(PRE-FINAL)
RAMSTEIN AIR BASE
INSTALLATION FACILITIES STANDARDS (IFS)

Installation Elements  Site Development  Facilities Exteriors  Facilities Interiors

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## Ramstein Air Base IFS

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A. OVERVIEW

Comply with Air Force Corporate Standards for Overview:
http://afcfs.wbdg.org/index.html

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, AFIs, Memoranda, and UFGSSs (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. Requests to deviate from any installation facilities standards, that are Unified Facilities Criteria (UFC) requirements, will follow the process outlined in the AFCFS for UFC waivers and exemptions.

3. 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.

4. 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.

5. 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.

6. 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.

7. References and Supplementary Documents listed in Appendix G are included in these Installation Facilities Standards by reference and are fully part of this document. Please refer to Appendix G for a listing of documents, which are available via hyperlink for viewing and downloading.

8. Installations outside the United States: Per UFC 1-200-01 DOD BUILDING CODE, 8 Oct 2019, "All construction outside of the United States is also governed by Status of Forces Agreements (SOFA), Host Nation Funded Construction Agreements (HNFA), and in some instances, Bilateral Infrastructure Agreements (BIA). Therefore, the acquisition team must ensure compliance with the most stringent of the UFC, the SOFA, the HNFA, and the BIA, as applicable." Refer to Appendix G for applicable agreements. "Use UFC 1-202-01 for design of host nation facilities that support military operations."

A01. FACILITY HIERARCHY
Comply with AF Corporate Standards for Facility Hierarchy (and subsections): http://afcfs.wbdg.org/facility-hierarchy/index.html

A02. FACILITY QUALITY
Comply with AF Corporate Standards for Facility Quality (and subsections): http://afcfs.wbdg.org/facility-quality/index.html

A03. 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

B01. 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)

咳嗽 Select number of graphics / images (large: 800 px x 440 px) to insert咳嗽

咳嗽 Small graphics do not apply

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.
B01.1.1. IFS Component Plan of IDP

- 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  3

1. Maintain this Installation Facilities Standards (IFS) as a Component Plan of the base's Installation Development Plan (IDP).
Ramstein Air Base was a project of the French Army and the US Army Corps of Engineers from 1949 to 1952. The base was designed by French engineers and constructed by some Germans and imported workers from Italy, Portugal, Spain, Greece and Turkey. The 3,000 acre area of the base was a swamp that had to be built up six feet in height. A rail line had been built in 1948, and it was used to bring in fill. When the land was leveled, construction began.

Two bases were laid out. Landstuhl Air Base on the south side and Ramstein Air Station (with no airstrip) on the north. Ramstein Air Base is used as the headquarters of NATO and the Twelfth Air Force. It has facilities to support family housing, commissary, base exchange, schools and administration offices. Landstuhl Air Base was the operational fighter base with hangars, runways,
ramps and air traffic control. In 1957 the two bases were consolidated into the largest NATO-controlled air base, called the Ramstein-Landstuhl Air Base. The name was changed to Ramstein Air Base in 1961.

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:

B02.1. Hierarchy of 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  6

Arterial Street near Roundabout

Hierarchy of Streets  Street Envelope Section  Local Streetscape
1. Develop and evolve a hierarchical transportation network of arterial, collector and local streets following UFC 3-201-01 and its industry references.

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

3. 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 Group 3 industrial facilities. Consider snow removal operations and snow storage areas in all designs.

4. Special routes may have a visual quality comparable to those along facilities in Group 1.

5. 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.

6. Minimize stops and turns along arterials. Eliminate on-street parking along arterials and provide on collector streets only on lower speed roadways such as residential streets.

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

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

9. Minimize and consolidate curb cuts along streets.

10. Ensure access for emergency and service vehicles.

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

12. Remote service roads may be paved with a rock/clay mix that is suitable for the service vehicles. Appropriately size roads to accommodate service vehicle traffic.

13. Provide appropriate force protection measures per UFC. Follow this IFS for site furnishings, signs, lighting, utilities, and paving.
B02.1.1. Arterial Streets

1. Minimum arterial street dimensions shall be as follows:
   a. Travel Lane. 12’
   b. Median (if used). 12’
   c. Curb and Gutter. 2’
   d. Sidewalk. 6’
   e. Parking. 12’ setback or per ATFP
   f. Buildings. 35’ setback or per ATFP
   g. Obstructions. 6’ setback or per ATFP
2. Stops and turns should be minimized and on-street parking shall not be allowed at any point along arterial streets.

3. Provide sidewalks on at least one side of arterial streets and both sides of arterial streets in developed areas. Provide a 6 foot buffer between the road and sidewalk where space allows.

4. Limit curb cuts on arterial streets to entries into major facilities, building groups and major parking areas.

5. Signs, plantings and street lighting should be added to reinforce the importance of arterial streets.

B02.1.2. Collector Streets

- Applicable
- N/A

Travel Lane (a): 12’ Median (b): N/A Curb and Gutter (c): 2’ Landscape (d): 10’ Sidewalk (e): 6’ Setback (f): Min. 35’ or per ATFP
1. Minimum collector street dimensions shall be as follows:
   a. Travel Lane. 12’
   b. Median (if used). 12’
   c. Curb and Gutter. 2’
   d. Sidewalk. 6’
   e. Parking. 12’ setback or per ATFP
   f. Buildings. 15’ setback or per ATFP
   g. Obstructions. 3’ setback or per ATFP

2. Frequent traffic stops and low speeds are permitted on collector streets.

3. Provide sidewalks on at least one side of collector streets. Buffers are preferred but not required on collector streets.

4. On street parking may be allowed on one side where secondary roads are not less than 34 feet wide. Parking shall not interfere with intersections or traffic flow.

5. Signs, plantings and street lighting should be added to reinforce the importance of collector streets.

B02.1.3. Local Streets

- Applicable
- N/A

Select number of graphics / images (large: 800 px x 440 px) to insert 2

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

Travel Lane (a): 11’  Median (b): N/A  Curb and Gutter (c): 1.5’  Landscape (d): 15’  Sidewalk (e): 6’
1. Minimum local street dimensions shall be as follows:
   a. Travel Lane. 11’
   b. Curb and Gutter. 1.5’
   c. Sidewalk. 6’
   d. Landscape. 15’ setback or per ATFP
   e. Buildings. 35’ setback or per ATFP
   f. Obstructions. 3’ setback or per ATFP

2. Frequent traffic stops and low speeds are permitted on local streets.

3. Provide sidewalks on at least one side of local streets. Buffers are preferred but not required on local streets.

4. On street parking may be allowed on one side where secondary roads are not less than 34 feet wide. Parking shall not interfere with intersections or traffic flow.

5. Signs, plantings and street lighting should be added to reinforce the importance of local streets.
6. Cul-de-sacs are to only be used in the Family Housing areas. The minimum radius for cul-de-sacs shall be 50’.

**B02.1.4. Special Routes**

- **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  3  

- **Street Elements with Quality of Group 1 at the Ramstein Inn**

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

2. Special routes shall include the following streets: Kisling Memorial Drive, Fairchild Avenue and West Gate approach road.

3. Maintain the trees, grasses, landscape beds and setback areas along special routes.
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.
1. At intersections adjacent to Group 1, landscaping of native grasses and shrubs may be provided; trees may be included when maintenance and non-potable irrigation is available. Monuments and static displays may be integrated into arterial intersection designs.
B02.2.2. Arterial/Collector

1. At arterial/collector intersections adjacent to Group 1, landscaping of native grasses and shrubs may be provided; trees may be included when maintenance and non-potable irrigation is available.

B02.2.3. Collectors

1. At collector intersections adjacent to Group 1, landscaping of native grasses and shrubs may be provided; trees may be included when maintenance and non-potable irrigation is available. Intersections adjacent to Group 2 may be developed similarly, but with less detailing.
B02.2.4. Special Intersections

- 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 3

Roundabout as a Focal Point along Special Route

Static Display along Special Route

Group 1 Lighting and Materials

Decorative Paving Near Group 1

1. Develop all special intersections consistently with those adjacent to Group 1 facilities.
B02.2.5. Street Frontage 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  3

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

- 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 adequate sight lines for an effective and safe traffic operation per American Association of State Highway and Transportation Officials (AASHTO) standards and consistent with 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 low reflectivity of surfaces, which is 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. Crosswalk markings shall follow the MUTCD for Streets and Highways, current edition. Provide white markings that define the edges of the crosswalk or a tone of lines defining the area of the crosswalk consistent with common practices found in the adjacent municipality.

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

8. 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  3

1. Pavement design shall comply with UFC 3-250-01. Ensure appropriate analysis and design of subgrade conditions to promote low maintenance, high performance pavements. Apply all applicable best practices from Appendix B of the UFC.

2. Materials shall be specified in accordance with UFC 3-250-01 and must conform to requirements set forth in the Unified Facility Guide Specifications (UFGS) for concrete and bituminous pavement.
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  2

![Barrier Curb](Image)
![Mountable Curb](Image)

1. Curb all streets except remote/isolated roads and rock-paved service roads. Header curbs may be used to facilitate snow plowing operations when coordinated with the base stormwater plan.

2. All streets should have integral concrete curbs and gutters. Painted curbs are prohibited because they are very difficult to maintain.

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

![Underground Service Lines](Image)
![Color Matching Adjacent Walls](Image)
![Base Standard Color](Image)

1. Provide all utility service lines below grade when streets are adjacent to 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 Site Development, Landscaping.

2. Overhead service lines along streets adjacent to Facility Groups 2, 3 and 4 are discouraged.
B02.3.4. Traffic Signs

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

B02.3.5. Street Lighting

- 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. 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

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

Image Tool 800 x 440

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

Image Tool 250 x 188

Plaza with Coordinated Paving, Lighting, Landscaping, and Site Furnishings

Colored Paving at Group 1 Plaza

Commemorative Monument

Static Display of Aircraft
1. 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.

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

3. 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).

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

**B03.1.1. Paved Plazas**

- [ ] 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

![Decorative Elements at Group 1](image1)

![Accent Paving at Tree Grate](image2)

![Rooftop Plaza](image3)

1. Pervious pavers may be used on all plazas and courtyards in Facility Groups 1 and 2; pervious concrete may be used in Groups 3 and 4. The designer shall incorporate appropriate expansion and construction joints.

2. Pavers shall match the color of pavers used on adjacent sidewalks using base standard range of neutral tones. Pavers used on plazas should be the local standard size, “S” or “I” shapes. Avoid the use of pavers that effloresce or corrode when exposed to snow-melt chemicals.
B03.1.2. Sculptures, Markers and Statuary

- 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 3

1. Relate new sculpture, markers and statuary to the base's architectural design theme. Generally limit these elements to frequently used locations adjacent to Facility Group 1 and highly traveled community pedestrian spaces.

2. Consider entry gates as possible sites for new displays.

3. All proposed memorials shall follow AFI 36-3108 and be limited to highly deserving individuals or groups as deemed appropriate by the installation leadership. Living memorials (tree plantings / etc.) are discouraged due to added maintenance requirements.
4. When sculpture requires a base, match the materials and/or color palette of adjacent buildings.

