Joint Base San Antonio
JBSA Lackland IFS
1 MARCH 2018

JOINT BASE SAN ANTONIO
INSTALLATION FACILITIES STANDARDS (IFS)
VOL. 1: JBSA LACKLAND


Installation Elements


Site Development


Facilities Exteriors

Facilities Interiors

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Date: 2018.04.25 07:16:00 -05'00'

AIR FORCE INSTALLATION FACILITIES STANDARDS

2018

JBSA Lackland IFS

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A. OVERVIEW

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

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

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

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

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

A.01. FACILITY HIERARCHY

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

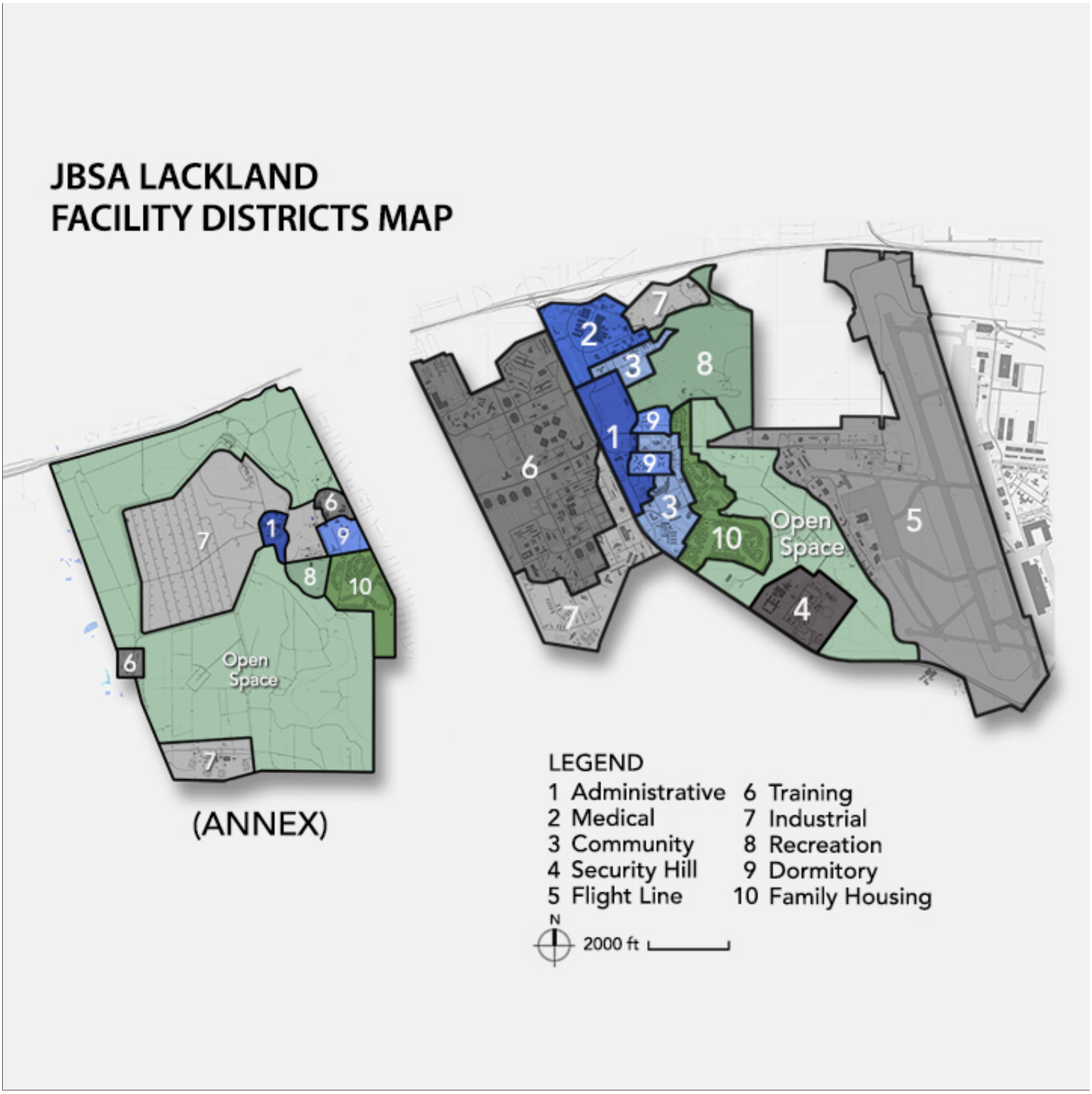
A.02. FACILITY QUALITY

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

A.03. FACILITY DISTRICTS

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

Image Sizing and Cropping Tool



Note: *Apply the base-wide standards in this IFS for Installation Elements, Site Development, Facilities Exteriors and Facilities Interiors (products, materials, color, etc.). Following application of the base-wide standards, refer to the Appendix and apply any additional requirements specifically related to the Facility District.*

B. INSTALLATION ELEMENTS

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

B.01. COMPREHENSIVE PLANNING

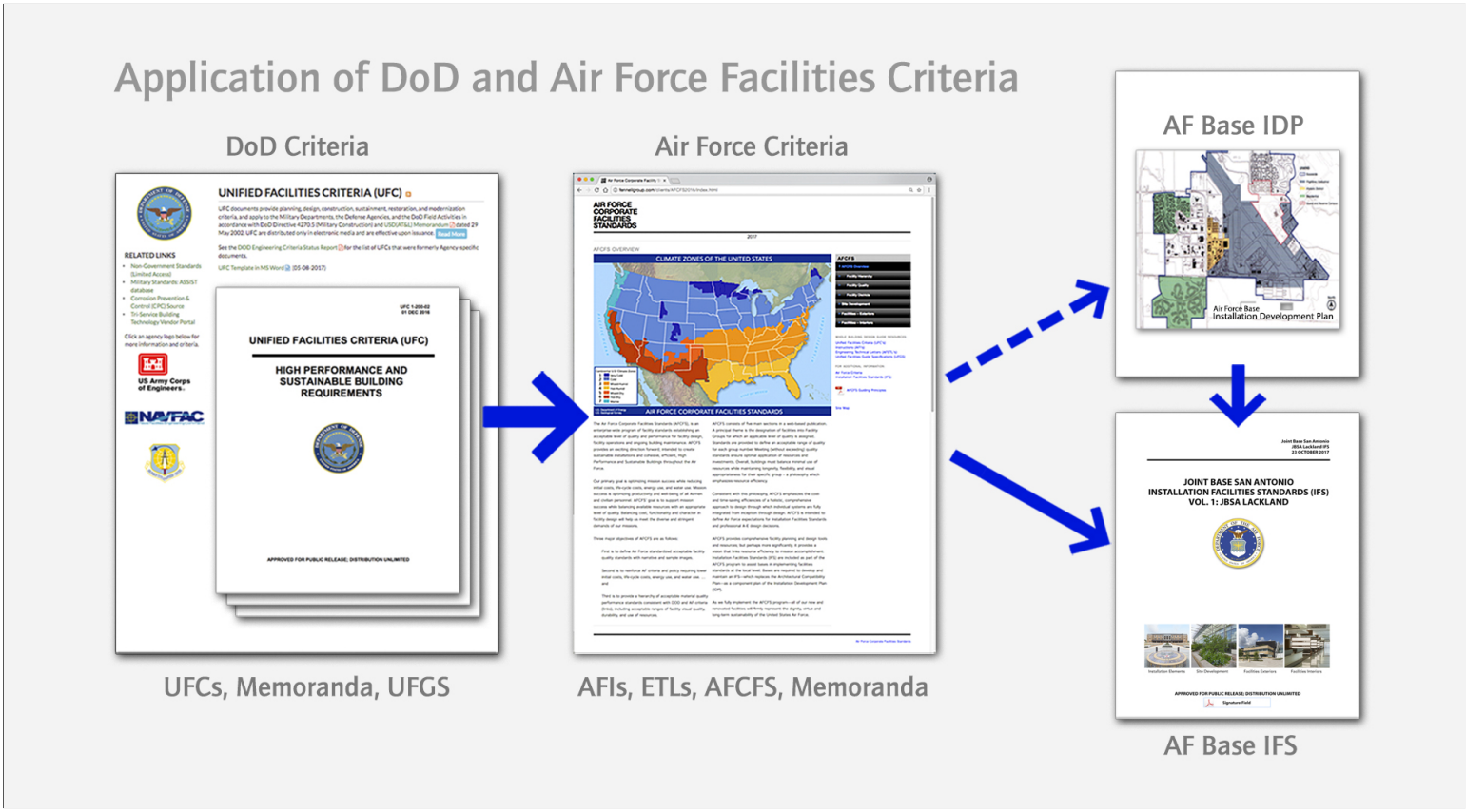
Comply with Air Force Corporate Standards for Comprehensive Planning:
http://afcfs.wbdg.org/installation-elements/comprehensive-planning/index.html

B01.1. Installation Development Plan (IDP)

◉ Applicable ○ N/A Has large graphics to include (800px x 440px)

Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Sizing and Cropping Tool (large)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)



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

1. The Base Civil Engineer is responsible for developing, maintaining and implementing the installation's Comprehensive Planning documents and to ensure that the Installation Development Plan (IDP) complies with AFI 32-7062.

B01.1.1. IFS Component Plan of IDP

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Maintain this Installation Facilities Standards (IFS) as a Component Plan of the base's Installation Development Plan (IDP).

B01.1.2. Brief History of Base

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Sizing and Cropping Tool (small)

Lackland Air Force Base


37th Training Wing Headquarters


Wing HQ View from Kenly Avenue

Lackland Air Force Base was established on June 26, 1942, when the War Department separated part of Kelly Field and named it San Antonio Aviation Cadet Center (SAACC) to support the war effort. From its inception, SAACC witnessed rapid growth and transitioned from a former field training and bombing range through a variety of missions: the hub for flying training, site for the officer training and commissioning orientation, and area for all veterans returning from WWII for reassignment or separation, and eventually, established as the basic military training center for officers and enlisted personnel entering the Army Air Forces. In 1947, SAACC was renamed to Lackland Air Force Base in honor of Brigadier General Frank D. Lackland. Brigadier General Lackland, a former Kelly Field Commander, had originally proposed and campaigned for an aviation and cadet reception center on this site. Honor as the "Gateway to the Air Force" was secured.

Lackland established itself as a cohesive training base and formalized training evolved to support the Air Force Mission: "To Fly, To Fight, To Win." The basic training and commissioning programs inspired Air Force pride. A technical training group was established to oversee the many courses now taught at on base. Lackland AFB exists today with the 37th Training Wing as the host installation command, flanked by the largest Associate, the 59th Medical Wing (i.e. Wilford Hall Medical Center).

On Nov. 9, 2005, President George W. Bush endorsed the recommendations of the Base Realignment and Closure Commission (BRAC) and signed them into law. One of the recommendations called for the implementation of joint basing. Joint basing involved a single entity that managed the support functions of two or more adjacent Department of Defense installations. The commission felt combined support functions eliminated duplicated efforts and created a single efficient organization. For San Antonio, the commission recommended joint basing for the three major installations around the city;:Fort Sam Houston, Lackland AFB and Randolph AFB. On Aug. 1, 2009, the Air Force activated the 502d ABW to perform the vital joint base support mission. Because of its central location in San Antonio and Bexar County, Texas, the Air Force activated the wing at JBSA-Fort Sam Houston. The wing gradually built its staff over the next few months, while it coordinated with the support functions at Fort Sam Houston, Lackland AFB, and Randolph AFB, in anticipation of JBSA achieving Initial Operational Capability (IOC). When IOC occurred, the 502d ABW assumed responsibility for the installation support mission. On Jan. 31, 2010, the 502d ABW became the host unit at Lackland and Randolph from the 37th Training Wing and 12th Flying Training Wing, respectively, and on April 30, 2010 the wing became the host unit at Fort Sam Houston and Camp Bullis in northwestern Bexar County. The U.S. Army Garrison at Fort Sam Houston remained active alongside the 502d MSG until JBSA achieved Full Operational Capability (FOC) Oct. 1, 2010. At FOC, the garrison inactivated.

For additional history and information please visit the Joint Base San Antonio website.

B01.1.3. Future Development

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Follow AFI 32-7062 for Air Force Comprehensive Planning, the Comprehensive Planning Process, Comprehensive Planning Requirements, and Geospatial Mapping.

