteristics are Class A; NRC-0.70; CAC-40; LR-0.86; minimum recycled content 82%.

UFGS: Section 09 51 00 Acoustical Ceilings
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 51 00.pdf

---

E04.1.3. Grid and Acoustical Tile

Type: **Style 1**

Applies to: Group 1, Group 2, Group 3, Group 4

Mfr: Armstrong

Color: White

Finish: Factory

Model #: 2’x2’ Tegular with reveal edge and fine texture, grid 15/16”

Other: Performance characteristics are Class A; NRC-0.70; CAC-40; LR-0.86; minimum recycled content 82%.

UFGS: Section 09 51 00 Acoustical Ceilings
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 51 00.pdf
### E04.1.4. Gypsum Board

**Type:** Style 1  
**Applies to:** Group 1, Group 2, Group 3, Group 4  
**Mfr:** US Gypsum  
**Color:** Solid neutral colors  
**Finish:** Paint (sheen per UFGS)  
**Model #** Tapered edge  
**Other:** N/A

**UFGS:** Section 09 29 00 Gypsum Board  
[http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 29 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 29 00.pdf)  
Section 09 90 00 Paints and Coatings  
[http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 90 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 90 00.pdf)

### E04.1.5. Metal Panels

**Type:**  
**Applies to:**  
**Mfr:**  
**Color:**  
**Finish:**  
**Model #**  
**Other:** N/A

### E04.1.6. Wood

**Type:**  
**Applies to:**  
**Mfr:**  
**Color:**  
**Finish:**  
**Model #**  
**Other:** N/A

### E04.1.7. Rapidly-Renewable Products

**Type:**  
**Applies to:**  
**Mfr:**  
**Color:**  
**Finish:**  
**Model #**  
**Other:** N/A

### E04.1.8. Other

**Type:**  
**Applies to:**  
**Mfr:**  
**Color:**  
**Finish:**  
**Model #**  
**Other:** N/A

### E05. Doors and Windows

Comply with Air Force Corporate Standards for Doors and Windows:  

### E05.1. Doors and Windows and Frames Materials
**Facility Group 1**

door (frame) and window frame materials shall be as follows.

Primary: Aluminum, clear anodized  
Secondary: Hollow metal (painted)  
Tertiary: N/A

**Facility Group 1**

door (leaf) materials shall be as follows.

Primary: Hardwood veneer  
Secondary: Hollow metal (painted)  
Tertiary: N/A

**Facility Group 2**

door (frame) and window frame materials shall be as follows.

Primary: Aluminum, clear anodized  
Secondary: Hollow metal (painted)  
Tertiary: N/A

**Facility Group 2**

door (leaf) materials shall be as follows.

Primary: Hardwood veneer  
Secondary: Hollow metal (painted)  
Tertiary: N/A

**Facility Group 3**

door (frame) and window frame materials shall be as follows.

Primary: Hollow metal (galvanized, painted)  
Secondary: Hollow metal (galvanized, painted)  
Tertiary: N/A

**Facility Group 3**

door (leaf) materials shall be as follows.

Primary: Hollow metal (galvanized, painted)  
Secondary: Hollow metal (galvanized, painted)  
Tertiary: N/A

**Facility Group 4**

door (frame) and window frame materials shall be as follows.

Primary: Hardwood veneer  
Secondary: Hollow metal (painted)  
Tertiary: N/A

**Facility Group 4**

door (leaf) materials shall be as follows.

Primary: Wood  
Secondary: N/A  
Tertiary: N/A

**Facility Group 4**

door (leaf) materials shall be as follows.