5. Use direct or indirect lighting to accentuate features or enhance an intended effect.

6. Ensure that all sculpture, markers and statuary are honorable and inspiring, provide a sense of place, positively contribute to the base’s visual quality, and encourage pride for the community and the US Air Force.

**B03.1.3. Static Display of Aircraft**

- **Static Display as a Focal Point**

1. 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.
2. Generally locate concrete base/foundation structures for static displays below grade.

3. At static displays where pedestrian paths are provided, a minimum of one trash receptacle and one bench shall be provided. Receptacle and bench design must conform to IFS requirements.

**B03.2. Grounds and Perimeters**

<table>
<thead>
<tr>
<th>Applicable</th>
<th>N/A</th>
<th>Select number of graphics / images (large: 800 px x 440 px) to insert</th>
<th>1</th>
</tr>
</thead>
</table>

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

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 utility service lines below grade when adjacent to Facility Group 1 and when economically feasible for Facility Groups 2, 3 and 4. When service lines are located above grade, create an ordered, coordinated appearance.

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 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 bronze.

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

12. Bury the following exposed above-grade items in future projects when economically feasible:
   - Electrical power grid and service lines
   - Telephone lines
   - Cable TV lines
   - Communications lines
   - Exterior lighting service lines
   - Any similar system of above-ground lines serving the base

13. Consolidate and enclose service utility lines in underground utility corridors when feasible. Create routes along the inside edge of parking lot islands.

14. All development of open space requires prior coordination and approval from the Base Civil Engineer.

B03.2.1. Parade Grounds

☐ Applicable  ☑ N/A  Large graphics do not apply

☐ Applicable  ☑ N/A  Small graphics do not apply

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 ongoing maintenance are required. The Base Civil Engineer shall determine quantities, sizes, and products on a case basis.

B03.2.2. Parks

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

2. Picnic pavilions may be provided in parks where there is a documented need.
3. Prohibited picnic pavilion materials include wood, concrete masonry units (CMU) or metal pre-manufactured storage sheds. Use only materials and detailing that is low maintenance and endures with minimal weathering.

4. When picnic pavilions are permitted near facilities, generally match the architecture of the adjacent facility and provide a level of quality of the adjacent facility group number.

**B03.2.3. Preserves**

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

  ![Image Tool 800 x 440](Large graphics 1)

- Applicable  N/A  Small graphics do not apply

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1. Preserve areas adjacent to runways, taxiways, aprons, golf course roughs, storage areas, antenna facilities, and ammunition storage areas, as open space.

2. Provide minimal maintenance with mowing as needed for controlling bird behavior for airfield safety, or eliminating fire hazards.
B03.2.4. Perimeter Fence

- **Applicable**

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

- **Applicable**

Small graphics do not apply

Base-wide Standard Perimeter Fencing

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

2. Stringently comply with ATFP 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  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  3

[Image of Functional Arrangement of Site Elements with Refined Detailing for Group 1]
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, paved surfaces, and snow storage areas.

4. Integrate snow storage areas with adjacent streets and parking areas; coordinate snow storage with the base stormwater plan.

5. 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.

6. 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).

7. 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.

8. New building projects should preserve open space and protect natural habitat.

9. 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.

10. 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.

11. 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.

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

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

14. 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.

15. Applicably coordinate roof designs and roof drainage when implementing an integrated approach to stormwater management.

16. 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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**DRIVING FACTORS**

- Optimal solar orientation of the building...
- Main entrance from Pepperell street...
- Addressing the orientation of the future ACC
- Visibility of the new facility from main roads
- Meets the required ASFP standoff distance
- Separation between staff/civilian/military entrance
- Required parking spaces for public and staff
- Create a unified campus
- Outdoor healing environment
- Implementation of landscape zones A, B, C, & D

---

**CONCEPTUAL DIAGRAM**

**Conceptual Site Analysis and Site Design Diagram**

- **Solar Altitude**
- **Local Solar Data**
- **Local Climate Data**
- **Site Data**
1. Ensure the site will accommodate optimum requirements for building orientation, which is with the long axis and main entrance facing south to southeast.

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.

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](http://afcfs.wbdg.org/site-development/index.html)

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

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Utility Structure  Base Standards Hydrant  Standard Electrical Cabinet
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 medium bronze and provide visual screening following Installation Facilities Standards (IFS).

2. All ground mounted utility components such as fire hydrants, shall be painted medium bronze. Include vertical markers to locate components when buried in deep snow.

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

4. 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.

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

6. 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.

7. Direct roof drainage to bioswales when feasible or 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

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; 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 ATFP 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. Configure curbing to facilitate snow removal. Ensure snow storage areas are coordinated with the stormwater plan.
4. Define pedestrian access with approved hardscape 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. Cost-effectively integrate electric service outlets in parking areas for automobile block heaters where vehicles may be parked overnight.

10. Reserved parking is discouraged except for Facility Group 1.

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.

13. Refer to Appendix F for supplementary documents.

**C03.1.1. Paving and Striping**

- Bitumenous Aisles and Unit Pavers for Parking
- Unit Pavers and Grass Pavers at Aisle
- Colored Striping on Unit Pavers
- Colored Paver Defining Parking Space
- Painted Unit Pavers for MC Parking
- White Striping and Bitumenous Paving
Facility Group 1 paving materials shall be as follows.

Primary: Bituminous paving; interlocking pavers
Secondary: Concrete
Accent: Optional: Colored pavers may define walkways

Facility Group 2 paving materials shall be as follows.

Primary: Bituminous paving; interlocking pavers
Secondary: N/A
Accent: N/A

Facility Group 3 paving materials shall be as follows.

Primary: Bituminous paving; interlocking pavers
Secondary: Concrete where functionally required
Accent: N/A

Facility Group 4 paving materials shall be as follows.

Primary: Interlocking pavers
Secondary: N/A
Accent: N/A

1. All new parking lots in Groups 1 and 2 shall be constructed of bituminous paving in traffic lanes. Use interlocking pavers at parking spaces.

2. Perforated pavement surfaces may be used for parking spaces in forest and peripheral wooded areas instead of permeable pavement.

3. Dirt, gravel, and grass lots are not allowed.

4. Use consistent striping, angles and stall sizes in all parking areas. Gray pavers shall be used to define parking spaces, and red or contrasting gray pavers shall be used to define the edge of parking spaces.

5. All parking space dividing lines shall be defined with contrasting color pavers. Where parking is on a concrete surface, define edge of spaces with white stripes of paint or applied vinyl coatings. 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
Facility Group 1 curbing / edging materials shall be as follows.

<table>
<thead>
<tr>
<th>Primary</th>
<th>Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary</td>
<td>N/A</td>
</tr>
<tr>
<td>Accent</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Facility Group 2 curbing / edging materials shall be as follows.

<table>
<thead>
<tr>
<th>Primary</th>
<th>Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary</td>
<td>N/A</td>
</tr>
<tr>
<td>Accent</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Facility Group 3 curbing / edging materials shall be as follows.

<table>
<thead>
<tr>
<th>Primary</th>
<th>Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary</td>
<td>N/A</td>
</tr>
<tr>
<td>Accent</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Facility Group 4 curbing / edging materials shall be as follows.

<table>
<thead>
<tr>
<th>Primary</th>
<th>Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary</td>
<td>N/A</td>
</tr>
<tr>
<td>Accent</td>
<td>N/A</td>
</tr>
</tbody>
</table>

1. Define all parking lots with either raised profile or at-grade curbing to promote drainage and protect paving edges.

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 vehicle bumpers could contact adjacent items such as poles, signs or pedestrians.

4. See Appendix F for supplementary documents.

**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

![Mulched Central Medians](image1.png)

![Landscaped Islands](image2.png)

![Raised Median with Unit Pavers](image3.png)

1. Install landscape islands and medians as visual breaks, to reduce heat island effects and to accommodate bioswales and rain gardens with consideration for snow storage and removal. Coordinate suitable landscape or barriers integrated with walls and fences to ensure adequate force protection.

2. When lighting is necessary, contain fixture bases within medians or internal landscape islands.
C03.2. Parking Structures

1. Parking structures are encouraged in land-constrained locations when economically feasible.

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 plazas.
C03.3. Connectivity

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  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 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 3

Stormwater Drainage Directed from Parking Lot to Retention Area

Street Drainage Directed to Retention Area  
Roof Drainage Connected to Storm Sewer  
Vegetated Roof retaining Stormwater

Insert Stormwater Requirements graphic
Size image to: 800 pixels width x 440 pixels in height
Click here to insert image (jpg or png format)

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

Insert Stormwater Requirements graphic
Size image to: 250 pixels width x 188 pixels height
Click here to insert image
1. Design all stormwater systems including retention ponds, detention areas, snow storage 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. Permeable paving may be used in areas that are not subjected to severe freeze-thaw cycles.

4. Provide rainwater harvesting and storage that is attached to the building's roof drain systems to support grey water irrigation; consider freeze protection for winter months.

5. 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.


7. See Appendix F for supplementary documents.

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**C05. SIDEWALKS, BIKEWAYS AND TRAILS**

Comply with AF Corporate Standards for Site Development: [http://afcfs.wbdg.org/site-development/index.html](http://afcfs.wbdg.org/site-development/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  6

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[Images: Streetscape with Attached Sidewalk, Unit Pavers at Entrance, Decorative at Group 1]
Facility Group 1 sidewalks, plazas, and courtyards paving materials shall be as follows.

Primary: Pervious pavers
Secondary: Concrete edging
Accent: N/A

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

Primary: Pervious pavers
Secondary: Concrete edging
Accent: N/A

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

Primary: Permeable concrete
Secondary: N/A
Accent: N/A

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

Primary: Permeable 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 ATFP. 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. Use curves for changes of direction.

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. Include markers in unplowed areas that exceed the height of snowpack.

4. Pervious pavers shall be used on all sidewalks, plazas and courtyards. 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 vehicles 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. Sidewalk pavers shall conform to the following range of color: red blend. Pavers used on walks shall typically be similar to those in use. Match the existing pavers for small repairs.

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 6

![Integrated Ramp](image1)
![Site Stair](image2)
![Stair and Retaining Wall](image3)

![Stair as Retaining Wall](image4)
![Stair at Access Drive](image5)
![Main Approach Stair](image6)

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.

2. ‘Flat’ stairs and ramps should be paved with the same interlocking pavers as the connecting walkways. Edges of stairs and front edge of treads should have flush curb trim.

3. Curved stairs are recommended for prominent locations.
4. Normal, ‘steep,’ stairs should be constructed of cast-in-place concrete. Provide handrails if over 3 risers. Provide drains at top or bottom if water accumulates.

5. Combination stairs/ramp which can accommodate strollers and bicycles should be provided where required.

6. Ramp slopes should not exceed IBC requirements. Provide turning areas needed for wheelchair users.

7. See Appendix for more requirements on stairs and ramps.

**C05.1.2. Lighting**

- Coordinated Lighting Elements

1. Provide lighting for all stairs and landings where traffic warrants with wall-mounted, ceiling-mounted or recessed fixtures.