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

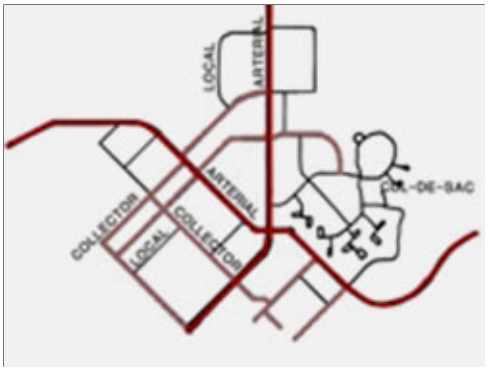
Comply with AF Corporate Standards for Street Envelope Standards:
http://afcfs.wbdg.org/installation-elements/street-envelope-standards/index.html

B02.1. Hierarchy of Streets

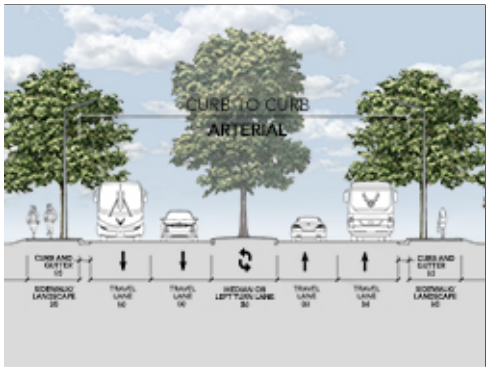
○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Sizing and Cropping Tool (small)



Hierarchy of Streets



Street Envelope Section


Local Street

1. Develop and evolve a hierarchical transportation network of arterial, collector and local streets following UFC 3-201-01 and its industry references.

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

2. 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.

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

4. 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.

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

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

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

8. Minimize and consolidate curb cuts along streets.

9. Ensure access for emergency and service vehicles.

10. Define appropriate force protection features, site furnishings, signs, lighting, utilities, and paving as per the UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings, with Change 1.

11. Use consistent landscape treatment at all base entrances. Plant material massing, spacing, and height are characteristics that should visually reinforce the type of street.

12. Sidewalks, plazas, and covered walkways should be an important element in any new construction project. Sidewalks should be separated from vehicular traffic whenever possible. Walkways to building entrances should be 8 feet wide. Sidewalks should typically be 6 feet wide.

13. Bicycles comprise an alternate form of transportation at Lackland AFB, but often they must compete with motorized vehicles and pedestrians for roadway space. Dedicated bicycle paths are encouraged to allow safe movement by bicycle to all major areas of the base. Separate bike routes from both roadways and sidewalks. The width of the bike routes shall be a minimum of 8 feet. Provide concrete or asphalt paving for bike routes. Crossings shall be marked with clearly visible painted stripes. Careful attention should be paid to curb cuts at roadway intersections.

B02.1.1. Arterial Streets

◉ Applicable ○ N/A Has large graphics to include (800px x 440px)

Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Sizing and Cropping Tool (large)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

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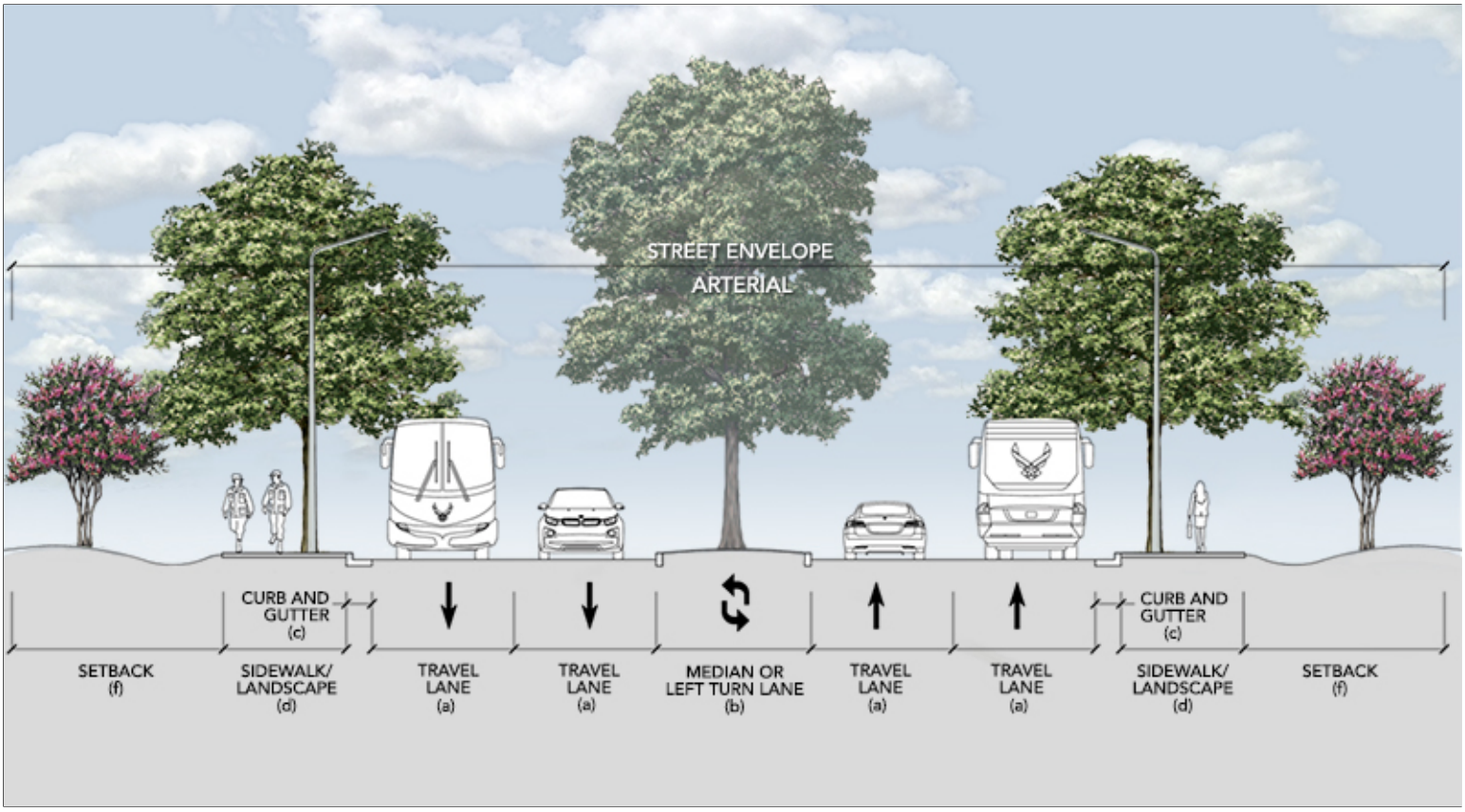


Travel Lane (a): 12’ Median (b): 12’ Curb and Gutter (c): 2’ Sidewalk / Landscape (d): 6’/10’)

Landscape Buffer / Sidewalk

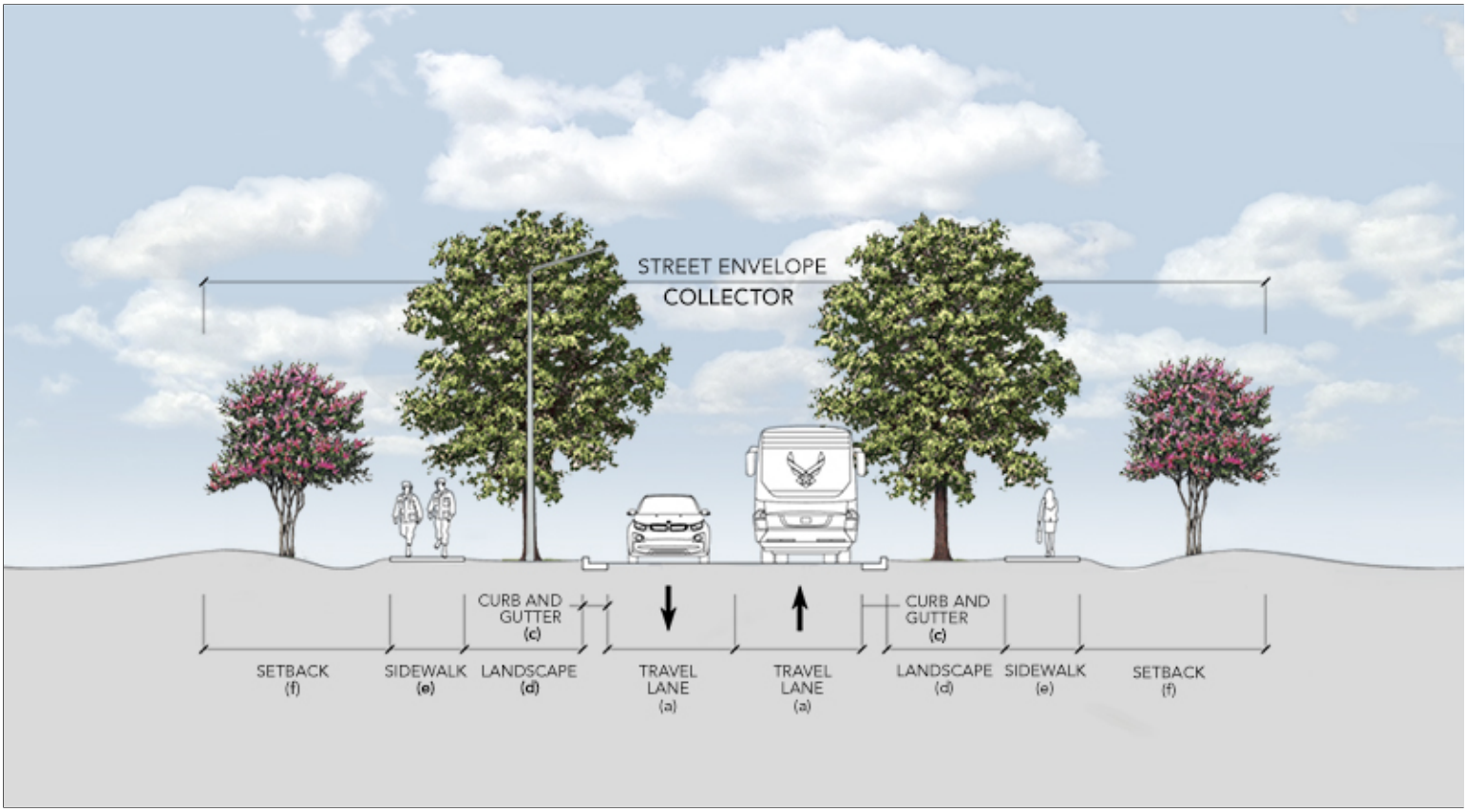
1. Maintain the following with this designation as arterial streets: Truemper Road. Refer to the illustration for general dimensions that pertain to all base arterial streets.