Primary: Wood solid core  
Secondary: Composite solid core  
Tertiary: N/A

**Note:** Apply the below base-wide standards for Doors and Windows (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.
**E05.1.1. Aluminum**

- **Type:** Style 1
- **Applies to:** Group 1, Group 2, Group 3, Group 4
- **Mfr.:** Kawneer
- **Color:** Clear anodized
- **Finish:** Factory
- **Model #:** InFrame Interior Framing, (2x4 nominal framing)
- **Other:** Satin stainless steel hardware

**UFGS:**
- Section 08 41 13 Aluminum-Framed Entrances and Storefronts
- Section 08 71 00 Door Hardware
  [https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf](https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf)

**E05.1.2. Hollow Metal**

- **Type:** Steel Doors
- **Applies to:** Group 1, Group 2, Group 3, Group 4
- **Mfr.:** Steelcraft
- **Color:** Neutral colors
- **Finish:** Paint (Sheen per UFGS)
- **Model #:** Hollow metal, 2" w. frames, 16 gauge (welded corners) grouted solid
- **Other:** Provide in Group 3 and in utility areas of Group 1 and 2. Provide A25 “galvannealed” coating. All interior steel doors shall have a factory applied primer finish. Provide satin stainless steel hardware.

**UFGS:**
- Section 08 11 13 Steel Doors and Frames
- Section 08 71 00 Door Hardware
  [https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf](https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf)
Type: **Steel Frames**

Applies to: 
- Group 1
- Group 2
- Group 3
- Group 4
- Other

Mfr: Steelcraft

Color: Neutral colors

Finish: Paint (Sheen per UFGS)

Model #: Hollow metal, frame grouted solid

Other: Satin stainless steel hardware

---

UFGS: Section 08 11 13 Steel Doors and Frames  
Section 08 71 00 Door Hardware  
https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf

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**E05.1.3. Wood**

Applicable ☑ N/A Number of base standards 2

Type: **Style 1, Administrative**

Applies to: 
- Group 1
- Group 2
- Group 3
- Group 4
- Other

Mfr: Simpson

Color: Natural hardwood veneer

Finish: Clear Sealer, satin (aqueous)

Model #: 3’x7’x 1 ¾”, solid core

Other: Satin stainless steel hardware, Glass lites may be used. Stained birch veneer face, 5 ply construction, rotary cut finish.

---

UFGS: Section 08 14 00 Wood Doors  
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 14 00.pdf
Section 08 71 00 Door Hardware  
https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf

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FE Warren Air Force Base IFS
**Type:**  Style 2, Residential

**Applies to:**  
- Group 1  
- Group 2  
- Group 3  
- Group 4  
- Other

**Mfr:**  Simpson

**Color:**  Natural hardwood veneer or paint grade

**Finish:**  Clear Sealer or paint, satin (aqueous)

**Model #:**  Full slab or panels

**Other:**  Satin nickel hardware

**UFGS:**  
- Section 08 14 00 Wood Doors  
- Section 08 71 00 Door Hardware  
  [https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf](https://www.wbdg.org/FFC/DOD/UFGS/UFGS%2008%2071%2000.pdf)

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**E05.1.4. Other**

- [ ] Applicable  
- [ ] N/A

---

**E06. Casework Systems**

Comply with Air Force Corporate Standards for Casework Systems:  

**E06.1. Casework Materials**
**E06.1.1. Plastic Laminate**

- **Applicable**: Yes
- **Mfr**: Formica
- **Color**: Medium Earth tones and neutral tones
- **Finish**: Light textured
- **Model #**: High pressure laminate
- **Other**: Combine with matching solid-surface banding on casework edges.

**UFGS**: Section 06 41 16.00 10 Plastic-Laminate-Clad Architectural Cabinets

[Link to UFGS document](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 06 41 16.00 10.pdf)

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**E06.1.2. Solid Polymer Surface**

- **Applicable**: Yes
- **Mfr**: Corian
- **Color**: Medium Earth tones and neutral tones
- **Finish**: Light textured
- **Model #**: Solid Surface
- **Other**: Faces and edge banding

**UFGS**: Section 12 36 00 Countertops

[Link to UFGS document](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 36 00.pdf)
### E06.1.3. Rapidly-Renewable Products