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

3. Wall-mounted lighting should illuminate building numbers.
C06. LANDSCAPE
Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html
Comply with AF Corporate Standards for Landscape:
http://afcfs.wbdg.org/site-development/landscape/index.html

C06.1. Climate-based Materials

- **Native Plant Species**
- **Preserved Natural Forest**
- **Deciduous Planting to Provide Shade**
- **Drought Tolerant Indigenous Species**
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.

2. Plants should be able to survive without the introduction of potable water after establishment.

**C06.1.1. Landscape Design Concept**

☐ 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

![Preserved Wooded Areas](image1.png) ![Formal Planting at Group 1](image2.png) ![Ornamental Planting at Group 2](image3.png)

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  3

![Xeric Planting at Intersection](image1)
![Xeric Species and Organic Mulch](image2)
![Raised Planter with Xeriscape](image3)

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**

- 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

![Xeric Planting with Mulch](image4)
![Limited Planting Area](image5)
![Drought Tolerant Grasses](image6)

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

☐ 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. 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 current Plant List; refer to Appendix F for the Plant List.

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)

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

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

Limited Turf Area
Drought Tolerant Shrubs
Organic Mulch Area

Preserved Sight Lines
Open Space Buffer
Ornamental Planting
1. At the main gate, reinforce a sense of arrival through a well-designed concentration of native 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 3

![Images of streetscape landscaping](image)

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 3

![Images of pedestrian circulation landscaping](image)

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 | Select number of graphics / images (large: 800 px x 440 px) to insert

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

1. Integrate appropriate landscaping elements into parking areas to visually soften the appearance at a minimum rate of 10 percent of the total area.
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 in islands within parking lots for shade and appeal following IFS and the base stormwater management plan.

4. Rain garden islands shall be landscaped to receive snowmelt and 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  3

Image Tool 250 x 188

Ornamental Accents at Group 1  Accent Landscaping at Plaza  Screening at Utility Cabinet

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

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; berming 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

### Image Tool 250 x 188

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. Group 1, 2 and 3 site furnishings shall be compatible with the adjacent architecture. Traditional regional vernacular architecture should have powder coated steel furnishing in light beige or dark brown. Furnishings near contemporary regional vernacular architecture should be naturally finished stainless steel or architecture precast. Group 1 facilities may use natural sandstone. 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 recreational areas may use wood benches when protected by a roof structure or recycled plastic.

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

7. Limit the use of bollards, but when necessary for force protection use powder coated aluminum in Groups 1, 2, 3 and 4; stainless steel may be used in Group 1 when approved by the BCE. Illuminated bollards may be used as approved on a case basis.

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

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

10. The Installation Flagpole location shall comply with the guidance for the display of flags in AFI 34-1201. Each Air Force installation is authorized to fly one United States Flag, normally in front of the installation headquarters. Waivers for non-
authorized locations must be submitted in accordance with AFI 33-360 and approved waivers (AF Form 679) must be maintained by the installation protocol office.

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 concrete foundations and bases, non-ferrous metal structures and wall sheeting, and standing seam metal roofing. Structure may be silver or dark bronze when approved by the BCE. Provide a full enclosure using an aluminum storefront framing and glazing system.

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 when finished to match the adjacent building.

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. 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.

17. 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.

18. Provide trash dumpster enclosures for Group 1, 2 and 3 with CMU screen walls all gates shall be metal factory finished dark brown.

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

20. Group 1, 2, and 3 picnic tables and seating shall be powder coated steel frames with recycled plastic tops and seating. Match the site furniture of adjacent facilities and the facility district. Limit barbeque grills and drinking fountains to lodging, dormitories, housing areas, parks and recreation areas.

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

22. 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.

**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.
<table>
<thead>
<tr>
<th>Type</th>
<th>Charcoal</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>TBD</td>
</tr>
<tr>
<td>Color:</td>
<td>Natural stainless steel</td>
</tr>
<tr>
<td>Finish:</td>
<td>Mill</td>
</tr>
<tr>
<td>Model #:</td>
<td>SS BBQ grill</td>
</tr>
<tr>
<td>Other:</td>
<td>Concrete foundation, coordinate with Base Architect</td>
</tr>
<tr>
<td>UFGS:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Natural Gas</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>BBQ Coach</td>
</tr>
<tr>
<td>Color:</td>
<td>Natural stainless steel</td>
</tr>
<tr>
<td>Finish:</td>
<td>Mill</td>
</tr>
<tr>
<td>Model #:</td>
<td>32&quot; 4-burner</td>
</tr>
<tr>
<td>Other:</td>
<td>Built-in concrete or masonry, coordinate with Base Architect</td>
</tr>
<tr>
<td>UFGS:</td>
<td>N/A</td>
</tr>
</tbody>
</table>
### C07.2.2. Benches

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

<table>
<thead>
<tr>
<th>Type: Stainless Steel</th>
</tr>
</thead>
</table>
| Applies to: | ⚫ Group 1  ⚫ Group 2  □ Group 3  □ Group 4  □ Other  
| Mfr: | Local, TBD  
| Color: | Neutral stainless steel  
| Finish: | Standard (smooth)  
| Model #: | Slatted design  
| Other: | N/A  

UFGS: N/A

<table>
<thead>
<tr>
<th>Type: Powder Coated Steel</th>
</tr>
</thead>
</table>
| Applies to: | ⚫ Group 1  ⚫ Group 2  □ Group 3  □ Group 4  □ Other  
| Mfr: | Local, TBD  
| Color: | Light beige  
| Finish: | Powder coat  
| Model #: | Slatted design with arms  
| Other: | N/A  

UFGS: N/A
**C07.2.3. Bike Racks**

- **Type:** Style 1
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr.:** Local, TBD
- **Color:** Stainless steel
- **Finish:** Factory
- **Model #:** U shaped rack
- **Other:** N/A

---

**C07.2.4. Bike Lockers**

- **Applicable:** N/A

---

**C07.2.5. Bollards**

- **Type:** Lighted Round Dome Top
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr.:** Local, TBD
- **Color:** Natural stainless steel or silver powder coat
- **Finish:** Mill stainless or powder coated aluminum
- **Model #:** Dome top or flat top
- **Other:** Flared cone, 3000K LED lamp

---

**UFGS:** N/A
Type: **Building Protection, steel**

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

Mfr: Local TBD (Bollard Cover)

Color: Silver or dark bronze

Finish: Factory

Model #: 6” Steel pipe, concrete filled, Cover

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**

- [x] Applicable  
- [ ] N/A  
- Number of base standards 2

Type: **1**

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

Mfr: Custom

Color: Dark bronze, medium bronze, natural aluminum, natural concrete

Finish: Powder coated, anodized frames

Model #: Gabled roof

Other: Provide concrete slab and 2 pre-manufactured aluminum benches

UFGS: N/A
Type: 2

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

Mfr: Local, TBD

Color: Natural stainless steel or galvanized steel

Finish: Factory

Model #: Rigid frame

Other: N/A

UFGS: N/A

C07.2.7. Drinking Fountains

☐ Applicable  ☐ N/A  Number of base standards 1

- Type: Pedestal
  - Mfr: Local, TBD
  - Color: Natural
  - Finish: Stainless steel
  - Model #: Pedestal with fountain
  - Other: Accessible

UFGS: N/A
C07.2.8. Dumpster Enclosures / Gates

Type: **CMU and Steel**

**Applicable**

**N/A**

Image Tool 250 x 188

Number of base standards 1

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

**Mfr:** Custom

**Color:** Tan CMU wall, dark brown piers. dark brown gates

**Finish:** Heavy texture walls, fluted piers, powder coated steel gates

**Model #:** Match adjacent building

**Other:** Steel gates and hardware

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

---

C07.2.9. Fencing

**Applicable**

**N/A**

Image Tool 250 x 188

Number of base standards 5

Type: **Style A Barrier: High security, High visibility**

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

**Mfr:** Custom

**Color:** Dark brown, green at installation perimeter fencing

**Finish:** Powder coated

**Model #:** Steel posts, rails and pickets (vertical, bent outward at top)

**Other:** Brown CMU piers may be used

**UFGS:** Section 05 50 13 Miscellaneous Metal Fabrications
**Type:** Style B Barrier: High security, Medium visibility

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

**Mfr:** Custom

**Color:** Dark brown

**Finish:** Powder coat

**Model #:** Steel grid: flat bar stock verticals, round rod horizontals

**Other:** Steel posts, horizontal bars, braces, and accessories, in heights, lengths, and gauges as required; Close all ends of tubing

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

---

**Type:** Style C Barrier: High security, Low visibility

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

**Mfr:** General Wire Company

**Color:** Black or dark bronze

**Finish:** Powder coated galvanized steel

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

**Other:** Posts and rails in heights, lengths and gauges as required, (see Appendix for Facility Districts requirements)

**UFGS:** Section 32 31 13 Chain Link Fences and Gates
Type: **Style D Barrier: Medium security, High visibility**

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

Mfr: Custom

Color: Tan CMU wall, dark brown piers

Finish: Heavy texture wall, fluted pier

Model #: Piers with infill wall panels

Other: N/A

UFGS: Section 04 20 00 Unit Masonry

---

Type: **Style E Barrier: Low security, High visibility**

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

Mfr: Custom

Color: Green posts and fencing

Finish: Powder coated metal

Model #: Steel posts and fencing

Other: N/A

UFGS: Section 05 50 13 Misc. Metal
C07.2.10. Flagpoles

Applicable  N/A  Number of base standards 1

Type: 1

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

Mfr: Eder Flag

Color: Natural aluminum

Finish: Satin lustre

Model #: Tapered pole with internal halyard

Other: 5” Butt Dia. 33’ H (30’ Exposed)

UFGS: N/A

C07.2.11. Lighting – Landscape / Accent

Please refer to the Lighting section.

C07.2.12. Litter and Ash Receptacles

Applicable  N/A  Number of base standards 2

Type: Style 1: Stainless Steel

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

Mfr: Local TBD

Color: Natural stainless steel

Finish: Smooth

Model #: Rectangular with cover

Other: Rigid plastic internal liner

UFGS: N/A
**Type:** Style 2: Metal

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

**Mfr:** Local, TBD

**Color:** Green or as approved

**Finish:** Powder coat

**Model #:** Round, post mounted

**Other:** Rigid plastic internal liner

**UFGS:** N/A

---

**C07.2.13. Picnic Tables**

- [ ] Applicable  [ ] N/A  Number of base standards 2

**Type:** Precast Concrete

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

**Mfr:** Local TBD

**Color:** Natural concrete

**Finish:** Standard Finish (Smooth)

**Model #:** Monolithic sections

**Other:** N/A

**UFGS:** N/A
Type: **Metal, Vinyl Coated**

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

Mfr: Local, TBD

Color: Brown or as approved

Finish: Factory vinyl coated

Model #: Round pedestal table with 4 seats

Other: N/A

UFGS: N/A

---

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: Local precast company, TBD

Color: Gray

Finish: Smooth casting

Model #: Round

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.:** Local, TBD
- **Color:** Varies
- **Finish:** Powder coated steel
- **Model #:** Modular components
- **Other:** Coordinate with Base Architect

**UFGS:** N/A

---

**C07.2.16. Screen Walls**

- **Type:** Concrete Masonry Units (CMU)
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr.:** Custom
- **Color:** Brown CMU blend, dark brown posts and accessories
- **Finish:** Light texture
- **Model #:** Alternating face widths
- **Other:** Provide solid coping in matching color and texture

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

- Type: **Cast Iron**
- Applies to: Group 1, Group 2, Group 3, Group 4, Other
- Mfr: Local, TBD
- Color: Natural cast iron
- Finish: Cast
- Model #: 2-Piece, round or square
- Other: N/A
- UFGS: N/A

C07.2.18. Other

- N/A
C08. EXTERIOR SIGNS

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

Comply with AF Corporate Standards for Exterior Signs:
http://afcfs.wbdg.org/site-development/exterior-signs/index.html

C08.1. Colors and Types

☐ 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 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 life span 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. Only 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. 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.
12. Parking lot identification signs may be used to identify areas or rows within large lots.