B02.1.2. Collector Streets

◉ Applicable ○ N/A Has large graphics to include (800px x 440px)

Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Sizing and Cropping Tool (large)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)



Travel Lane (a): 12' Median (b): N/A Curb and Gutter (c): 2' Landscape (d): 10' Sidewalk (e): 6' Setback (f): 15')

1. Design collector streets to be less prominent than arterials.

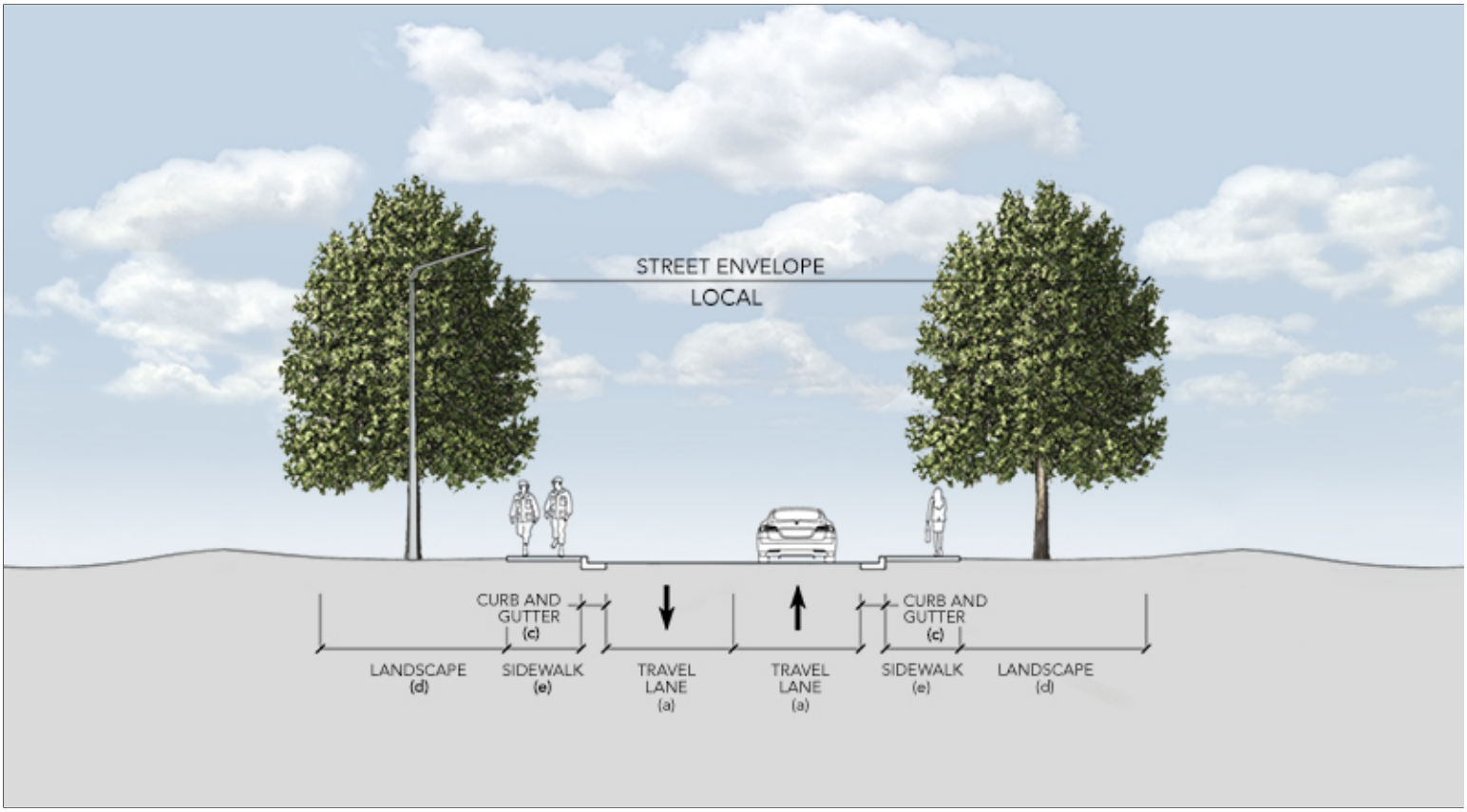
2. Match the level of quality of street elements to the adjacent Facility Group number.

B02.1.3. Local Streets

◉ Applicable ○ N/A Has large graphics to include (800px x 440px)

Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Sizing and Cropping Tool (large)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)



Travel Lane (a): 11' Median (b): N/A Curb and Gutter (c): 1.5' Landscape (d): 15' Sidewalk (e): 6'

1. Design and maintain local streets in due proportion to the amount of traffic.

2. Generally encourage the development of street frontage of adjacent sites to positively contribute features such as landscaping.

3. Maintain consistent local streetscapes for visual and functional continuity.

B02.1.4. Special Routes

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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

B02.2. Hierarchy of Intersections

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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.

B02.2.1. Arterials

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Refer to UFC 2-100-01 Installation Master Planning for guidance on arterial streetscape design.

B02.2.2. Arterial/Collector

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Refer to UFC 2-100-01 Installation Master Planning for guidance on arterial streetscape design.

B02.2.3. Collectors

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Refer to UFC 2-100-01 Installation Master Planning for guidance on arterial streetscape design.

B02.2.4. Special Intersections

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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

B02.2.5. Street Frontage Requirements

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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.

3. Refer to UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings, with Change 1 and UFC 4-010-02 DoD Minimum Antiterrorism Standoff Distances for Buildings (FOUO) for street frontage requirements.

B02.2.6. Sight Lines

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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

2. Sight lines will vary based on the speed and classification of the roadway or intersection. Plants and any related signage within the sight triangle should follow these rules:
• Shrubs may not exceed thirty inches (30") growing height within sight triangles.
• Signs may not be placed along the roadway unless regulatory in nature and approved by the base traffic engineer.

B02.3. Street Elements

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Emulate the streetscape area's pre-development hydrology using passive and active design features to help sustain the adjacent regionally appropriate landscape. Coordinate with the base Stormwater Management Plan.

2. Employ systems, materials and techniques to maximize streetscape sustainability. Consider pervious paving and reflectivity of surfaces appropriate for the local climate.

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

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

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

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

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

8. Replace line-hung traffic signals along Truemper Road with arm-mounted signal systems having enclosed wiring raceways.

9. Integrated the style of traffic signal systems with other related streetscape items such as signage, lighting, and site furnishings. Avoid visual clutter at street intersections.

10. Incorporate the following guidelines and features for all traffic signals:
• Standard regulation size traffic signals, one for each forward traffic lane, and one for each left-turn and/or right turn lane as necessary.
• All signal poles shall have hand-holes at the base. All wire connections to be made in pole and be above ground level.

B02.3.1. Paving

◯ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◯ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Pavement design shall comply with UFC 3-250-01. Ensure appropriate analysis and design of subgrade conditions to support low maintenance high performance pavements.

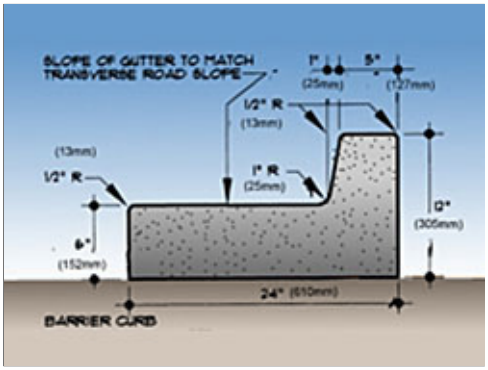
2. Materials for pavements shall be specified in accordance with UFC 3-250-01 and must conform to requirements set forth in the Unified Facility Guide Specifications (UFGS) for concrete and asphaltic concrete.

B02.3.2. Curb and Gutter

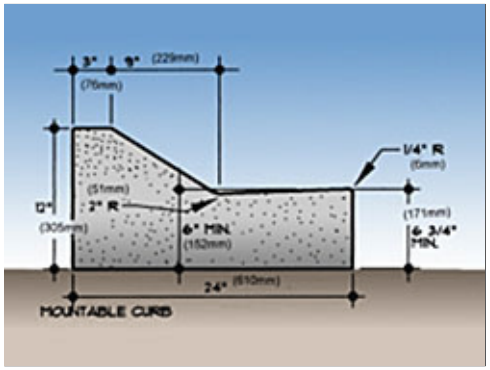
◯ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◉ Applicable ◯ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 2 Image Sizing and Cropping Tool (small)



"Barrier" Curb and Gutter



"Mountable" Curb and Gutter

1. Continuous concrete curbs and gutters shall be provided at street edges areas of the installation to:

• Help control drainage.
• Deter vehicles from leaving the pavement.
• Protect pedestrians.
• Delineate the pavement edge.
• Present a more finished general appearance.
• Assist in orderly and disciplined development of the street system.

2. Use the barrier curb design at arterial streets and at raised central medians. Use the mountable curb design at collector and local streets. Use the header curb design at locations where a permanent, finished edge is required, but where pavement drainage can flow onto adjacent areas such as bioswales and rain gardens.

B02.3.3. Utility Service Elements

◯ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◯ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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 Has large graphics to include (800px x 440px)

◯ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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

B02.3.5. Street Lighting

◯ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◯ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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

B02.3.6. Other

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Troopwalks should be considered during development as a base planning element. They are pedestrian circulation on a larger scale.

2. Troopwalks should be 10-12 feet wide.

3. Road crossings should incorporate a crosswalk with flashing lights to warn motorists.

4. Vehicle access should be prohibited and controlled through the use of bollards. Extra consideration for emergency vehicles should be made if the troop walk is to support that function, both in location and design.

5. Materials should match the adjacent facilities. Colors and detailing should be repeated with special attention to walk intersections.

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:
http://afcfs.wbdg.org/installation-elements/open-space-public-space/index.html

B03.1. Plazas, Monuments and Static Displays

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Sizing and Cropping Tool (small)


Facility Group 1 Entrance Plaza


Flag Display


Facility Group 2 Training Plaza

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 a 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 Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 2 Image Sizing and Cropping Tool (small)

Paving with Accent Color

Paving with Landscaped Perimeter

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

2. Pavers shall match the color of pavers used on adjacent sidewalks using base standard range of beiges, tans, browns, or terra cotta.

B03.1.2. Sculptures, Markers and Statuary

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 2 Image Sizing and Cropping Tool (small)


Commemorative Marker


Monument Feature

1. Relate new sculpture, markers and statuary to the base's 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.

4. When sculpture requires a base, match the materials and / or color palette of adjacent buildings.

B03.1.3. Static Display of Aircraft

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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.

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

B03.2. Grounds and Perimeters

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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.

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. 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.

B03.2.1. Parade Grounds

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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

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

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

4. As the parade ground canopies are replaced, consider using materials which are complementary to the base color scheme.

5. As AT/FP barrier walls are designed, look for opportunities to give them visual interest by integrating them with landscape elements.

B03.2.2. Parks

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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. 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 Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Preserve open space wetlands as an amenity.

B03.2.4. Perimeter Fence

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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

2. Stringently comply with AT / FP requirements following UFC 04-010-01 for all spaces adjacent to the base's perimeter fence and all gates.

3. Fencing, gates and other elements that are associated with the main gates shall be a level of quality equivalent to Facility Group 1.

4. Maintain a positive visual quality along the traffic corridor on both sides of the main gates. Specifically address pedestrian access, circulation and common areas.

C. SITE DEVELOPMENT

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

C01. SITE DESIGN

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

Comply with AF Corporate Standards for Site Design / NEPA:
http://afcfs.wbdg.org/site-development/site-design-nepa/index.html

C01.1. Site Design Considerations

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 6 Image Sizing and Cropping Tool (small)


Clearly Defined Pedestrian Access


Integrated Force Protection Measures


Accent Landscaping

Site Design Diagram


Prominently Featured Troop Walk


Preserved Open Space

1. Collect documentation to validate approvals and completion of the NEPA process.

2. Ensure site design compliance with the Installation Development Plan (IDP) and its component plans and Installation Facilities Standards (IFS).

3. Promote integrated design with on-site solutions such as engineered small-scale hydrologic controls verses base-wide infrastructure; consider open space, natural features, bioswales, building roofs, streets, and paved surfaces.

4. Limit the impact of development on land and water resources. All site elements and infrastructure shall reinforce an image of sustainability, with reduced energy demand, renewable-energy usage, and water conservation.

5. Consider energy conservation during site design for the following categories: building and site lighting, auxiliary systems and equipment (refrigerators, elevators, etc.), building envelope, electric power and distribution, HVAC systems and equipment, service hot water, energy management (metering, EMCS).

6. Coordinate on-site renewable-energy systems and components to minimize area requirements and maximize efficiencies. Appropriately buffer and screen these and other mechanical systems and equipment.

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

8. Conform to existing topography to the greatest extent possible and use slopes to increase site and building efficiencies. Design sites to minimize irrigation and impacts to stormwater runoff.

9. Carefully study new project sites to identify the character of adjacent buildings, streets, landscaping, and site design elements. Reinforce the existing character in new site design.

10. Consider relationships to adjacent facilities and district / centralized heating and cooling infrastructure and cost-effectively connect building systems to harvest heat, grey water or other beneficial byproducts.