<table>
<thead>
<tr>
<th>Type:</th>
<th>Style 1 Moderate Use Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>Group 1</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Plyboo</td>
</tr>
<tr>
<td>Color:</td>
<td>Natural or amber</td>
</tr>
<tr>
<td>Finish:</td>
<td>Satin</td>
</tr>
<tr>
<td>Model #:</td>
<td>Flat grain bamboo plywood</td>
</tr>
<tr>
<td>Other:</td>
<td>FSC® Certified 100%</td>
</tr>
</tbody>
</table>

UFGS: Section 12 32 00 Manufactured Wood Casework  

### E06.1.4. Metal

<table>
<thead>
<tr>
<th>Type:</th>
<th>Style 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>Group 1</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Steel Sentry</td>
</tr>
<tr>
<td>Color:</td>
<td>Natural stainless steel or neural colors (steel)</td>
</tr>
<tr>
<td>Finish:</td>
<td>Mill (stainless) or Powder coated (steel)</td>
</tr>
<tr>
<td>Model #:</td>
<td>Lab, workbench, computer workstation</td>
</tr>
<tr>
<td>Other:</td>
<td>Provide highly durable fabrications and finishes in Group 3 which are subjected to heavy use.</td>
</tr>
</tbody>
</table>

UFGS: Section 12 31 00 Manufactured Metal Casework  
[http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 31 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 31 00.pdf)

### E06.1.5. Other

<table>
<thead>
<tr>
<th>Type:</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>Other:</td>
<td>FSC® Certified 100%</td>
</tr>
</tbody>
</table>

UFGS: Section 12 32 00 Manufactured Wood Casework  
E06.2. Countertop Materials

E06.2.1. Plastic Laminate

Applicable  ☒ N/A  Number of base standards 1

Type:  **Style 1, Low Use Areas**

Applies to:  ☐ Group 1  ☐ Group 2  ☐ Group 3  ☐ Group 4  ☐ Other

Mfr:  Formica

Color:  Medium Earth tomes and neutral tones

Finish:  Light textured

Model #:  High pressure laminate

Other:  Only use rounded half or full bullnose and integral backsplash. Do not use plastic laminate edge banding on front edges.

UFGS:  Section 06 41 16.00 10 Plastic-Laminate-Clad Architectural Cabinets
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 06 41 16.00 10.pdf

E06.2.2. Solid Polymer Surface

Applicable  ☒ N/A  Number of base standards 1

Type:  **Style 1, High Use Areas**

Applies to:  ☐ Group 1  ☐ Group 2  ☐ Group 3  ☐ Group 4  ☐ Other

Mfr:  Corian

Color:  Medium Earth tomes and neutral tones

Finish:  Light textured

Model #:  Solid Surface

Other:  Faces and edges

UFGS:  Section 12 36 00 Countertops
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 36 00.pdf
### E06.2.3. Natural Stone

**Type:**  *Style 1, Group 1 High Visibility, Heavy Use*

**Applies to:**
- [ ] Group 1  
- [ ] Group 2  
- [ ] Group 3  
- [ ] Group 4  
- [ ] Other

**Mfr:**  Local (TBD)

**Color:**  Neutral tones

**Finish:**  High polish, sealer

**Model #:**  Custom cut slabs

**Other:**  N/A

**UFGS:**  Section 12 36 00 Countertops  

---

### E06.2.4. Cast Stone

**Type:**  *Style 1, Group 1 High Visibility, Heavy Use*

**Applies to:**
- [ ] Group 1  
- [ ] Group 2  
- [ ] Group 3  
- [ ] Group 4  
- [ ] Other

**Mfr:**  Local (TBD)

**Color:**  Neutral tones

**Finish:**  High polish, sealer

**Model #:**  Custom cast or cut slabs

**Other:**  N/A

**UFGS:**  Section 12 36 00 Countertops  
E06.2.5. Metal

- **Applicable**: Yes
- **Other**: Yes

<table>
<thead>
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<td>Finish:</td>
</tr>
<tr>
<td>Model #:</td>
</tr>
<tr>
<td>Other:</td>
</tr>
</tbody>
</table>