13. Follow the guidelines and requirements in ABAAS and the MUTCD for accessible parking signs.

14. Follow UFC 3-120-01 for Informational and Motivational Signs for size, layout and content.

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

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

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

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

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

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

3. 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.
   a. Standard Blue
   b. Standard Dark Bronze (also Federal Standard Color 30040)
   c. Standard Red
   d. Standard Black (non-reflective)
   e. Standard White
   f. Standard Brown
## Materials and Color Specifications

### Type: Typical Sign Face

**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

### Type: 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
**Type:** Typical Sign Base

<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>Custom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color:</td>
<td>Natural gray</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finish:</td>
<td>Sonotube-formed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model #:</td>
<td>24” height x 12” diameter, as engineered.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td>At grade with 3/4” chamfer. Provide engineered sizes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

---

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

**Applicable** Yes  **N/A** No  **Number of base standards** 1  **Image Tool 250 x 188**

<table>
<thead>
<tr>
<th>Type:</th>
<th>Primary, Secondary and Tertiary (Uses per UFC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>Group 1</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Custom</td>
</tr>
<tr>
<td>Color:</td>
<td>Dark bronze, brushed aluminum, accents per UFC</td>
</tr>
<tr>
<td>Finish:</td>
<td>Powder coat or vinyl sign face</td>
</tr>
<tr>
<td>Model #:</td>
<td>Metal frame and panels, buff stone base</td>
</tr>
<tr>
<td>Other:</td>
<td>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.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Type: Freestanding Primary Sign (Sizes and Uses per UFC)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applies to:</strong></td>
</tr>
<tr>
<td><strong>Mfr:</strong></td>
</tr>
<tr>
<td><strong>Color:</strong></td>
</tr>
<tr>
<td><strong>Finish:</strong></td>
</tr>
<tr>
<td><strong>Model #:</strong></td>
</tr>
<tr>
<td><strong>Other:</strong></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Type: Freestanding Secondary Sign (Sizes and Uses per UFC)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applies to:</strong></td>
</tr>
<tr>
<td><strong>Mfr:</strong></td>
</tr>
<tr>
<td><strong>Color:</strong></td>
</tr>
<tr>
<td><strong>Finish:</strong></td>
</tr>
<tr>
<td><strong>Model #:</strong></td>
</tr>
<tr>
<td><strong>Other:</strong></td>
</tr>
</tbody>
</table>

**UFGS:** Section 05 50 13 Miscellaneous Metal Fabrications
### Freestanding Tertiary Sign (Sizes and Uses per UFC)

<table>
<thead>
<tr>
<th>Type</th>
<th>Freestanding Tertiary Sign (Sizes and Uses per UFC)</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>Custom</td>
</tr>
<tr>
<td>Color</td>
<td>Medium brown face, dark bronze posts, white vinyl lettering</td>
</tr>
<tr>
<td>Finish</td>
<td>Powder coat or vinyl sign face</td>
</tr>
<tr>
<td>Model #</td>
<td>Aluminum sheet face, extruded aluminum posts</td>
</tr>
<tr>
<td>Other</td>
<td>Provide layout and sizes per UFC.</td>
</tr>
</tbody>
</table>

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

---

### Wall Mounted

<table>
<thead>
<tr>
<th>Type</th>
<th>Wall Mounted</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>Custom</td>
</tr>
<tr>
<td>Color</td>
<td>Medium brown, white lettering</td>
</tr>
<tr>
<td>Finish</td>
<td>Satin vinyl applied to aluminum sheet</td>
</tr>
<tr>
<td>Model #</td>
<td>Aluminum sheet with vinyl face and vinyl lettering</td>
</tr>
<tr>
<td>Other</td>
<td>Provide layout and sizes following UFC.</td>
</tr>
</tbody>
</table>

UFGS: N/A
Type: **Glass Mounted**

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

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)**

Applicable [ ] N/A Number of base standards 1

Type: **Street Signs**

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

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

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 standard bronze 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.

**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

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

C09.1. Fixtures and Lamping

☐ 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. Provide, coordinate and efficiently install street, parking lot, sidewalk and facility lighting with appropriate luminaires, lamping, placement and spacing following UFC 3-530-01 and 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
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Local, TBD
- **Color:** Clear anodized
- **Finish:** Factory
- **Model #:** Rectilinear cutoff, single 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

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

**Mfr:** Local TBD

**Color:** Dark bronze anodized (or clear anodized as approved by BCE)

**Finish:** Factory

**Model #:** Rectilinear 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:** Style 2

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

**Mfr:** Local TBD

**Color:** Clear anodized

**Finish:** Factory

**Model #:** Round cutoff, dual arm mount

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

**UFGS:** N/A
**Parking Lot Fixture Base**

- **Type:** Parking Lot Fixture Base
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **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**

- **Type:** Lighted Round Dome Top
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr:** Local, TBD
- **Color:** Dark brown or silver per BCE to match facility wall color
- **Finish:** Anodized aluminum
- **Model #:** Round, dome top
- **Other:** Flared cone, 3000K LED Lamp. Follow manufacturer’s recommendations for fixture base.
- **UFGS:** N/A
### Lighted Round Dome Top

**Type:** Lighted Round Dome Top

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

**Mfr:** Local, TBD

**Color:** Natural stainless steel

**Finish:** Mill

**Model #:** Round, flat top

**Other:** Flared cone, 3000K LED Lamp. Follow manufacturer’s recommendations for fixture base.

**UFGS:** N/A

### C09.2.4. Sidewalk Lighting

- □ Applicable  □ N/A  Number of base standards 1

**Type:** Rectilinear Cutoff

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

**Mfr:** Local, TBD

**Color:** Dark bronze anodized (or clear anodized as approved by BCE)

**Finish:** Anodized aluminum

**Model #:** Rectilinear 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

<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>Local, TBD</td>
</tr>
<tr>
<td>Color:</td>
<td>Dark bronze anodized</td>
</tr>
<tr>
<td>Finish:</td>
<td>Smooth</td>
</tr>
<tr>
<td>Model #:</td>
<td>Aluminum step and wall lights, round louvered</td>
</tr>
<tr>
<td>Other:</td>
<td>Lamps: LED</td>
</tr>
<tr>
<td>UFGS:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Type:</th>
<th></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>Local, TBD</td>
</tr>
<tr>
<td>Color:</td>
<td>Stainless steel or anodized aluminum</td>
</tr>
<tr>
<td>Finish:</td>
<td>Factory</td>
</tr>
<tr>
<td>Model #:</td>
<td>Rectilinear louvered</td>
</tr>
<tr>
<td>Other:</td>
<td>Lamp: LED</td>
</tr>
<tr>
<td>UFGS:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

---

# 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

- 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  3

Contemporary Vernacular Form and Palette of Materials

Traditional Vernacular Wall Materials

Group 3 Materials

Typical Group 4 Form and Materials

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.
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 with fixed shading for appropriate levels of heat gain in the spring, summer and autumn months resulting in less overall energy usage.

2. Generally orient the main entrance, the majority of windows and parking areas to the south, maximizing solar heat gain.

3. Provide orthogonal geometry for principal building form to minimize construction costs; angular and curvilinear geometry may be used sparingly for Group 1 and used only for emphasis at specific areas such as building entrances or stairwells.

4. 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.

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

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

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

D03.2. Architectural Character


2. Respond to the local climate with environmentally functional architectural features. Understated references to the historical architecture may be made but avoid directly reproducing features and ornamental detailing.

3. For new facilities design generally maintain consistency and visual unity with 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. Design new facilities using either the traditional vernacular or the contemporary vernacular architecture of adjacent buildings. Traditional designs may include monolithic building form, light beige wall color with contrasting dark brown windows frames, and highly textured human-scaled main entrances. Contemporary designs may include two to three coordinated colors in facades, contrasting window system, and pronounced building bases in a contrasting color or material.

5. Projecting entrances are encouraged as features.

6. All facilities shall express sustainability through their orientation, massing, shape, form, materials, and detailing. Provide louvers, overhangs and other strategies to optimize heat gain and reduce glare and to improve energy efficiency. Use only low-maintenance and highly durable materials. Note that existing buildings are required to meet energy standards when they are renovated.

7. Minimize exterior surface area to maximize energy conservation. Earth sheltering concepts and other appropriate passive features may be used when approved by the BCE.

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

D03.3. Details and Color

1. Provide a compatible palette of earth-tone colors related to existing facilities in concrete, masonry and powder-coated nonferrous metals. Refer to wall systems and roof systems for detailed material listings.

2. Relate the level of architectural detailing to the Facility Group number. Group 1 is reserved for the highest quality detailing.

3. Use only integrally colored or factory finished materials as the predominant exterior building material; do not use materials that require field painting and ongoing maintenance. Avoid detailing that causes staining, streaking and discoloration of materials due to the effects of weathering.
4. Provide consistent and compatible colors for every exterior building feature, including walls, roofs, doors, windows, 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: Low levels of daylight during the winter months and moderate levels in summer months.