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

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

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

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

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

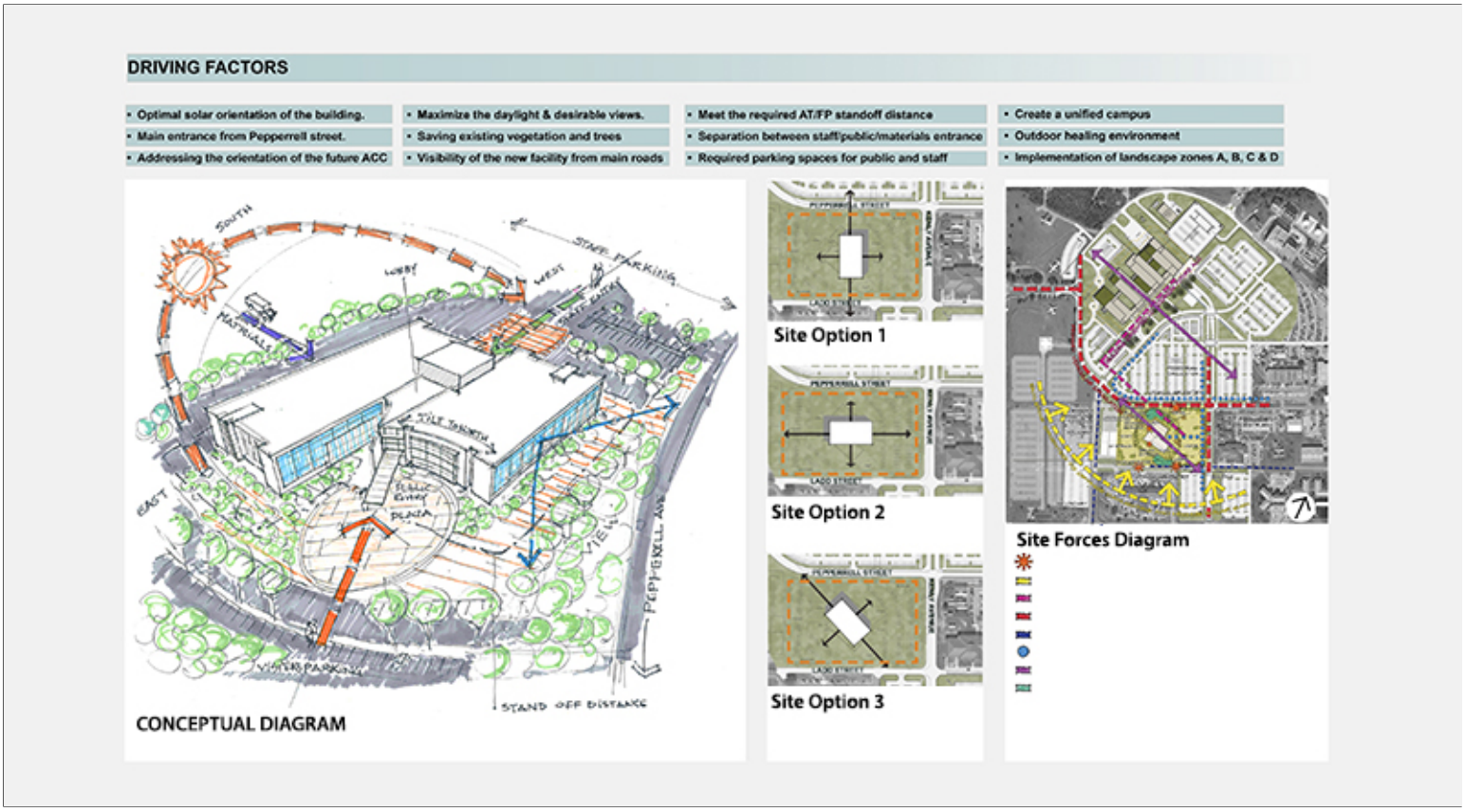
C01.2. Building Orientation

◉ Applicable ○ N/A Has large graphics to include (800px x 440px)

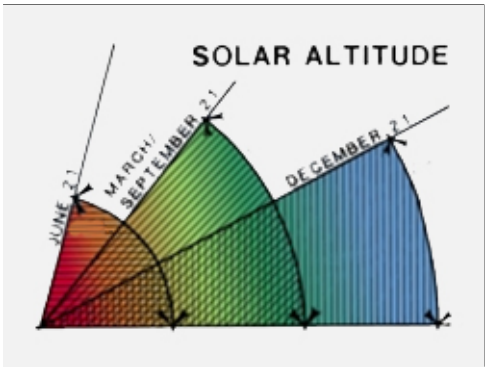
Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Sizing and Cropping Tool (large)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

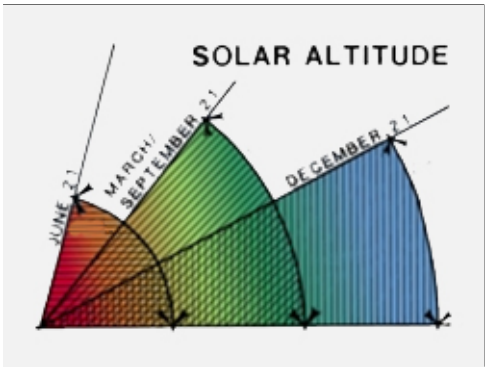
Select number of graphics / images (small: 250 px x 188 px) to insert 6 Image Sizing and Cropping Tool (small)



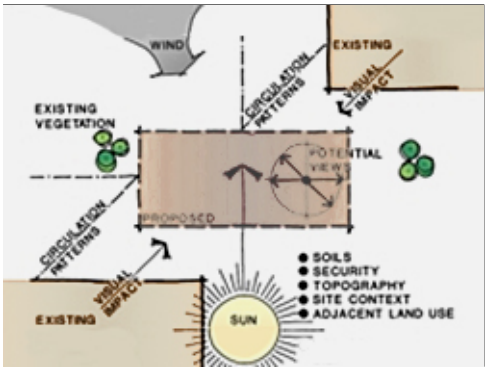
Conceptual Design Graphics



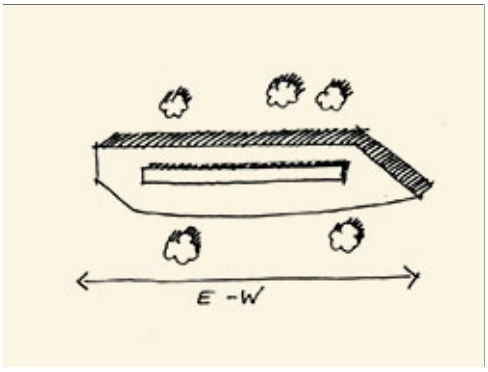
Local Solar Data



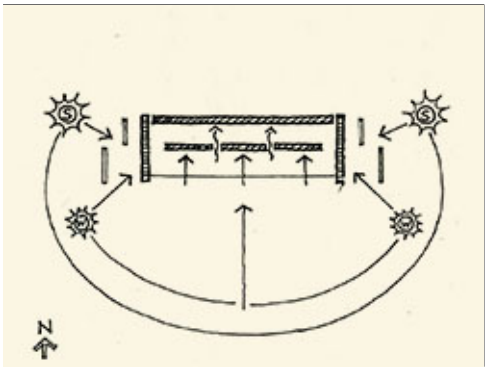
Local Climate Data



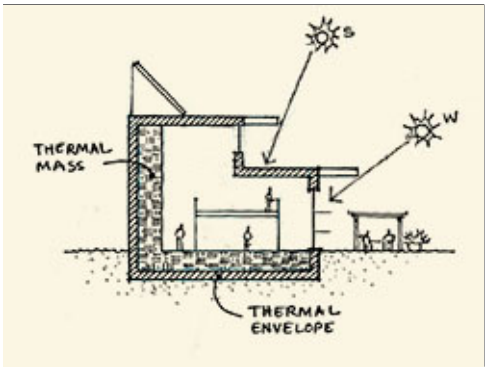
Site Data



East-West Axis



Optimum Solar Control



Maximized Shading

1. Ensure the site will accommodate optimum requirements for building orientation, which is with the long axis parallel to the east/west direction for rectilinear CONUS buildings.

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

3. Locate the building(s) and permitted ancillary structures to promote solar shading, natural ventilation, rainwater harvesting, wind buffering and other beneficial passive systems. Promote daylighting but avoid direct solar UV light gain into interiors during the mechanical cooling season. Consider natural ventilation for new buildings 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

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

C02.1. Utility Components

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 6 Image Sizing and Cropping Tool (small)


Organized Utility Elements


Screened Utility Yard


Wall-mounted Services


Equipment Matching Wall Color

Ground-mounted Cabinet


Cabinet Matching Wall Color

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

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

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

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

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

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

C03. PARKING AREAS

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

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

C03.1. Configurations and Design

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

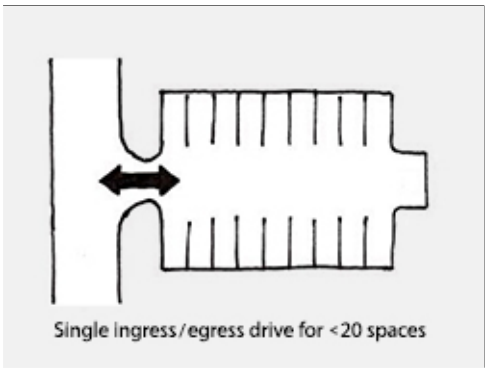
◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 6 Image Sizing and Cropping Tool (small)

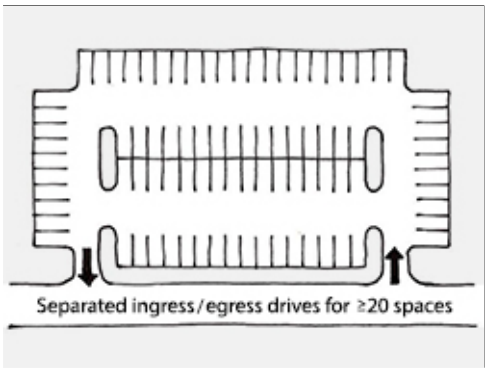

Accessible Parking


Preferred Layout and Striping

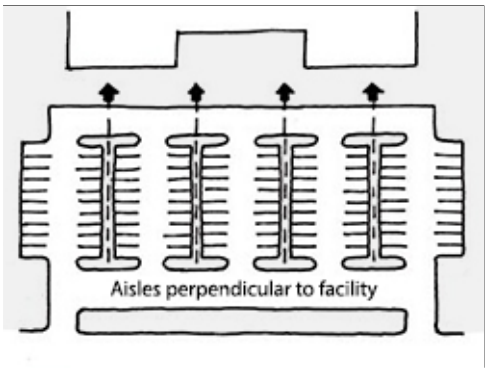

Integrated Landscape Feature



Small Lot Configuration



Large Lot Configuration



Facility Group 1 Configuration

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.

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

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

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

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

7. Cost-effectively provide light-colored concrete to reduce heat island effect; otherwise install asphaltic concrete paving.

8. Consideration locations and requirements of near term and future electric vehicle charging stations.

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

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

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

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

13. Access and service drives should accommodate the largest vehicle serving the facility.

14. Parking lots should be located to maximize sharing with other related facilities.

15. 90-degree spaces and two-way traffic aisles are the desired configuration.

16. Curbing shall be continuous where possible and serve as the wheel stop.

17. Parking lots that promote cross-traffic between parallel streets should be avoided.

18. On-street, head-in parking that would require backing of a vehicle onto any street should not be permitted.

19. Parking and crosswalk striping should follow base standards or the Military Traffic Management Commander Transportation agency (MTMC).

20. Perimeter screen planting shall be encouraged to minimize the visual impact of parking areas.

21. Avoid planting shrubs in islands. Trees are acceptable.

22. Locate lighting poles in center or side islands at least 3 feet from face of curb and their location shall be fully coordinated with landscaping plan.

C03.1.1. Paving and Striping

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

Facility Group 1 paving materials shall be as follows.

Primary:	Asphaltic concrete
Secondary:	Permeable pavers
Accent:	Concrete edging

Facility Group 2 paving materials shall be as follows.

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

Facility Group 3 paving materials shall be as follows.

Primary:	Concrete where operationally required
Secondary:	Asphaltic Concrete
Accent:	N/A

Facility Group 4 paving materials shall be as follows.

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

1. All new parking lots in Groups 1 and 2 shall be constructed of Asphalt

2. Porous paving is not acceptable for JBSA Lackland.

3. Cost-effectively provide light-colored concrete to reduce heat island effect; otherwise install asphaltic concrete paving. Dirt, gravel, and grass lots are not allowed.

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

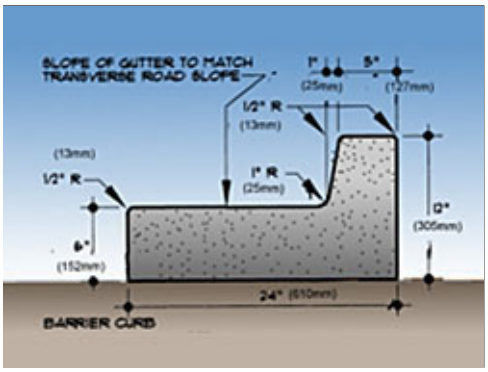
5. All parking shall be marked with white stripes of paint or applied vinyl coatings. Red or yellow markings shall only be used for safety purposes and must be kept to a minimum. All lines shall be four inches (4") wide.