**UFGS:** Section 12 31 00 Manufactured Metal Casework
[http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 31 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 31 00.pdf)

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E06.2.6. Other

- **Applicable**: No
- **Other**: Yes

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E07. Furnishings

Comply with Air Force Corporate Standards for Furnishings:

E07.1. Durability and Serviceability

Comply with AF Corporate Standards for Durability and Serviceability:

E07.2. Accessories

Comply with AF Corporate Standards for Accessories:

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E08. Interior Signs

Comply with Air Force Corporate Standards for Interior Signs:

E08.1 Types and Color
Comply with Air Force Corporate Standards for Types and Color:

E08.2. Interior Signs Materials

E09. Lighting, Power and Communication

E09.1. Functionality and Efficiency
Comply with Air Force Corporate Standards for Functionality and Efficiency:

E09.2. Types and Color
F. APPENDIX - Facility Districts

- Applicable
- N/A

Comply with Air Force Corporate Standards for Facility Districts:
http://afcs.wbdg.org/facility-districts/index.html

Facilities Districts Overview Map:

Note: Apply the base-wide standards in this IFS for Installation Elements, Site Development, Facilities Exteriors and Facilities Interiors (products, materials, color, etc.). Following application of the base-wide standards, refer to the Appendix and apply any additional requirements specifically related to the Facility District.

Enter No. of Facility Districts 1

The following Facility Districts list exceptions to the base standards that are unique to each district. Please refer to the Site Development, Facilities Exteriors, and Facilities Interiors sections of this IFS for base standards.
Name of District: Basewide Standards and Historical Preservation

Map of District

Photos for each facility group within the Facility District as applicable.

Group 1  ☑ Applicable  ☐ N/A
FACILITY DISTRICTS
FE Warren AFB is divided into districts that align with land use zones as defined in the installation’s General Plan. Each district has designated uses that support the base’s operations. Generally match adjacent facilities in new construction to promote architectural compatibility throughout the installation. Please refer to Section D03.2. and contact the Base Civil Engineer for additional information.

1. Historical
2. Historical Influence
3. Community
4. Industrial
5. Family Housing

1. Historical
The Historical District, located in the central core of the base, is listed on the National Register of Historic Places because of its architectural integrity and historic setting. Preserve the buildings in the Historic District as the highest level of quality on the installation. Maintain the handsome red brick administration buildings, support facilities, stables and officer and noncommissioned officer housing as well as the classical organization of streets and public space. Continue uses in the historic core to support a campus-like professional working and living environment that serves as a strong reminder of FE Warren’s proud military heritage.

2. Historical Influence
The Historical Influence District should continue to be pedestrian in scale. Application of the installation prevailing architectural theme, regional vernacular, should be implemented during major renovations or new construction as appropriate. Facilities in this district should generally match adjacent buildings to ensure architectural compatibility, and shall follow standards for Facility Group 4 as defined in this IFS.

3. Community
Facilities in the Community District should continue to be pedestrian in scale. Application of the installation prevailing architectural theme, regional vernacular, should be implemented during major renovations or new construction as appropriate. Facilities in this district should generally match adjacent buildings to ensure architectural compatibility, and shall follow standards for Facility Group 2 as defined in this IFS.

4. Industrial
Facilities in the Industrial District may be monumental in scale with pedestrian-scaled architectural features. Application of the installation prevailing architectural theme, regional vernacular, should be implemented during major renovations or new construction as appropriate. Facilities in this district should generally match adjacent buildings to ensure architectural compatibility, and shall follow standards for Facility Group 3 as defined in this IFS.

5. Family Housing
The Family Housing District consists of detached single family and multi-family residential units occupied by enlisted and officer families. This area is currently under a housing privatization contract, but shall follow standards for Facility Group 4 as defined in this IFS.

G. APPENDIX - References
Comply with Air Force Corporate Standards:
http://afcfs.wbdg.org/index.html