Other:

- **Facility**: Narrow buildings along E-W axis are preferred
- **Wall**: Integral shading features and devices / interior masonry thermal mass walls (for cooling)
- **Doors**: Projecting roofs are required over entrances or recessed entrances may be provided
- **Windows**: Provide insulating glazing on north-facing windows / maximize shading for windows on south facades
- **Roof**: Vegetated roofs are encouraged to reduce stormwater discharge rates
**Structure:**  Do not expose ferous metals; Provide factory finished non-ferrous metals or concrete

**MEP:**  Ground-source, radiant heating and heat recovery following LCCA

**Other:**  Internal thermal mass walls to supplement radiant heat systems 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>Applicable</th>
<th>N/A</th>
<th>Number of base standards</th>
<th>1</th>
</tr>
</thead>
</table>

**Type:**  **Style 1 Aluminum Windows**

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

**Mfr:**  Kawneer (or equivalent)

**Color:**  Dark gray, light gray or bronze (or clear anodized as approved by BCE)

**Finish:**  Anodized

**Model #:**  2x4, slider or awning type

**Other:**  Provide thermally broken frames

**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  Group 2  Group 3  Group 4  Other</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Custom, TBD</td>
</tr>
<tr>
<td>Color:</td>
<td>Cement plaster</td>
</tr>
<tr>
<td>Finish:</td>
<td>Light texture</td>
</tr>
<tr>
<td>Model #:</td>
<td>Plaster over masonry or framing</td>
</tr>
<tr>
<td>Other:</td>
<td>N/A</td>
</tr>
<tr>
<td>UFGS:</td>
<td>Section 09 24 23 Cement Stucco</td>
</tr>
</tbody>
</table>

### D03.3.4. Thermal Shading

<table>
<thead>
<tr>
<th>Type:</th>
<th>Style 1 Wall Devices</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>Local Mfr TBD or custom</td>
</tr>
<tr>
<td>Color:</td>
<td>Silver, gray or bronze to match frames</td>
</tr>
<tr>
<td>Finish:</td>
<td>Factory, to match frames</td>
</tr>
<tr>
<td>Model #:</td>
<td>Louver</td>
</tr>
<tr>
<td>Other:</td>
<td>Shading devices may be attached to frames or structure</td>
</tr>
<tr>
<td>UFGS:</td>
<td>Section 08 41 13 Aluminum-Framed Entrances and Storefronts</td>
</tr>
</tbody>
</table>
### Style 2 Window Devices

**Type:** Style 2 Window Devices  

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

**Mfr:** Local Mfr TBD or custom  

**Color:** Silver or dark bronze  

**Finish:** Factory, to match frames  

**Model #:** Louver  

**Other:** Window devices should be confined to frames  

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

### Style 3 Shade Screen Devices

**Type:** Style 3 Shade Screen Devices  

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

**Mfr:** Local Mfr TBD or custom  

**Color:** Silver or dark bronze  

**Finish:** Factory and non-ferrous metals  

**Model #:** Perforated sheeting  

**Other:** N/A  

**UFGS:** Section 05 50 13 Miscellaneous Metal Fabrications
D03.3.5. Renewable Heating/Cooling

- **Type:** Style 1 Geothermal (Ground Source)
- **Applies to:** Group 1, Group 2, Group 3, Group 4
- **Mfr.:** Local, TBD
- **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

- **Type:** Ground-Mounted PV Panels
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr.:** TBD
- **Color:** Factory
- **Finish:** Matte
- **Model #:** Flat plate collector, fixed or tracking
- **Other:** Coordinate with local utility provider

UFGS: Section 48 14 00 Solar Photovoltaic Systems
### Roof-Mounted PV Array

- **Type:** Roof-Mounted PV Array
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** TBD
- **Color:** Factory
- **Finish:** Matte
- **Model #:** Flat plate collector
- **Other:** Coordinate with local utility provider

**UFGS:** Section 48 14 00 Solar Photovoltaic Systems

### D03.3.7. Solar Thermal System

- **Type:** Wall-Mounted or Roof-Mounted Panels
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** TBD
- **Color:** Factory
- **Finish:** Matte
- **Model #:** Flat plate collector
- **Other:** N/A

**UFGS:** Section 48 14 13 Solar Liquid Flat Plate and Evacuated Tube Collectors
D04. BUILDING ENTRANCES

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

Comply with AF Corporate Standards for Building Entrances:

Insert 3 photos for each facility group.

Group 1

Group 2

Group 3

Group 4
D04.1. Primary Entrances

1. Emphasize the primary entrance in the overall building design with a projected covering for weather protection in a color to contrast with the overall facade. Generally provide sloped metal roofs supported by exposed non-ferrous metal and/or concrete structure that will endure without degradation due to weathering and with zero to very low maintenance requirements. Ensure an appropriate level of quality consistent with the Facility Group designation.

2. Provide a gabled roof over all entrances to shed snow and ice away from pedestrians. Covered arcade elements may be used for Facility Group 1.

3. Entry walls will be composed of stucco, aluminum and glass.

4. Provide vestibules at entries in Groups 1, 2 and 3 unless used infrequently or serving unconditioned space following ASHRAE 90.1. Design vestibules (air locks) to minimize heat loss during the action of opening and closing doors.

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

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

7. Snow-melt systems may be provided on roofing or in paving as required to ensure efficient mission-critical operations.

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

9. Protect entrances from falling ice and snow. Develop roof form and slopes to prevent water from discharging onto sidewalks.

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

11. Canopies at entries shall have ceiling lights. There shall be a wall-mounted light fixture on both sides of an entrance. Basement entrances must have compatible heavy-duty light fixtures.

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 general character of the primary entrance but to a lesser extent with a smaller scale and to blend with the adjacent wall using a matching color.

3. Include a recess or projection for weather protection.

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 where there is a documented need; provide weatherstripping and appropriate insulation for all doors including those 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 facilities shall be predominantly stucco or sandstone panels. A darker color of stucco or stone may be used as a wall base, and fiber cement panels may be used as an accent.

3. Group 2 facilities shall be predominantly stucco; sandstone panels and fiber cement panels may be used as an accent. A darker color of cement stucco or stone may be used as a wall base. EFIS may be used at upper levels and otherwise where protected from impacts. Note that child care facilities may use other accent colors.

4. Large-scale Group 3 facilities shall be predominantly metal panel systems or stucco in light beige (RAL 8010) color. Contrasting dark brown factory finished metal sheeting may be used as accents. Light beige or gray EFIS may be used at upper levels and otherwise where protected from impacts. A contrasting darker color may be used as a wall base as an accent.

5. Group 4 shall be predominantly stucco in light beige (RAL 080 8010) or off-white color.

6. Multi-story Group 1, 2 and 3 facilities may include a transition in material, color or detailing to create a visual base. Generally limit Group 1 and 2 facilities to three field colors and Group 3 and 4 facilities to two field colors.

7. North exposures may be finished with materials and details that differ from other exposures to mitigate damp conditions and prevent mold.

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

9. Use detailing that is not subject to excessive weathering. Generally provide wall accents consistently throughout the base for each facility group.

10. Use integrally colored concrete and masonry with clear sealers when recommended by the manufacturer. Do not paint new concrete, concrete masonry units (CMU) or stucco.

11. Translucent wall panels may be used in Facility Groups 1, 2 and 3 with appropriate insulation.

12. When exterior insulation is being added in a retrofit, silicone resin stucco is recommended. Basement walls require perimeter insulation around conditioned rooms.

13. Pillars and columns will match the wall color.

14. Balconies, railings and emergency stairs will be galvanized or light beige (RAL 080 8010) color. Balconies are only authorized for Group 4, but fire escape balconies and outdoor corridors may occur in any Facility Group.

15. 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.

   Integrate shading devices into the overall composition of the wall.

2. Integrate fixed shading devices to reduce glare and promote daylighting in interiors. Generally promote solar gain into interiors as a passive design measure to reduce energy use.

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

4. Provide appropriate transitions between dissimilar materials to mitigate effects of thermal expansion and galvanic action per UFGS 07 60 00 Flashing and Sheet Metal.
5. Avoid creating inside-corner conditions in walls which would invite bird nesting.

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, exposed glued laminated construction or other materials that require field painting.

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

9. Refer to D07. Roofs for parapets.

**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:** Stucco and sandstone panels
- **Secondary:** Sandstone panels, stucco or metal panels
- **Accent:** Contrasting stucco or stone or granite base

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

- **Primary:** Stucco
- **Secondary:** Sandstone panels
- **Accent:** Contrasting stucco base

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

- **Primary:** Insulated metal panels
- **Secondary:** Stucco
- **Accent:** Optional: Contrasting stucco or metal panels

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

- **Primary:** Stucco
- **Secondary:** Contrasting stucco color
- **Accent:** N/A

**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:** Insulated Metal Panel System

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

- **Mfr:** Local manufacturer, TBD

- **Model #:** Insulated Metal Wall System

- **Color:** Light beige or light gray

- **Finish:** Light texture

- **Other:** N/A

- **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)

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**Type:** Metal Panels over Insulated Wall System

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

- **Mfr:** Local manufacturer, TBD

- **Model #:** Metal Wall Panel Cladding

- **Color:** Light beige or light gray

- **Finish:** Light texture

- **Other:** N/A

- **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

Applicable  ☑️ N/A  Number of base standards 1

Type: **Brick Veneer**

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

Mfr: Local, TBD

Model #: Face brick

Color: Beige, or red as approved by the BCE

Finish: Straight edges, medium texture

Other: Use in double-shell masonry wall with insulation

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

D05.4.3. Architectural Precast

Applicable  ☑️ N/A  Number of base standards 1

Type: **Architectural Precast Panel System**

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

Mfr: Local manufacturer, TBD

Model #: Monolithic panel system

Color: Light beige or gray

Finish: 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
D05.4.4. Stucco Over Sheathing

Type: 3-Coat Cementitious Stucco

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

Mfr: Local, TBD

Model #: Traditional 3-coat system

Color: Light beige (RAL 080 8010), white or light gray; brown base (RAL 8014)

Finish: Sand finish

Other: Accent color may be used; application over masonry is acceptable


D05.4.5. Curtain Wall

Type: Traditional Component System

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

Mfr: Local, TBD

Model #: Exposed or concealed framing

Color: Silver framing, light blue glazing

Finish: Factory

Other: Comply with UFCs for thermal performance

UFGS: Section 08 44 00 Curtain Wall and Glazed Assemblies: http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 44 00.pdf
D05.4.6. Cast-In-Place Concrete

Type: Board-Formed or Sheet-Formed Bearing Walls

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

Mfr: Custom

Model #: Rough-sawn dimensional lumber or liner forming

Color: Natural gray concrete

Finish: Board-formed or liner-formed texture exposed

Other: Board-formed texture has no exposed form ties

UFGS: Section 03 33 00 Cast-In-Place Architectural Concrete:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 33 00.pdf

D05.4.7. Tilt-Up Concrete

D05.4.8. Ribbed Metal Sheeting

Type: Flush Seam or Lap Seam

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

Mfr: Local, TBD

Model #: Flush or lap seam panel, reverse batten profile

Color: Light beige or light gray

Finish: Embossed texture, factory finished

Other: 24 gauge steel

UFGS: Section 07 42 13 Metal Wall Panels:

D05.4.9. EIFS

Applicable □ N/A

Number of base standards 1

Image Tool 250 x 188

Recommended Image:
Detail of ribbed metal sheeting
Size image to: 250 pixels width x 188 pixels height
Click here to insert image
<table>
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<th>Type:</th>
<th><strong>Natural Stone Veneer Panel System</strong></th>
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<tr>
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<td>[ ] Group 1  [ ] Group 2  [ ] Group 3  [ ] Group 4  [ ] Other</td>
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<tr>
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<td>Local, TBD</td>
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<tr>
<td>Model #:</td>
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<td>Finish:</td>
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UFGS: Section 04 20 00 Unit Masonry  
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 04 20 00.pdf
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.

Image Tool 250 x 188
D06.1. Types

1. Dark brown (RAL 8014) anodized aluminum doors, windows and frames with insulation and thermal breaks are approved for Facility Groups 1-3. Clear finish is preferred in heavy used administrative areas because they show less wear and weathering than dark anodized finishes; match the color of the door and frame. For renovation projects the color of new windows, doors and frames may match existing.

2. Aluminum clad windows are preferred for Facility Group 4. These have an outside color of dark brown (RAL 8014) and an inside color of white (RAL 9016).

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, but these may be used in any application in Group 3 facilities.