C03.1.2. Curbing

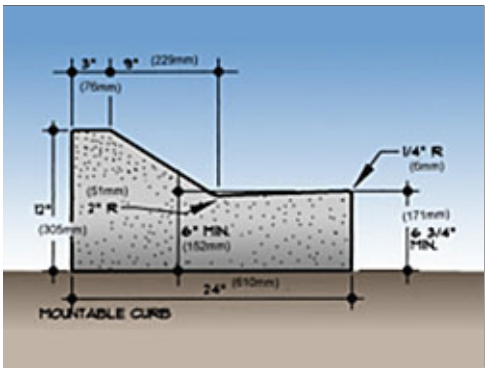
○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

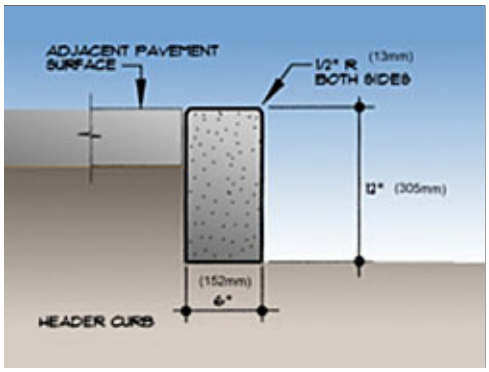
Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Sizing and Cropping Tool (small)



"Barrier" Curb



"Mountable" Curb



Header Curb

Facility Group 1 curbing / edging materials shall be as follows.

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

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

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

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

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

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

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

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

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

3. Wheel stops are not permitted except at locations where car bumpers would hit adjacent items such as poles, signs or people.

C03.1.3. Internal Islands and Medians

◯ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◯ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Install landscape islands and medians as visual breaks, to reduce heat island effects. 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

◯ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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 vegetated areas or plazas.

C03.3. Connectivity

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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.

4. 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:
http://afcfs.wbdg.org/site-development/stormwater-management/index.html

C04.1. Stormwater Requirements

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

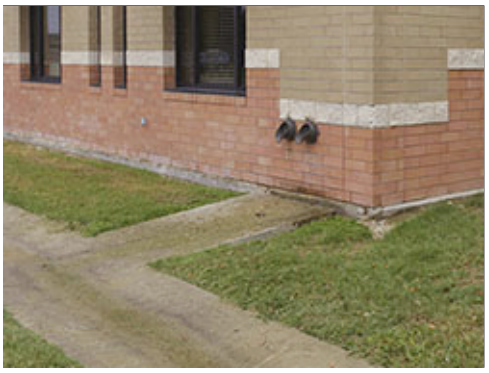
Select number of graphics / images (small: 250 px x 188 px) to insert 6 Image Sizing and Cropping Tool (small)

At-grade Landscape Bed

Groundcover and Rock Mulch

Storm Drainage Inlet

Stormwater Pipe



Roof Drainage Outlet

Trench Drain and Cover

1. Sustainable site design shall include the application of stormwater management strategies. Configure project sites to minimize stormwater runoff where possible.

2. Design all stormwater systems including retention ponds, detention areas, channels, etc. as on-site amenities that are consistent with natural systems and drainage patterns, that help sustain the base landscape with beneficial functionality and that provide aesthetic appeal; coordinate with the base Stormwater Management Plan.

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

4. Install water quality ponds or oil grit separators as surface water runoff filtration systems.

5. Permeable paving may be used in areas that are not subjected to severe freeze-thaw cycles.

6. 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. Cost-effectively integrate stormwater systems with ATFP measures.

C05. SIDEWALKS, BIKEWAYS AND TRAILS

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

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

C05.1. Circulation and Paving

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

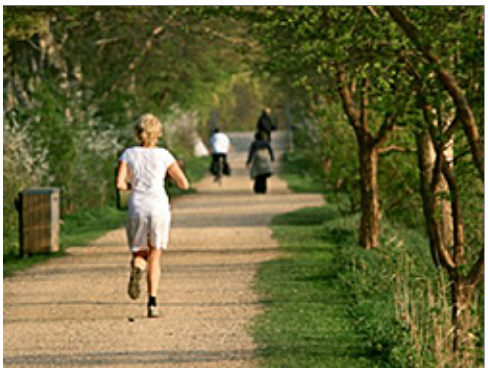
◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 6 Image Sizing and Cropping Tool (small)


Facility Group 1 Entrance Plaza


Decorative Paving at Facility Group 1


Colored Paving


Rock Paving at Trail


Troop Walk Group 2 Paving


Detached Sidewalk at Group 4

Facility Group 1 sidewalks, plazas, and courtyards paving materials shall be as follows.

Primary:	Pervious Pavers or Integrally-colored Concrete
Secondary:	N/A
Accent:	Concrete Edging

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

Primary:	Pervious Pavers or Integrally-colored Concrete
Secondary:	N/A
Accent:	Concrete Edging

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.

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

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

5. Only experienced contractors will install pervious pavements.

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

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

8. Sidewalks leading to a building main entrance and at the interior of parking lots shall be a minimum width of 6'. Only provide a width of 8' when there is a documented requirement. Walks greater than 10' wide may be used at high-density pedestrian areas where documented volumes of traffic justify added material.

9. Where cars park adjacent and head-in to the sidewalk and wheel stops are not used, such perimeter walks shall be increased to a minimum width of 8' to accommodate overhangs of the parked vehicles.

10. Pavers shall conform to the color range of beiges and tans. Bricks used on walks shall typically be 4" x 8" size.

11. 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.

C05.1.1. Ramps and Stairs

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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

C05.1.2. Lighting

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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

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

3. Provide proper lighting at outdoor spaces that are intended for evening use to ensure visibility.

4. Streetscape lighting should be standardized throughout the base to one or two types and styles. Consider both compatibility and durability.

5. Streetscape lighting should be mounted on individual poles, and not on the exterior of facilities.

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

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Sizing and Cropping Tool (small)


Xeric Planting at Group 1


Groundcover Planting


Group 4 Landscape

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

C06.1.1. Landscape Design Concept

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Sizing and Cropping Tool (small)

Flowering Shrub

Transitional Space with Planting Bed

Tree as a Focal Point

1. Create and maintain a well-landscaped image commensurate with a major Air Force Headquarters base. Preserve the existing landscape however for new development emulate the natural character of the area. 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.

6. 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.

7. Return suitable areas to a natural state to minimize and, whenever possible, eliminate ground maintenance requirements.

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

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

10. Consider landscape windbreaks when suitable for the local climate per IFS.

11. Integrate security requirements into the landscape design. Coniferous trees and shrubs greater than 0-6" in height are prohibited within building clear zones. Plants with low growth habit may accent the building architecture. Plant materials will not be allowed adjacent to high security buildings.

12. Streetscape and Intersection Landscaping: Refer to the Installation Elements section.

13. Base Entrance Landscaping: Refer to the Installation Elements section.

14. Use raised planters, plinth walls, or landscaped berms as vehicular barriers.

15. ATFP standards restrict planting near buildings; refer to UFC 4-010-01 for specific guidance.

C06.1.2. Xeriscape Design Principles

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 2 Image Sizing and Cropping Tool (small)

Drought-tolerant Planting

Low Water Requirement

1. Apply xeriscape principles following UFC 3-201-02, Appendix B; 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.

3. Evaluate the view, slope, exposure and soils of the area. Take into account the existing vegetation and topography of the site and intended use. Decide where things will be and what will be done. Most landscapes are best done in phases.

4. Reduce or eliminate high water-use turf areas, and locate them separately so that they may be watered more efficiently, thus can result in significant reductions in water use.

5. The use of organic mulch shall be used when possible to minimize evaporation, reduce weed growth, slow erosion and help prevent soil temperature fluctuations.

C06.1.3. Minimizing Water Requirements

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 2 Image Sizing and Cropping Tool (small)

Tree Planting Zone

Rock Mulch at Trees

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 Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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 approved base plant list. Contact the Base Civil Engineer for the current 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 to as needed to improve plant growth and conserve water.

7. All plant material shall have one-year warranty and is subject to approval by Base Landscape Architect.

8. Deciduous trees planted to the south, east, and west of facilities provide summer shade. As these trees lose their leaves in winter, they allow for solar heat gain.

9. Reference SAWS for additional low water plant requirements.

C06.1.5. Water Budgeting (Hydrozones)

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Provide irrigation systems in new construction to establish plant materials following “Water for Landscaping” in UFC 1-200-02. Note: JBSA is in a hot-humid location with annual precipitation averaging approximately thirty-three (32.9) inches.

2. New buildings shall cost-effectively integrate a grey-water reclamation system, 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.

3. Provide irrigation design following UFC 3-201-02. Install drip irrigation products and components following UFGS Section 32 84 24 Irrigation Sprinkler Systems.

4. 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 Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. At the main gate, reinforce a sense of arrival through a well-designed concentration of landscape elements consistent in visual quality with Facility Group1.

2. Ensure landscaping has seasonal interest with spring and fall color provided by deciduous shade trees. Complement these with evergreen trees and shrubs for winter interest.

3. Typically provide four levels of plants at each gate area:
• Nearest the street, shall be a low ground cover with perennial flower beds or well-manicured turf grass
• Behind this, low shrubs should provide a backdrop
• Ornamental deciduous trees
• Evergreen backdrop shall make up the vertical element at the rear of the planting, located farthest from the street

4. Xeriscape hydrozones and berming (to elevate and formalize plantings) may be used.

5. Integrate base signs whenever feasible.

C06.1.7. Streetscape Landscaping

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Provide landscape designs with plant materials appropriately representing the level of quality of the adjacent Facility Group number.

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

3. Where possible, divide main entrances with landscaped traffic medians between entry and exit lanes.

C06.1.8. Pedestrian Circulation Landscaping

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Provide rest areas along the pedestrian circulation network with human-scaled deciduous shade trees. Define areas with finely textured shrubs.

2. Provide wind breaks where required.

C06.1.9. Parking Lot Landscaping

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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

2. Provide planting islands within parking lots for shade and appeal following IFS and the base stormwater management plan.

3. Perimeter screen planting shall be encouraged to minimize the visual impact of parking areas.

4. Avoid planting shrubs in islands. Trees are acceptable.

5. Locate lighting poles in center or side islands at least 3 feet from face of curb and their location shall be fully coordinated with landscaping plan.

6. Within large parking areas rows shall be divided by a center island. Islands shall contain trees and be at least 8 feet wide.

7. Provide one tree of a type suitable to parking lots for every ten (10) open vehicular parking stalls in lots with fifteen (15) or more stalls.

8. Rain garden/bioswale islands shall be designed with all new parking lots that allow 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.

9. Landscape using, preferably, existing trees and other vegetation to shade walkways, parking lots, and other open areas.

C06.1.10. Screen/Accent Landscaping

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Appropriate landscaping shall surround all freestanding signs. This landscaping shall be designed to enhance the sign without detracting from its communication ability.

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

C06.1.11. Other

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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 Has large graphics to include (800px x 440px)

◉ Applicable ○ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Sizing and Cropping Tool (small)

Prominent Flag Display

Conveniently Located Bike Racks

Functionally Required Lighted Bollards

1. Refer to the following UFCs:

- UFC 4-740-14 Design: Child Development Centers
- UFC 3-201-02 Landscape Architecture
- UFC 4-740-15 Continuous Child Care Facilities
- UFC 4-023-10 Safe Havens

2. 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.

3. 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.

4. Group 1 and 2 site furnishing shall match the exterior of adjacent buildings. Generally match the site furniture of adjacent facilities and the facility district.

5. Install needed outdoor seating (benches and low walls) in public gathering spaces near main and secondary building entrances. Low walls shall match facility architecture.

6. Benches in Groups 1, 2 and 3 shall be of similar style to the adjacent buildings (materials and type). Provide benches in Group 4 and parks.

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

8. Limit the use of bollards, but when necessary for force protection use products that match the style of the building (materials and type) in Groups 1 and 2. Bollards in Group 3; and bollards in Group 4, and parks and trails must conform to UFC 4-022-03 Security Fences and Gates. Illuminated bollards may be used as approved on a case basis. All bollard designs must conform to UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings with Change 1.

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

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

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

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

13. Bus shelters shall be provided only where there is a documented need and when approved on a case basis. Generally design bus shelters in a consistent manner throughout the installation and using similar materials.

14. 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.

15. When visual screening is necessary, consider landscaping as the first option; screen walls are permitted only in Group 1 finished with similar materials and style to the adjacent building.

16. 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.

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

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

19. Provide trash dumpster enclosures for Group 1 with materials and type to match adjacent facilities and for Groups 2 and 3 with materials and type; all gates shall be metal factory finished medium bronze color.

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

21. Group 1, 2 and 3 picnic tables and seating shall be precast concrete similar to benches. Group 4 and recreational areas shall have vinyl-coated steel picnic tables and seating in an open mesh design. Generally limit picnic tables, barbeque grills and drinking fountains to lodging, dormitories, housing areas, parks and recreation areas.

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

23. Provide kiosks only where there is a documented need for visual communication of posted messages. When used, match adjacent facilities in materials and detailing and consolidate kiosks with other site furnishings within 30 feet of major pedestrian paths. Limit kiosks to facility Groups 1 and 3 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.*

C07.2.1. Barbeque Grills

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Charcoal**

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

Mfr: Most Dependable Fountains, Inc.

Color: Natural stainless steel

Finish: Mill

Model #: SS BBQ Grill

Other: Built-in Concrete or masonry, coordinate with Base Architect

UFGS: N/A

C07.2.2. Benches

◉ Applicable ○ N/A Number of base standards 2 Image Sizing and Cropping Tool (small)

Type: **Pre-cast concrete**

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

Mfr: Varies

Color: Natural Beige

Finish: Standard Finish (Smooth)

Model #: Rectangular design

Other: N/A

UFGS: N/A

Type: **Hardwood**

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

Mfr: Varies

Color: Natural Teak / Stainless Steel

Finish: Oiled Wood / Mil/ Finish Frame

Model #: N/A

Other: N/A

UFGS: N/A

C07.2.3. Bike Racks

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Surface Mount Round Tube**

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

Mfr: Belson Outdoors, LLC

Color: Stainless Steel

Finish: Mill

Model #: CBBR-2CR-SS

Other: Circular Bike Racks

UFGS: N/A

C07.2.4. Bike Lockers

○ Applicable ◉ N/A

C07.2.5. Bollards

◉ Applicable ○ N/A Number of base standards 2 Image Sizing and Cropping Tool (small)

Type: **Lighted Round Dome Top**

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

Mfr: Lithonia Lighting Products

Color: Dark Bronze

Finish: Anodized aluminum

Model #: KBA

Other: Flared cone, 3000K LED Lamp

UFGS: N/A

Type: **Lighted Square Sloped Top**

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

Mfr: Kim Lighting

Color: Platinum Silver

Finish: Anodized aluminum

Model #: VSB1 Square

Other: 3000K LED Lamp, 360° downlighting

UFGS: N/A

C07.2.6. Bus Shelters

◉ Applicable ○ N/A Number of base standards 2 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Custom

Color: Beige brick / dark bronze metal

Finish: Face brick / powder coated metal

Model #: Gable roof

Other: Provide concrete slab and 2 brick benches with a precast seat

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

Type: **Style 2**

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

Mfr: Custom

Color: Beige brick / medium bronze metal

Finish: Face brick / powder coated metal

Model #: Gable roof

Other: Provide concrete slab and 2 brick benches with a precast seat

UFGS: N/A

C07.2.7. Drinking Fountains

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Pedestal**

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

Mfr: Most Dependable Fountains, Inc.

Color: Stainless steel

Finish: Mill

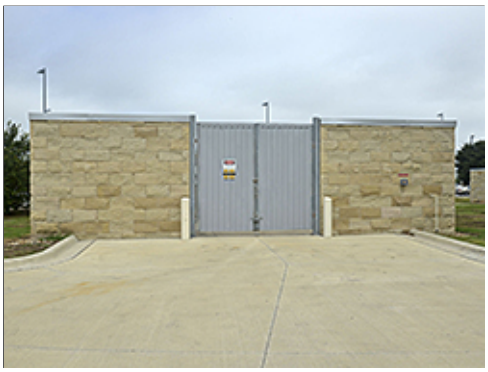
Model #: MDF 440 SMSS

Other: Park locations, Accessible

UFGS: N/A

C07.2.8. Dumpster Enclosures / Gates

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)



Type: **Style 1**

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

Mfr: Varies

Color: Beige walls, silver gates

Finish: Clear-sealed masonry, galvanized steel gates

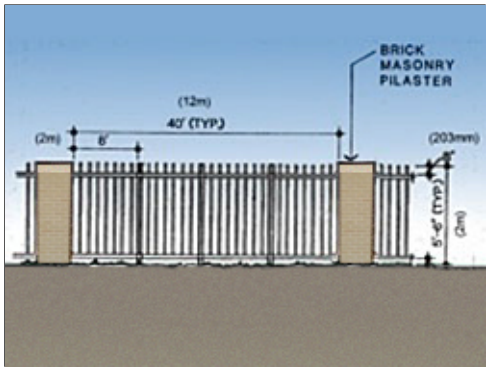
Model #: Coursed masonry, slatted or fluted steel sheeting

Other: Stone is only permitted for walls in Group 1. Walls in Group 2 may be brick or concrete block; Group 3 may be concrete block or cast-in-place concrete.

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

C07.2.9. Fencing

◉ Applicable ○ N/A Number of base standards 4 Image Sizing and Cropping Tool (small)



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

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

Mfr: Custom

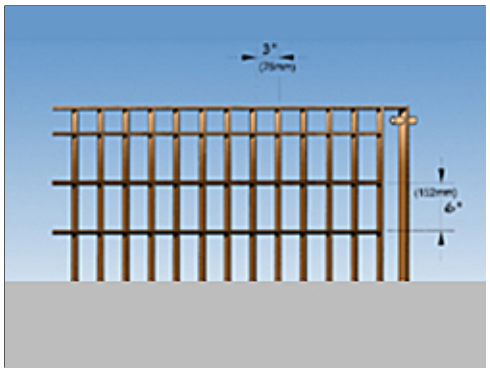
Color: Beige brick / dark brown metal

Finish: Face brick, powder coated galvanized metal

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

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

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



Type: **Style B Barrier: High security, medium visibility**

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

Mfr: Custom

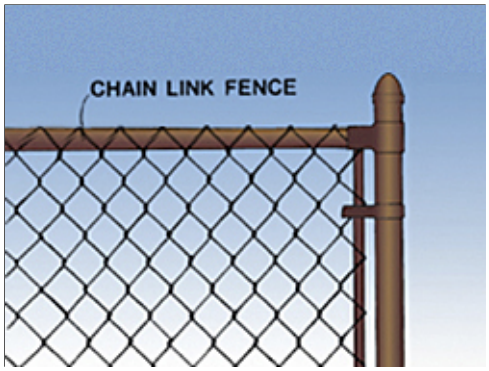
Color: Dark brown

Finish: Powder coating over galvanized steel

Model #: Steel posts, rails and pickets (vertical, angular bent inward at top)

Other: Posts, rails, and pickets in heights, lengths and gauges as required

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



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

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

Mfr: General Wire Co.

Color: Dark brown

Finish: Powder coated over galvanized steel

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

Other: N/A

UFGS: Section 32 31 13 Chain Link Fences and Gates

Type: **Style D Barrier: Low security, medium visibility**

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

Mfr: James Hardie Building Products, Inc.

Color: Earth Tones

Finish: Factory

Model #: Post and rail with vertical boards

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

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

C07.2.10. Flagpoles

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **1**

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

Mfr: Eder Flag

Color: Natural aluminum

Finish: Satin Lustre

Model #: ECL30 IH, 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 1 Image Sizing and Cropping Tool (small)

Type: **Style 1: Metal**

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

Mfr: Wabash Valley

Color: Charcoal or medium bronze as approved

Finish: Perforated pattern

Model #: Urbanscape “E” with liner, 32 Gallon

Other: Flat top, without side door

UFGS: N/A

C07.2.13. Picnic Tables

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Metal, vinyl coated**

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

Mfr: Wabash Valley

Color: Brown or as approved

Finish: Factory vinyl coated

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

Other: Perforated Pattern. Provide only in covered, shaded areas. In-ground mount.

UFGS: N/A

C07.2.14. Planters

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Custom Brick masonry**

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

Mfr: Varies

Color: Beige or Light Red to match adjacent buildings

Finish: Face brick or stone to match adjacent buildings

Model #: Running Bond

Other: Precast concrete coping

UFGS: Section 04 20 00 Unit Masonry

C07.2.15. Play Equipment

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Steel**

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

Mfr: Little Tikes Commercial

Color: Varies

Finish: Powdercoated steel

Model #: N-R-G Freestyle

Other: Coordinate with Base Architect

UFGS: N/A

C07.2.16. Screen Walls

◉ Applicable ○ N/A Number of base standards 3 Image Sizing and Cropping Tool (small)

Type: **Brick or natural stone as approved**

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

Mfr: Custom

Color: Beige or Light Red to match adjacent buildings

Finish: Face brick or ashlar

Model #: Running bond pattern

Other: Precast or metal coping to match adjacent buildings

UFGS: Section 04 20 00 Unit Masonry

Type: **Brick / concrete block as approved**

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

Mfr: Custom

Color: Medium to light beige to match adjacent buildings

Finish: Clear sealer

Model #: Running bond

Other: N/A

UFGS: Section 04 20 00 Unit Masonry

Type: **Cementitious Board**

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

Mfr: James Hardie Building Products, Inc.

Color: Earth Tones

Finish: Wood textured

Model #: Hardie Plank, Vertical boards

Other: Match adjacent building

UFGS: SECTION 074646 Fiber Cement Siding

C07.2.17. Tree Grates

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Cast Iron**

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

Mfr: Neenah Enterprises, Inc.

Color: Natural cast iron

Finish: Cast

Model #: 2-Piece, Round or square

Other: N/A

UFGS: N/A

C07.2.18. Other

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1 Mail Kiosk**

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

Mfr: Custom

Color: Beige / Dark Brown

Finish: Brick / Composition Shingle Roof

Model #: Hip Roof

Other: N/A

UFGS: 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 Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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

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

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

4. Provide only one freestanding Building Identification Sign for facility. Typically provide “Primary” signs for Group 1, ”Secondary” signs for Group , and “Tertiary” signs for Group 3 and recreational areas following UFC 3-120-01.

5. Use clear concise terms for content on all sign types consistent with UFC 3-120-01.

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

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

8. 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.

9. 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.

10. 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.

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

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

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

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

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

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

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

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

C08.1.1. Materials and Color Specifications

○ Applicable ◉ N/A Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

1. Fabricate sign panels from flat aluminum sheet, minimum 12 gauge for durability, that are removable for easy replacement. Provide extruded aluminum, square posts with flat capped top ends and set on a concrete base. Use medium brown sign faces and dark bronze posts in all applications.

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

3. Sign posts and panel sizes must be engineered by the sign contractor according to the wind loads and other requirements at each installation.

4. 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

◉ Applicable ○ N/A Number of base standards 3 Image Sizing and Cropping Tool (small)

Type: **Typical Sign Face**

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

Mfr: Custom

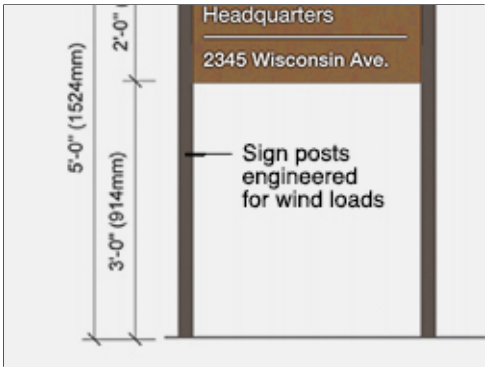
Color: Medium brown background, white lettering

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

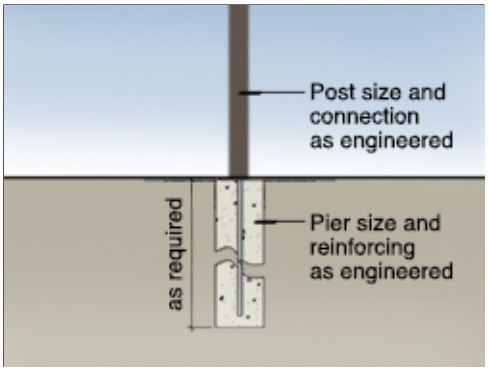
Color: Dark bronze, powder coat finish

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**

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

Mfr: Custom

Color: Natural Gray

Finish: Sonotube-formed

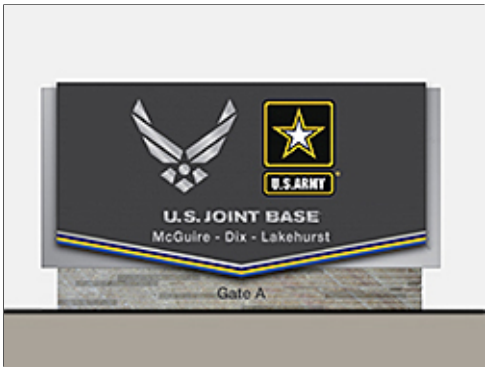
Model #: 24” height x 12” diameter, as engineered.