6. Utility and emergency egress doors shall match the wall color and for an inconspicuous appearance.

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. Contain noise at its source with properly gasketed doors per UFC 3-450-01.

11. New and renovated window sills should be aluminum to match the frame color. Note that brick or another window sill material may be used on a masonry wall to match existing openings.

12. Window and door frames shall have FCKW free core insulation and flush frame construction.

13. 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; generally minimize glazing on north-facing facades.

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

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

4. Protect against vandalism and intrusion.

D06.3. Glazing and Shading

1. Tinted, energy-efficient, low-e, double-pane glazing is encouraged.

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. Exterior solar protection may include electrically operated venetian blinds and manually or electrically-operated roll-down shutters in addition to external shading devices.
6. Where appropriate for the facility use, 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 colors 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.

6. Windows shall have turn/tilt hardware.

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: Local TBD

Color: Clear anodized, dark brown (RAL 8014) or charcoal gray (RAL 7016)

Finish: Anodized, matte

Model #: 2x4, thermally broken framing

Other: Group 1 may use larger openings with larger framing sections

### D06.5.2. Hollow Metal

- **Type:** Hollow Metal Doors, Windows and Frames
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr:** Local TDB
- **Color:** Dark brown (RAL 8014)
- **Finish:** Powder coated, satin
- **Model #:** 2x4, thermally broken framing
- **Other:** Group 1 use only for secondary entrances or emergency egress


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### D06.5.3. Aluminum-clad Wood

- **Mfr:** Local, TBD
- **Color:** Dark brown (RAL 8014) outside, white (RAL 9016) inside
- **Finish:** Factory, satin
- **Model #:** Slider or double hung
- **Other:** N/A

UFGS: N/A

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### D06.5.4. Other

- **Type:** Aluminum-clad Composite Doors, Windows and Frames
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr:** Local, TBD
- **Color:** Dark brown (RAL 8014) outside, white (RAL 9016) inside
- **Finish:** Factory, satin
- **Model #:** Slider or double hung
- **Other:** N/A

UFGS: 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.
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. Generally match the roof type and form of immediately adjacent existing facilities in new construction.

3. Group 1, 2 and 3 facilities under a 5,000 SF footprint and/or narrow in plan geometry, may use shed, gabled or hipped standing seam metal roofs. Gable roofs should be used on buildings with metal facades. Larger facilities may use sloped-roof features in conjunction with predominantly minimal-sloped “flat” membrane roofs.

4. Generally follow local practices for “Cold Roof” design, which optimizes venting and air movement with appropriate coordination of the thermal envelope. Provide roof configurations that minimize or eliminate snow management requirements.

5. Provide screens for roof-mounted appendages and equipment, which are clad to match standing seam roofs or parapet walls.

6. Roof translucent panels and skylights are not permitted in roofs.

7. Group 4 facilities shall have gabled or hipped concrete tile or standing seam metal roofs. Note that lacquered clay tile can be used anywhere concrete tile is approved if economical.

8. Roof eaves shall extend beyond the exterior wall to avoid drainage onto wall surfaces.

9. South-facing eaves shall coordinate with adjacent wall-mounted shading devices.

10. The color, shape and slope of the eave and soffit shall be compatible with adjacent facilities.

11. Keep roofs uncluttered and minimize penetrations.

12. Diminish massive roofs into coordinated smaller components consistent with adjacent facilities; avoid random, arbitrary changes.

13. Increase the insulation value of existing roofing systems during renovations if supported by life cycle cost and structural analysis.

14. 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.

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

16. Parking garage roof will either have top road base for parking or a vegetated roof; provide state of the art waterproofing membrane, not bituminous waterproofing.

17. Soffits of light beige (RAL 080 8010), light gray (7035) or white (9016) color may be composed of stucco, steel or fiber cement.

D07.2. Roof Slope

1. Group 1 and 2 buildings with sloped roofs shall use sloped roofs, min. 3:12.

2. Low-sloped roofs are allowed for larger structures of Groups 1, 2 and 3 with a slope from 1/2:12 and a maximum slope for standing seam metal roofs of 20 degrees (4.5:12).

3. Group 4 facilities shall use 5:12 to 6:12 roof slopes.

4. Ensure adequate drainage, and connect internal drains to the subsurface rain collection system where available.

5. Provide roof slopes to accommodate solar photovoltaic, solar thermal, passive systems and daylighting when applicable following UFC 1-200-02.
6. Provide underlayments as required for the roofing type as directed by the UFC.

**D07.3. Parapets and Copings**

1. Extend wall materials vertically above the roofline and provide metal copings to match the wall. Ensure copings are properly flashed and detailed to avoid roof leaks.

**D07.4. Color and Reflectivity**

1. Sloped roofs in Groups 1, 2 and 3 shall be dark brown (RAL 8014); generally match the color of any immediately adjacent facilities.

2. All minimal-slope membrane roofs may use low-albedo because heat island effect is not applicable.

3. Sloped roofs in Group 4 shall be dark brown (RAL 8014).

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.

**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 allowed for minimal-slope applications. Any internal drain must have an overflow scupper to avoid roof damage.

3. All gutters and fascia shall match the roof color. Gutters shall be semi-circular in shape (or match for renovations), and verge gutters should be used at shingled Family Housing roofs with gables. Any existing concealed gutters may be maintained, but all new gutters will be outside the fascia. In areas with trees, provide leaf-stop cages to reduce blockage.

4. Size the roof drainage system per UFC or DIN.

5. Use scuppers as required 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 (not contrasting it). Downspouts shall typically be round unless matching existing gutters in a renovation.

8. Fabricate downspouts from non-corrosive materials such as aluminum or zinc-coated steel. Provide powder-coated finishes.

9. All downspouts shall be solid.

10. Provide angled transitional pieces for downspouts to fit closely against the wall for their entire length.

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. Provide concrete splash blocks or cast iron receivers at grade, connected to the storm drainage system where available.

**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 screened.

4. Provide access points and service routes to equipment that protect the roof.

5. Screen all large vents.

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

7. Match roof color for all exposed equipment and vents.

8. Avoid roof-mounted antenna systems.

9. Arrange Lightning Protection Systems (LPS) components in an ordered, uncluttered, inconspicuous appearance and integrated into the organization of the roof and wall systems.

10. Ensure that LPS roof mounting systems are approved by the roofing manufacturer.

11. Additions to a roof shall not interfere with LPS or other rooftop systems that may be required.

12. Permanent fall protection shall be included with any addition 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 only when serving passive systems and are justifiable by life-cycle cost analysis. Skylights are allowed at Group 1 and 2 facilities with BCE approval when mounted on a curb with a sealed, gable-shaped skylight surface.

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

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

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

D07.8. Vegetated Roof

1. Install following the life-cycle cost analysis for reduced impacts on stormwater infrastructure.

2. Landscaping on a vegetated roof should be extensive. Roof inlets, connections, enclosures and penetrations should be kept free of landscaping, and a gravel strip around these items is recommended.

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

Type: **Low to Moderate Sloped Roofs**

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

- **Mfr.:** Prefa
- **Color:** Dark brown (RAL 8014) or dark gray (7016)
- **Finish:** Matte
- **Model #:** Prefalz
- **Other:** Shed, gabled or hipped standing seam metal

**UFGS:** Section 07 61 14 Steel Standing Seam Roofing  

**Type: Low Seam/Small Roofs**

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

- **Mfr.:** Wikon
- **Color:** Dark brown (RAL 8014) or dark gray (7016)
- **Finish:** Matte
- **Model #:** Classic D
- **Other:** Shed, gabled or hipped standing seam metal

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

- Applicable: Yes
- Mfr: Alwitra
- Color: Off-white
- Finish: Smooth
- Model #: Evalon
- 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: No

D07.9.4. Concrete Tile

- Applicable: Yes
- Mfr: Braas
- Color: Dark brown (RAL 8014)
- Finish: Matte
- Model #: Frankfurter Pfanne
- Other: N/A

UFGS: Section 07 32 16 Concrete Roof Tile
(Not Available on UFGS)
D07.9.5. Clay Tile

Applicable  ☑ N/A  Number of base standards 1  Image Tool 250 x 188

Type: Flat Molded Tile

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

Mfr: Roeben

Color: Dark brown (RAL 8014)

Finish: Factory, matte

Model #: Rheinland

Other: For repairs and additions and where economical. Must be approved by the BCE on a case basis

UFGS: Section 07 32 13 Clay Roof Tiles
(Not Available on UFGS)
Section 07 32 14 Clay Tile Roofing Replacement or Repair

D07.9.6. Slate Shingles

☑ Applicable  ☑ N/A

D07.9.7. Vegetated System

☑ Applicable  ☑ N/A  Number of base standards 1  Image Tool 250 x 188

Type: Modular Component System over Membrane Roofing

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

Mfr: LiveRoof or local TBD

Color: Factory

Finish: Factory

Model #: Standard or deep components

Other: Coordinate traffic areas, irrigation requirements and selection of plant materials; plants as approved by the BCE

UFGS: Section 32 97 00 Vegetated Roof Assemblies
(Not Available on UFGS)
### D07.9.8. Ribbed Metal Sheeting

- **Type:** Style 1
- **Applies to:** Group 1, Group 2, Group 3, Other
- **Mfr.:** Hoesch
- **Color:** Dark brown (RAL 8014)
- **Finish:** Factory, matte
- **Model #:** High Seam Tee-Panel
- **Other:** Shed, gabled or hipped; mechanically seamed system, 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

- **Applicable**

### D07.9.10. Other

- **Applicable**
D08. STRUCTURAL SYSTEMS

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

Comply with AF Corporate Standards for Structural Systems:

Comply with AFCFS Recommended Materials:

Insert 3 photos for each facility group.

Image Tool 250 x 188
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. Rigid frame steel systems and concrete systems may be used following a LCCA.

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

4. 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.

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

6. When structure is exposed on building exteriors, it must be made of concrete or non-ferrous metals such as aluminum or stainless steel. Exposed non-ferrous metals are only permitted with weatherproof non-ferrous metal cladding or precast concrete cladding. Metal cladding must be factory finished and shall not be field painted. Heavy timber construction is only permitted in recreation areas.

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

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

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

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

11. Due to heavy loads for the roof of parking garages, solid slab systems such as hollow reinforced concrete slabs or sectional sheet steel-bonded systems are recommended.

12. Balconies shall be self supporting on concrete foundations with stainless, galvanized or powder coated vertical railing elements. Refer to Building 845.