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

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

C08.1.2. Installation and Gate Identification Signs

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)



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

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

Mfr: Custom

Color: Dark bronze, brushed aluminum, accents per UFC

Finish: Powder coat or vinyl sign face

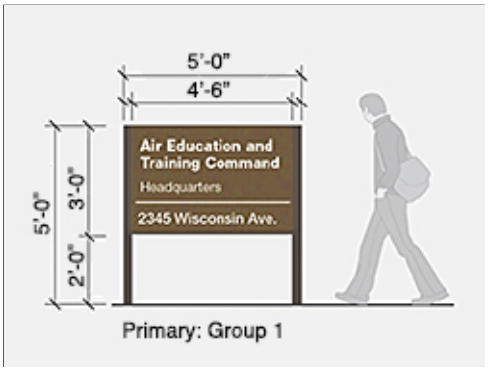
Model #: Metal frame and panels, buff stone base

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

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

C08.1.3. Building Identification Signs

◉ Applicable ○ N/A Number of base standards 5 Image Sizing and Cropping Tool (small)



Type: **Freestanding Primary Sign (Sizes and Uses per UFC)**

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

Mfr: Custom

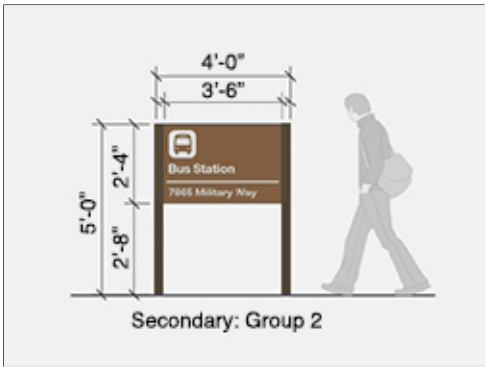
Color: Medium brown face, dark bronze posts, white vinyl lettering

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

Other: Provide layout and sizes per UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Freestanding Secondary Sign (Sizes and Uses per UFC)**

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

Mfr: Custom

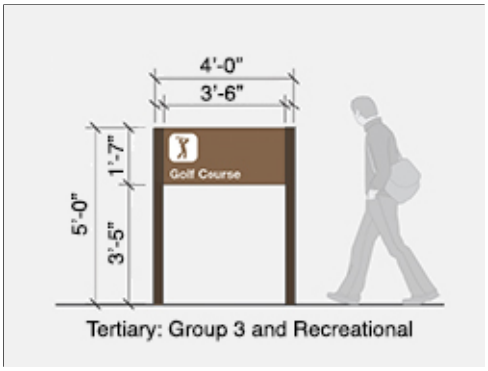
Color: Medium brown face, dark bronze posts, white vinyl lettering

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

Other: Provide layout and sizes per UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Freestanding Tertiary Sign (Sizes and Uses per UFC)**

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

Mfr: Custom

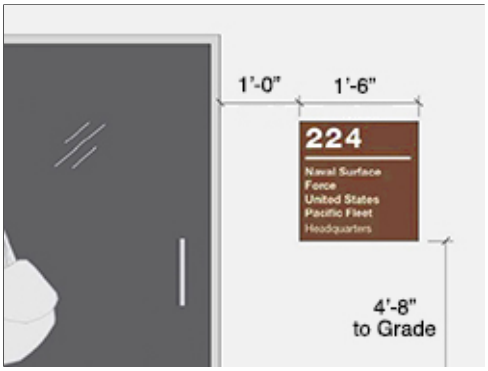
Color: Medium brown face, dark bronze posts, white vinyl lettering

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

Other: Provide layout and sizes per UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Wall Mounted**

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

Mfr: Custom

Color: Medium brown, white lettering

Finish: Satin vinyl applied to aluminum sheet

Model #: Aluminum sheet with vinyl face and vinyl lettering

Other: Provide layout and sizes following UFC.

UFGS:

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 Image Sizing and Cropping Tool (small)

Type: **Street Signs**

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

Mfr: Custom

Color: White reflective lettering on a medium brown background

Finish: Powder coat or vinyl sign face, vinyl lettering

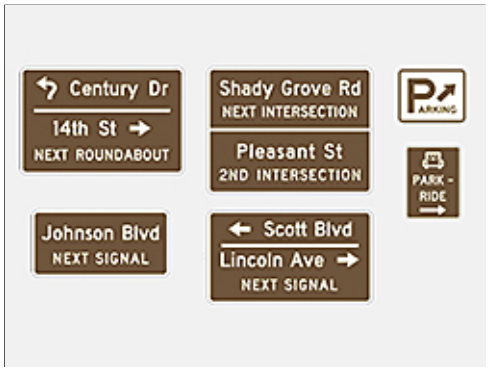
Model #: Aluminum sign face, control arm or pole mounted

Other: Mount 7' above grade minimum, pictographs and logos are prohibited on street name signs per UFC.

UFGS: N/A

C08.1.5. Directional and Wayfinding Signs

◉ Applicable ○ N/A Number of base standards 2 Image Sizing and Cropping Tool (small)



Type: **Vehicular**

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

Mfr: Custom

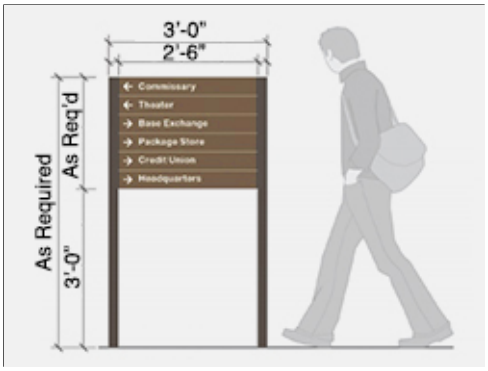
Color: Medium brown face, dark bronze posts, white reflective lettering

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 Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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 colors as specified in UFC 3-120-01.

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 Has large graphics to include (800px x 440px)

○ Applicable ◉ N/A Has small graphics to include (250px x 188px)

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

1. 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.

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

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

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 Has large graphics to include (800px x 440px)

◉ Applicable ◯ N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Sizing and Cropping Tool (small)

Indirect Lighting

Indirect Shield

Secondary Entrance Lighting

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

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

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

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

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

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

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

8. Wall mounted fixtures should respond to the architectural character of the facility.

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

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

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

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

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

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

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

16. Landscape accent lighting may be use 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.

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

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Hubbell, Kim Lighting

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

Finish: 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

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Hubbell, Kim Lighting

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

Finish: Factory

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

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

UFGS: N/A

C09.2.3. Lighted Bollards

◉ Applicable ○ N/A Number of base standards 2 Image Sizing and Cropping Tool (small)

Type: **Lighted Round Dome Top**

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

Mfr: Lithonia Lighting Products

Color: Dark Bronze

Finish: Anodized aluminum

Model #: KBA

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

UFGS: N/A

Type: **Lighted Square Sloped Top**

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

Mfr: Kim Lighting

Color: Platinum Silver

Finish: Anodized aluminum

Model #: VSB1 Square

Other: 3000K LED Lamp, 360° downlighting

UFGS: N/A

C09.2.4. Sidewalk Lighting

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Indirect Post Top**

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

Mfr: Hubbell, Kim Lighting

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

Finish: Anodized aluminum

Model #: Ouro Post Top

Other: 3000K LED Lamp, indirect fixture

UFGS: N/A

C09.2.5. Walls / Stairs Lighting

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Recessed**

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

Mfr: Vista Lighting

Color: Dark bronze anodized

Finish: Anodized aluminum

Model #: 4246 Recessed step and brick wall light, rectangular louvered

Other: Lamp: LED

UFGS: N/A

C09.2.6. Other

○ Applicable ◉ N/A

D. FACILITIES EXTERIORS

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

D01. SUPPORTING THE MISSION

Comply with AF Corporate Standards for Supporting the Mission:
http://afcfs.wbdg.org/facilities-exteriors/supporting-the-mission/index.html

D02. SUSTAINABILITY

Comply with Air Force Corporate Standards for Sustainability:
http://afcfs.wbdg.org/facilities-exteriors/supporting-the-mission/index.html

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.

Image Sizing and Cropping Tool (small)

Group 1



Group 2



Group 3



Group 4



D03.1. Orientation, Massing and Scale

1. Orient new buildings to maximize energy efficiency, passive solar and daylighting potential of the building; narrow buildings oriented with the long edge facing south (with shading systems provided) are preferred to minimize heat gain in the summer months and maximize heat gain in the winter months resulting in less overall energy usage.

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

3. Generally match the massing, scale and form of adjacent facilities in new construction.

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. Modulate forms, articulate facade compositions and vary color of massive buildings with relief and textural detailing to visually reduce the scale. Compatibly blend designs of large buildings with the surrounding structures.

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

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

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

D03.2. Architectural Character

1. Develop architectural features, materials and detailing appropriate for the Facility Group designation. Refer to Building Entrances, Wall Systems and Roof Systems.

2. Respond to the local climate and regional influences with environmentally functional architectural features to provide shading and protection from rain and winds.

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

4. Design buildings with an architectural language that matches the existing established visual districts.

5. Reinforce the campus environment and educational theme with a related architectural theme expressive of innovation and technology that represents the current Air Force Training and Education Command mission.

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

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

D03.3. Details and Color

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

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

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

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

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

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

7. Exterior appurtenances should match the color they are set against, i.e. roof penetrations shall match the roof color, and items attached to or adjacent to walls should match the wall color.

8. Downspouts should be visually integrated into the facility architecture. They should be specified to match or blend with the color of the adjacent wall material.

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:

Other:

Facility: Narrow buildings along E-W axis preferred

Wall: Integral shading features and devices

Doors: Recessed

Windows: Shade all windows, maximize windows on south facades with shading

Roof: High to medium albedo, minimal to moderate slope

Structure: Wood & metal joist or masonry with appropriate cladding

MEP: Ground-source and solar photovoltaic. Apply sustainable strategies when feasible and economical following LCCA.

Other: Foundations may use mechanically controlled crawl spaces. North-facing windows may use vertical shading devices.

Other: Internal thermal mass walls may be used for cooling 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

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1 Aluminum Windows**

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

Mfr: Kawneer (or equivalent)

Color: Clear or Medium Bronze

Finish: Anodized

Model #: 2x4, slider or awning type

Other: Provide thermally broken frames.

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

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D03.3.3. Thermal Mass

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1 Interior Wall Material**

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

Mfr: TBD

Color: Beige

Finish: Heavy to light texture

Model #: Coursed unit masonry

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

UFGS: Section 04 20 00 Unit Masonry

D03.3.4. Thermal Shading

◉ Applicable ○ N/A Number of base standards 2 Image Sizing and Cropping Tool (small)

Type:

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

Mfr: Kawneer (or equivalent)

Color: Silver, white or medium brown as approved by BCE

Finish: Factory to match frames

Model #: Louver

Other: Shading devices may be attached to frames. Shading devices may be attached to structure.

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

Type: **Style 2 Wall Devices**

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

Mfr: Steelcraft (or equivalent)

Color: Medium Brown

Finish: Factory powder coated to match frames

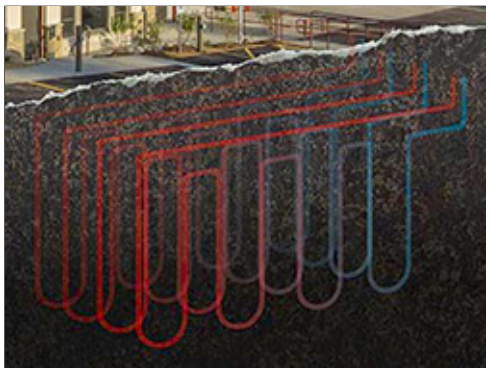
Model #: Louver

Other: Shading devices may be attached to frames. Shading devices may be attached to structure.