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**

- **Type:** Cast-In-Place
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr.:** Local, TBD
- **Color:** Natural gray
- **Finish:** Light texture
- **Model #:** Post and beam and/or waffle slab
- **Other:** N/A

**UFGS:**
- Section 03 30 53 Miscellaneous Cast-In-Place Concrete
- Section 03 33 00 Cast-In-Place Architectural Concrete
  [http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 33 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 33 00.pdf)
- Section 03 47 13 Tilt-Up Concrete

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

- **Applicable:** No

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**D08.2.3. Steel**

- **Type:** Rigid Framing
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr.:** Local, TBD
- **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](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 05 12 00.pdf)
D08.2.4. Pre-Engineered Steel

- **Type:** Moment Frame
- **Applies to:** Group 1, Group 2, Group 3
- **Mfr.:** Local, TBD
- **Color:** Factory primed
- **Finish:** Matte
- **Model #:** Moment frame
- **Other:** Draped insulation may be used behind wall finish system; Mfr. 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

- **Type:** Load-Bearing Masonry
- **Applies to:** Group 1, Group 2, Group 3, Group 4
- **Mfr.:** Custom, local TBD
- **Color:** Light beige or light gray
- **Finish:** Light texture or sand finish plaster over masonry
- **Model #:** Trowel-applied plaster over unit masonry
- **Other:** N/A

**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)

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D08.2.6. Heavy Timber

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

Type: **Steel Framing**

- Applies to: [ ] Group 1  [ ] Group 2  [ ] Group 3  [ ] Group 4  [ ] Other
- Mfr: Local, TBD
- Color: Factory
- Finish: Galvanized
- Model #: Structural framing shapes
- Other: N/A

UFGS: Section 05 45 00 Light Gauge Steel Framing System
(Not Available on UFGS)

D08.2.8. Lumber Framing

Type: **Lumber Framing**

- Applies to: [ ] Group 1  [ ] Group 2  [ ] Group 3  [ ] Group 4  [ ] Other
- Mfr: Local, TBD
- Color: N/A
- Finish: S4S
- Model #: Structural dimensional lumber
- Other: N/A

UFGS: Section 06 10 00 Rough Carpentry
[http://www.wbdg.org/FFC/DOD/UFGS/UFGS 06 10 00.pdf](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: Yes
- N/A: Yes

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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 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 and include heat recovery measures to improve efficiency; design active mechanical systems to supplement thermal mass walls and floors where applicable.

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 permitted following a LCCA.

6. Integrate shading into building exteriors to reduce solar heat gain during as applicable for the exposure.

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.

Image Tool 250 x 188

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 life span.

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. Coordinate passive systems to optimize active heat-recovery systems.

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 well being, 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. Identify all heat-recovery systems and ensure their efficient operation.

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 UFC 3-120-10.

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**

Comply with Air Force Corporate Standards for 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. 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

<table>
<thead>
<tr>
<th>Type: Style 1, Ground and Polished</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applies to:</strong></td>
</tr>
<tr>
<td>Group 1 ☑ Group 2 □ Group 3 □ Group 4 □ Other</td>
</tr>
<tr>
<td><strong>Mfr:</strong> Local (TBD)</td>
</tr>
<tr>
<td><strong>Color:</strong> Natural gray cement, light to dark beige aggregates</td>
</tr>
<tr>
<td><strong>Finish:</strong> Fine polished texture</td>
</tr>
<tr>
<td><strong>Model #: Medium to small aggregate</strong></td>
</tr>
<tr>
<td><strong>Other:</strong> N/A</td>
</tr>
<tr>
<td><strong>UFGS:</strong> Section 03 35 45 Polished Concrete Finishing (Not Available on UFGS)</td>
</tr>
</tbody>
</table>

**Recommended Image:** Detail of Prepared Slab
Size image to: 250 pixels width x 188 pixels height
Click here to insert image

<table>
<thead>
<tr>
<th>Type: Style 2, Ground and Medium Polished</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applies to:</strong></td>
</tr>
<tr>
<td>Group 1 ☑ Group 2 ☑ Group 3 ☑ Group 4 □ Other</td>
</tr>
<tr>
<td><strong>Mfr:</strong> Local (TBD)</td>
</tr>
<tr>
<td><strong>Color:</strong> Natural gray cement, light to dark beige aggregates</td>
</tr>
<tr>
<td><strong>Finish:</strong> Medium polished texture, slip resistant</td>
</tr>
<tr>
<td><strong>Model #: small</strong></td>
</tr>
<tr>
<td><strong>Other:</strong> N/A</td>
</tr>
<tr>
<td><strong>UFGS:</strong> Section 03 35 45 Polished Concrete Finishing (Not Available on UFGS)</td>
</tr>
</tbody>
</table>

### E02.1.2. Natural Stone and Terrazzo

| ☐ Applicable ☐ N/A |

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**Ramstein Air Base IFS**
### E02.1.3. Quarry Tile

- **Type:** Style 1
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr.:** Local, TBD
- **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

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### E02.1.4. Ceramic Tile

- **Type:** Style 1 Porcelain
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr.:** Local, TBD
- **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
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Local, TBD
- **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

### Resilient Floor

- **Type:** Style 1 Stair Treads
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Local, TBD
- **Color:** Neutral tones
- **Finish:** Factory
- **Model #:** Raised design rubber tread
- **Other:** Stair tread 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 (✓), Group 4 (.), Other (.)
- **Mfr:** Local, TBD
- **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

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**E02.1.7. Rapidly-Renewable Products**

- **Applicable** (.), **N/A** (✓)

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**E02.1.8. Other**

- **Applicable** (.), **N/A** (✓)
**E03. Walls**

Comply with Air Force Corporate Standards for Walls:

**E03.1. Wall Materials**

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

- **Primary:** Brick (or other as approved by the BCE)
- **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**

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

**Type:** Formed Concrete

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

**Mfr:** Custom, TBD

**Color:** Natural concrete

**Finish:** Medium texture

**Model #:** Board-formed or sheet-formed concrete

**Other:** Vertical or horizontal forming is permitted

**UFGS:** Section 03 33 00 Cast-In-Place Architectural Concrete

[Link to UFGS document](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 33 00.pdf)

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**E03.1.2. Masonry**

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

**Type:** Modular Face Brick

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

**Mfr:** Local (TBD)

**Color:** Tan blend

**Finish:** Light texture

**Model #:** Coursed unit masonry

**Other:** Brick is preferred. Concrete block may only be used in Group 3 when approved by the BCE.

**UFGS:** Section 04 20 00 Unit Masonry

[Link to UFGS document](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 04 20 00.pdf)
### E03.1.3. Ceramic Tile

- **Type:** Style 1
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr:** Local, TBD
- **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

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### E03.1.4. Gypsum Board

- **Type:** Style 1
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr:** Local, TBD
- **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](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)

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### E03.1.5. Metal Panels

- **Applicable**
- **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:** Gypsum board (painted)

**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

1. Accent ceiling materials such as metal, wood, and rapidly renewable may be used in Group 1 as approved on a case basis.

2. Follow UFC 3-450-01 (Vibration and Noise Control) for acoustic design issues including speech privacy, sound isolation or sound masking.

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

**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 ✔️ Group 4 □ Other

Mfr: Local, TBD

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

☐ Applicable  ☑ N/A

---

E04.1.3. Grid and Acoustical Tile

☑ Applicable  ☑ N/A  Number of base standards 2

Type: **Style 1 All Purpose**

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

Mfr: Local, TBD

Color: White

Finish: Factory

Model #: 2’x2’ 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
Type: Style 2 Kitchen

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

Mfr: Local, TBD

Color: White

Finish: Factory

Model #: Kitchen - 2' x 2' scrubbable surface

Other: Grid 15/16” Prelude (Ceiling and grid: Fire rated when applicable)

UFGS: Section 09 51 00 Acoustical Ceilings
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 51 00.pdf

E04.1.4. Gypsum Board
Applicable [ ] N/A

Number of base standards 1

Type: Style 1

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

Mfr: Local, TBD

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
Section 09 90 00 Paints and Coatings
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 90 00.pdf

E04.1.5. Metal Panels
Applicable [ ] N/A

E04.1.6. Wood
Applicable [ ] N/A
E04.1.7. Rapidly-Renewable Products
☐ Applicable  ☒ N/A

E04.1.8. Other
☐ Applicable  ☒ 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

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: Hardwood veneer
Secondary: Hollow metal (painted)
Tertiary: N/A

Facility Group 4
door (leaf) materials shall be as follows.

Primary: Wood solid core
Secondary: Composite solid core
Tertiary: N/A

Facility Group 4
door (leaf) materials shall be as follows.

Primary: Wood
Secondary: N/A
Tertiary: N/A
1. Hardwood casings may be provided over metal frames in Group 1 as approved on a case basis.

2. Paneled textured doors are preferred in Group 4.

3. Do not use hollow-core wood doors.

4. Generally match original hardware in renovations.

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

**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, Other
- **Mfr:** Local, TBD
- **Color:** Clear anodized
- **Finish:** Factory
- **Model #:** 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

Applicable  N/A  Number of base standards 2

<table>
<thead>
<tr>
<th>Type: Steel Doors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to: <img src="1" alt="Group 1" />  <img src="1" alt="Group 2" />  <img src="1" alt="Group 3" />  <img src="0" alt="Group 4" />  <img src="0" alt="Other" /></td>
</tr>
<tr>
<td>Mfr: Local, TBD</td>
</tr>
<tr>
<td>Color: Neutral colors</td>
</tr>
<tr>
<td>Finish: Paint (sheen per UFGS)</td>
</tr>
<tr>
<td>Model #: Hollow metal, 2&quot; w. frames, 16 gauge (welded corners) grouted solid</td>
</tr>
<tr>
<td>Other: Provide in Group 3 and in utility areas of Group 1 and 2. Provide A25 &quot;galvannealed&quot; coating. All interior steel doors shall have a factory applied primer finish. Provide satin stainless steel hardware.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type: Steel Frames</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to: <img src="1" alt="Group 1" />  <img src="1" alt="Group 2" />  <img src="1" alt="Group 3" />  <img src="0" alt="Group 4" />  <img src="0" alt="Other" /></td>
</tr>
<tr>
<td>Mfr: Local, TBD</td>
</tr>
<tr>
<td>Color: Neutral colors</td>
</tr>
<tr>
<td>Finish: Paint (sheen per UFGS)</td>
</tr>
<tr>
<td>Model #: Hollow metal, frame grouted solid</td>
</tr>
<tr>
<td>Other: Satin stainless steel hardware</td>
</tr>
</tbody>
</table>
E05.1.3. Wood

Applicable

Number of base standards 2

Type: Style 1, Administrative

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

Mfr: Local, TBD

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

Type: Style 2, Residential

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

Mfr: Local, TBD

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
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

E05.1.4. Other

Applicable

E06. Casework Systems
Comply with Air Force Corporate Standards for Casework Systems:  
http://afcfs.wbdg.org/facilities-interiors/casework-systems/index.html

E06.1. Casework Materials

1. Select casework systems and materials considering durability, maintenance requirements and LCCA.

2. Natural stone and cast stone countertops may only be used in Group 1 with approval on a case basis.

3. Metal cabinets and countertops shall be provided in heavy-use operations and in Group 3.

4. Refer to AFCFS for approved materials.

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

E06.1.1. 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: Local, TBD

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  
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 06 41 16.00 10.pdf
E06.1.2. Solid Polymer Surface

Type: **Style 1, High Use Areas**

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

- **Mfr:** Local, TBD

- **Color:** Medium Earth tones and neutral tones

- **Finish:** Light textured

- **Model #:** Solid surface

- **Other:** Faces and edge banding

UFGS: Section 12 36 00 Countertops
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 36 00.pdf

---

E06.1.3. Rapidly-Renewable Products

Type: **Style 1, Moderate Use Areas**

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

- **Mfr:** Local, TBD

- **Color:** Natural or amber

- **Finish:** Satin

- **Model #:** Flat grain bamboo plywood

- **Other:** FSC® Certified 100%

UFGS: Section 12 32 00 Manufactured Wood Casework
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 32 00.pdf
E06.1.4. Metal

- **Type:** Style 1
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Local, TBD
- **Color:** Natural stainless steel or neutral colors (steel)
- **Finish:** Mill (stainless) or powder coated (steel)
- **Model #:** Lab, workbench, computer workstation
- **Other:** Provide highly durable fabrications and finishes in Group 3 which are subjected to heavy use.

UFGS: Section 12 31 00 Manufactured Metal Casework
http://www.wbdg.org/FFC/DOD/UFGS/UFGS_12_31_00.pdf

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E06.1.5. Other

- **Applicable:** No
- **N/A:** Yes
### E06.2. Countertop Materials

#### E06.2.1. Plastic Laminate

<table>
<thead>
<tr>
<th>Applicable</th>
<th>N/A</th>
<th>Number of base standards</th>
<th>1</th>
</tr>
</thead>
</table>

**Type:** Style 1, Low Use Areas

- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Local, TBD
- **Color:** Medium Earth tones 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

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#### E06.2.2. Solid Polymer Surface

<table>
<thead>
<tr>
<th>Applicable</th>
<th>N/A</th>
<th>Number of base standards</th>
<th>1</th>
</tr>
</thead>
</table>

**Type:** Style 1, High Use Areas

- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Local, TBD
- **Color:** Medium Earth tones and neutral tones
- **Finish:** Light textured
- **Model #:** Solid surface
- **Other:** Faces and edges

**UFGS:** Section 12 36 00 Countertops
### E06.2.3. Natural Stone

- **Type:** Style 1, Group 1 High Visibility, Heavy Use
- **Applies to:** Group 1
- **Mfr.:** Local (TBD)
- **Color:** Neutral tones
- **Finish:** High polish, sealer
- **Model #:** Custom cut slabs
- **Other:** N/A

**UFGS:** Section 12 36 00 Countertops


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### E06.2.4. Cast Stone

- **Type:** Style 1, Group 1 High Visibility, Heavy Use
- **Applies to:** Group 1
- **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

- Type: Metal
- Applies to: Group 1, Group 2, Group 3, Other
- Mfr: Local (TBD)
- Color: Natural stainless steel
- Finish: Mill
- Model #: Custom fabricated countertops
- Other: Provide integral fronts, sides and backsplash

UFGS: Section 12 31 00 Manufactured Metal Casework
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 31 00.pdf

E06.2.6. Other

- Applicable

E07. Furnishings
Comply with Air Force Corporate Standards for Furnishings:
http://afcfs.wbdg.org/facilities-interiors/furnishings/index.html

E07.1. Durability and Serviceability
Comply with AF Corporate Standards for Durability and Serviceability:

E07.2. Accessories
Comply with AF Corporate Standards for Accessories:

E08. Interior Signs
Comply with Air Force Corporate Standards for Interior Signs:
http://afcfs.wbdg.org/facilities-interiors/interior-signs/index.html

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://afcfs.wbdg.org/facility-districts/index.html

Facilities Districts Overview Map:

![Facilities Districts Overview Map](image)

**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:

Map of District

RAMSTEIN AB
FACILITY DISTRICTS MAP

Photos for each facility group within the Facility District as applicable.

<table>
<thead>
<tr>
<th>Group</th>
<th>Applicable</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>☐</td>
<td>☰</td>
</tr>
<tr>
<td>Group 2</td>
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<td>☰</td>
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<tr>
<td>Group 3</td>
<td>☐</td>
<td>☰</td>
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<tr>
<td>Group 4</td>
<td>☐</td>
<td>☰</td>
</tr>
<tr>
<td>Other</td>
<td>☐</td>
<td>☰</td>
</tr>
</tbody>
</table>
FACILITY DISTRICTS
Ramstein Air Force Base is divided into districts that align with land use zones as defined in the Installation Development Plan (IDP). 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. A brief description of each district follows.

1. Community
Facilities in the Community district should continue to be pedestrian in scale. Application of the installation prevailing architectural theme, contemporary regional vernacular, should be implemented during major renovations or new construction as appropriate. This district is scattered around the administrative district that is north of the original Landstuhl Air Base. Facilities in this district should generally follow Facility Group 2 standards. Exceptions to the basewide standard are listed below by section number:

   C03. Sidewalks, Bikeways and Trail Systems
   1. Building entrances will be paved with red or gray concrete or natural stone pavers at administrative, dormitory, lodging and community service buildings. Gray pavers will be used at other entries.

   C07. Site Furnishing Systems
   1. Trash receptacles may be RAL 7016 (dark gray), and in addition they may be stainless steel at administrative buildings, dormitories, lodging and community service buildings.

D05. Wall Systems
1. Exposed masonry is allowed for community service and child care facilities.
2. If stone is used, employ red sandstone w/ base of stucco, granite or gray basalt.
3. Red sandstone may be used on entry walls of administrative and community service facilities.
4. Stairs will be paved with either concrete or natural stone pavers in red or gray.

D06. Door and Window Systems
1. Balconies, railings and stairs may also be stainless steel or RAL 7016 (dark gray) in color.
2. Aluminum clad wood windows are an option of lodging.
3. Yellow sandstone may be used as a window sill at dormitory and lodging buildings.
4. Red sandstone may be used as a window sill at community service buildings.
5. Window and door frames may also be RAL 7016 (dark gray).

2. Industrial
The Industrial district includes facilities that may support flightline operations. They are pedestrian in scale for small facilities and monumental in scale for large buildings. Application of the installation prevailing architectural theme, traditional regional vernacular, should be implemented during major renovations or new construction as appropriate. This district consists of the flightline, munitions, and other industrial portions of the original Landstuhl Air Base. Facilities in this district should mostly follow Facility Group 3 standards. Exceptions to the basewide standard are listed below by section number:

   C03. Parking Systems
   1. Parking spaces shall be defined with painted lines on asphalt or concrete.

   C05. Sidewalk, Bikeway and Trail Systems
   1. Building entrances will be paved with gray concrete pavers.
   2. Stairs will be paved with gray concrete pavers.

   C07. Site Furnishing Systems
   1. Trash receptacles may also be RAL 8014 (sepia brown).

D05. Wall Systems
1. Pillars and columns may be an accent color of RAL 8014 (sepia brown).

3. Family Housing
The Family Housing district is pedestrian in scale. Application of the prevailing architectural theme, traditional regional vernacular, should be implemented during major renovations or new construction as appropriate. This district is located at the northwest corner of the base. Facilities should follow Facility Group 4 standards. Exceptions to the basewide standard are listed below by section number:
C05. Sidewalk, Bikeway and Trail Systems
1. Red pavers will be used at entries for dormitories and other facilities in the “Ramstein” portion of the base. Light to dark brown pavers will be used at other facilities in the “Landstuhl” portion of the base.
2. Dormitory and family housing stairs will be paved with gray pavers. Red or gray pavers may be used for stairs elsewhere.

C07. Site Furnishing Systems
1. Trash receptacles may also be RAL 7016 (dark gray).

D05. Wall Systems
1. If stone used or dormitories and FH, yellow sandstone w/ base of stucco, granite or gray basalt at Group 4 and gray basalt at Group 2 facilities.
2. Pillars and columns may be an accent color of RAL 1002 (light orange) at family housing facilities.
3. Balconies, railings and stairs may also be stainless steel or RAL 1002 (light orange) in color.
4. Yellow sandstone may be used on entry walls of family housing buildings.

D06. Door and Window Systems
1. Yellow sandstone may be used as a window sill.

4. Administration
The Administration district is pedestrian in scale. Application of the prevailing architectural theme, contemporary regional vernacular, should be implemented during major renovations or new construction as appropriate. The district is located in the original Landstuhl Air Base area, west of the golf course. Another, small portion is southeast of the airfield. Facilities should follow standards for Facility Group 1 or 2 depending on their use. Exceptions to the basewide standard are listed below by section number:

C05. Sidewalk, Bikeway and Trail Systems
1. Entry pavers in this area may be gray or red. Those at community service facilities may be either concrete or natural stone. Elsewhere only concrete pavers will be used at entries.
2. Administrative and community service stairs will have red or gray pavers of concrete or natural stone. Red or gray concrete pavers will be used elsewhere.

C07. Site Furnishing Systems
1. Trash receptacles may be galvanized, and at administrative and community service buildings they may be stainless steel.

D05. Wall Systems
1. If stone used, red sandstone with base of stucco, granite or gray basalt
2. Balconies, railings and stairs may also be stainless steel or RAL 1002 (light orange) in color.
3. Red sandstone may be used on entry walls of administrative and community service facilities.

D06. Door and Window Systems
1. Red sandstone may be used as a window sill at administrative and community service buildings.

5. West End Flight-Line
The West End Flight-Line district is both pedestrian and monumental in scale. Application of the prevailing architectural theme, contemporary regional vernacular, should be implemented during major renovations or new construction as appropriate. The district is located at the west central portion of the base and includes the passenger terminal. Facilities should follow guidelines for Facility Group 2. Exceptions to the basewide standard are listed below by section number:

C03. Parking Systems
1. Parking spaces for industrial, utility and parking buildings shall be defined with painted lines on asphalt or concrete.

C05. Sidewalk, Bikeway and Trail Systems
1. Gray or red concrete pavers will be used at administrative building entries. Concrete or natural stone pavers may be used at community service entries. Elsewhere gray concrete pavers will be used.
2. Administrative stairs will be paved with red or gray concrete pavers. Community service buildings will have stairs paved with red or gray concrete or natural stone. Gray concrete pavers will be used elsewhere.

C07. Site Furnishing Systems
1. Trash receptacles may be stainless steel at administrative and community service buildings.
D05. Wall Systems
1. Stucco color will be RAL 9006 (light gray) or 9007 (warm gray).
2. If stucco forms base, color is RAL 9007 (warm gray) or 7022 (medium gray).
3. Administrative, community service and industrial buildings may have pillars and columns in accent colors of RAL 9007 (warm gray), 7022 (medium gray) and 9006 (light gray).
4. Balconies, railings and stairs may only be galvanized, stainless steel, or RAL 9006 (light gray), 9007 (warm gray), 7022 (medium gray), or 7035 (light gray).

D06. Door and Window Systems
1. Steel frames may be used for Group 3 doors and windows.
2. Window and door frames shall be RAL 9006 (light gray), 7022 (medium gray) or 7035 (light gray) in color.

D07. Roof Systems
1. Roofs will be RAL 9006 (light gray) in color.

G. APPENDIX - References

Comply with Air Force Corporate Standards:
http://afcfs.wbdg.org/index.html

Note: The below listed Supplementary Documents are provided as part of this IFS and shall become fully part of the IFS. If there are any discrepancies between the requirements of this IFS and the Supplementary Documents, the IFS shall govern.

Host Nation Standards and Criteria
Link to be Determined

Ramstein AB Plant List
Link to be Determined

Ramstein AB Exterior and Interior Color Standards
Link to be Determined