UFGS: Section 08 11 13 Steel Doors and Frames

D03.3.5. Renewable Heating/Cooling

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)



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

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

Mfr: Climate Master

Color: N/A

Finish: N/A

Model #: Heat Exchanger (Cooling)

Other: Vertical ground loop well field

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

D03.3.6. Solar Photovoltaic System

○ Applicable ◉ N/A

D03.3.7. Solar Thermal System

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Varies

Color: Dark Bronze

Finish: Factory

Model #: Flat Panel

Other: Ground mount, wall mount or roof mount

UFGS: Section 48 14 13.00 20 Solar Liquid Flat Plate and Evac. 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:
http://afcfs.wbdg.org/facilities-exteriors/building-entrances/index.html

Insert 3 photos for each facility group.

Image Sizing and Cropping Tool (small)

Group 1



Group 2



Group 3



Group 4



D04.1. Primary Entrances

1. Emphasize the primary entrance in all Building Groups (1-3) The overall building design shall have a projecting or recessed covering for weather protection following Installation Facilities Standards (IFS).

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

3. Express primary building entrances as the focal point of the facade and align these with pedestrian access points. Ensure building entrances are obvious to the pedestrian.

4. Covered porches should be provided at the entrance to Group 4 family housing units.

5. Ensure west-facing entrances provide shading for doors.

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

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

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

9. Install appropriate lighting and site furniture following AT/FP and IFS.

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

11. If the primary entrance makes use of a flag display, ensure that designs follow all applicable flag regulations and standards.

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. Provide entries in Groups 1, 2, and 3 with a covered canopy. Size and will vary by design and requirements.

3. If the secondary access serves as a handicapped entrance this must be designed and constructed in accordance with all applicable codes and regulations.

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

5. Secondary entrance shall be provided with sidewalks or paved walkways, designed in accordance with all applicable codes and regulations.

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

7. ntegrate 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.

8. Incorporate egress structures such as stair towers and unique loading ramps into the overall facility design.

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

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

11. Loading areas must be properly marked and labeled per base sign standards. Areas must be well 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:
http://afcfs.wbdg.org/facilities-exteriors/wall-systems/index.html

Comply with AFCFS Recommended Materials:
http://afcfs.wbdg.org/facilities-exteriors/wall-systems/materials/index.html

Insert 3 photos for each facility group.

Image Sizing and Cropping Tool (small)

Group 1



Group 2



Group 3



Group 4



D05.1. Hierarchy of Materials

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

2. Group 1 and 2 facilities shall be predominantly of brick with secondary areas of flat metal panels; brick with accents of architectural precast or split faced concrete block may be used also. Ribbed metal sheeting is acceptable for Group 3 facilities and inconspicuous areas of Group 2 facilities. Refer to the Appendix for special requirements of Facility Districts.

3. Group 4 shall match the materials in Frank Tejeda Estates. Provide a combination of two of the following materials: brick, stucco, and horizontal siding.

4. Multi-story Group 1 facilities may include a transition in material, color or detailing to create a visual base. Generally limit brick to a single color on Group 2, 3 and 4 facilities. Apply unique requirements for each Facility District in the appendix.

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

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

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

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

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.

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

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

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

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

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

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

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

D05.3. Equipment, Vents and Devices

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

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

3. Avoid visual clutter and where surface-mounted elements are required they shall match the wall color.

D05.4 Wall Systems Materials

Facility Group 1 wall materials shall be as follows.

Primary:	Brick or natural stone as approved
Secondary:	Metal panels or natural stone or arch. precast
Accent:	Optional: concrete masonry units

Facility Group 2 wall materials shall be as follows.

Primary:	Brick or concrete masonry units (CMU)
Secondary:	Metal panels or architectural precast
Accent:	Optional: (with CMU) alternate color of CMU

Facility Group 3 wall materials shall be as follows.

Primary:	Ribbed metal sheeting
Secondary:	Ribbed metal sht. in alt. color or brick or CMU
Accent:	Optional: Brick

Facility Group 4 wall materials shall be as follows.

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

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

D05.4.1. Flat Metal Panels

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Dry System**

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

Mfr: Alucobond

Model #: Rainscreen I

Color: Anodic Clear Mica PVDF 2

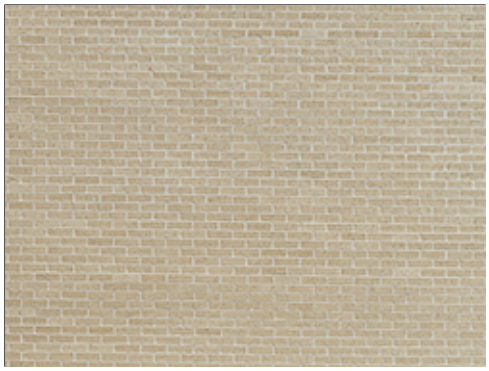
Finish: Factory

Other: Route and Return Dry Seal

UFGS: Section 07 42 13 Metal Wall Panels:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 13.pdf
Section 07 42 63 Fabricated Wall Panel Assemblies:
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 Image Sizing and Cropping Tool (small)



Type: **Modular Face Brick**

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

Mfr: Meridian Brick

Model #: Bessemer Collection

Color: Match Elgin Butler #6910

Finish: Straight Edges, smooth texture

Other: Nominal size: 4x8x2.6

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

D05.4.3. Architectural Precast

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Panel System**

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

Mfr: Redondo Manufacturing

Model #: Panel

Color: Light, medium and dark beige

Finish: Medium to 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

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Portland Cement Stucco**

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

Mfr: El Rey

Model #: 3-Coat cementitious system

Color: Beige

Finish: Sand

Other: N/A

UFGS: Section 09 24 23 Cement Stucco:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 24 23.pdf

D05.4.5. Curtain Wall

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Rain Screen**

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

Mfr: Kawneer

Model #: 1600 Wall System

Color: Clear Annodized / Solex Green

Finish: Factory

Other: N/A

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

○ Applicable ◉ N/A

D05.4.7. Tilt-Up Concrete

○ Applicable ◉ N/A

D05.4.8. Ribbed Metal Sheeting

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Flush Seam**

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

Mfr: Berridge

Model #: Flush Seam Panel

Color: Beige

Finish: Embossed Texture, factory finished

Other: 24 Gauge Steel

UFGS: Section 07 42 13 Metal Wall Panels:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 13.pdf

D05.4.9. EFIS

◯ Applicable ◉ N/A

D05.4.10. GRFC

◯ Applicable ◉ N/A

D05.4.11. Concrete Block

◉ Applicable ◯ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Concrete Masonry Unit (CMU)**

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

Mfr: Featherlite

Model #: Converse, running bond

Color: Beige (Alamo Chaulk or Similar), optional: dark beige accents

Finish: Ground face or split face

Other: N/A

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

D05.4.12. Fiber Cement Siding

◉ Applicable ◯ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: James Hardie Building Products, Inc.

Model #: Horizontal Lap Siding, Shingle Siding

Color: Earth Tones

Finish: Wood Texture

Other: Hardie Plank, Hardie Shingle

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

D05.4.13. Other

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Natural Stone**

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

Mfr: Acme Brick and Stone

Model #: Ledgestone

Color: Light Buff

Finish: Light Rusticated

Other: Nominal size: varies, compatible with brick masonry coursing

UFGS: SECTION 04 20 00 Unit Masonry

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:
http://afcfs.wbdg.org/facilities-exteriors/doors-and-windows/index.html

Comply with AFCFS Recommended Materials:
http://afcfs.wbdg.org/facilities-exteriors/doors-and-windows/materials/index.html

Insert 3 photos for each facility group.

Image Sizing and Cropping Tool (small)

Group 1



Group 2


Group 3



Group 4



D06.1. Types

1. Dark brown anodized aluminum doors, windows and frames with thermal breaks are preferred for Facility Groups 1-3; match the color of the door and frame. For renovation projects the color of new windows, doors and frames may match the existing ones.

2. Window and doorframe should have a complementary accent color; usually tan, gray or a lighter shade of the wall color.

3. Exteriors doors can be either aluminum or steel. Aluminum storefront doors should match the windows. Steel doors should blend with the surrounding wall color.

4. Aluminum clad wood windows may be used for Facility Group 4.

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

6. Automatic doors are allowed only where functionally necessary.

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

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

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

10. Windows must meet force protection requirements.

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

D06.2. Layout and Geometry

1. Visually and functionally compose openings in walls for the climate-specific exposure.

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

3. Window placement should relate to internal areas. Mullion spacing should provide a good module for internal layout of office space, entrances, common use areas, etc.

4. Locate windows to overlook exterior pedestrian areas or landscaped grounds.

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

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

7. Large service or garage doors shall be carefully screened from entries and areas of frequent circulation.

8. With the exception of large buildings, oversized fenestration elements, which create a monumental scale, should be avoided.

D06.3. Glazing and Shading

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

2. Glazing should be designed to be shaded from the summer sun on the south, east, and west sides of each building.

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

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

5. Do not use mirrored glazing.

6. When possible fully integrate applicable shading designs for overhangs, louvers, light shelves and grilles. Consider the use of building forms for shading.

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

D06.4. Hardware

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

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

3. Select finishes that will not degrade by intensity of operation or exposure to the elements.

4. Use consistent finishes and color on window and door systems throughout a facility. For renovation projects the color of new hardware may match the existing hardware.

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

6. Coordinate installation of locks and cores with the base locksmith.

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

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Anodized Aluminum Doors, Windows and Frames**

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

Mfr: Kawneer (or equivalent)

Color: Dark Brown Anodized

Finish: Matte

Model #: 2x4

Other: Provide thermally broken frames

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

D06.5.2. Hollow Metal

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Hollow Metal Doors, Windows and Frames**

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

Mfr: Steelcraft (or equivalent)

Color: Dark Brown Powder Coated

Finish: Satin

Model #: 2x4 frame

Other: Provide thermally broken frames

UFGS: Section 08 11 13 Steel Doors and Frames:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 11 13.pdf

D06.5.3. Aluminum-clad Wood

○ Applicable ◉ N/A

D06.5.4. Other

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Aluminum Residential**

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

Mfr: Marvin

Color: White or Earth tones

Finish: Powder coated satin

Model #: Aluminum framed windows

Other: Double hung

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:
http://afcfs.wbdg.org/facilities-exteriors/roof-systems/index.html

Comply with AFCFS Recommended Materials:
http://afcfs.wbdg.org/facilities-exteriors/roof-systems/materials/index.html

Insert 3 photos for each facility group.

Image Sizing and Cropping Tool (small)

Group 1



Group 2



Group 3



Group 4



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 in new construction match the roof type and form (shed, hip or gable) of existing adjacent facilities.

3. Group 1 and 2 buildings shall use low-sloped standing seam metal roofs. Minimal-slope "flat" membrane roofs may be used as approved on a case basis.

4. Provide screens for roof-mounted appendages and equipment of the same materials, which are used predominantly in the building's roof systems.

5. Roof translucent panels are permitted only for Group 3 such as warehouses and industrial settings but not any office or administrative space.

6. Group 2 and 3 facilities under 5,000 sf and narrow in plan geometry, may use low-sloped shed, gabled or hipped standing seam metal roofs. Larger facilities may use sloped-roof features in conjunction with predominantly minimal-slope "flat" membrane roofs. Design parapets as part of the wall system and roof system.

7. Group 4 facilities (Family Housing) shall have gabled or hipped composite shingle roofs; shingles are not permitted for Group 2 dormitories.

8. Roof eaves shall extend beyond the exterior wall for roof drainage and shading. Provide overhangs for shading in response to local climatic conditions, sized and proportioned to the height of the facility and to the window openings being shaded. Minimal-sloped "flat" membrane roofs shall have roof eaves that extend 6" to allow for drainage.

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. Standing seam metal roofs will have gutters & exterior perimeter drainage, at no time will gutter systems will be located within the building walls or columns.

12. Diminish massive roofs into coordinated smaller 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. Minimal-sloped "flat" membrane roofs shall have exterior perimeter roof drainage, gutters, and downspouts.

D07.2. Roof Slope

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

2. Low-sloped roofs are allowed for larger structures or to match existing conditions on renovation projects. Minimal-sloped roofs may also be used for Group 3 facilities in high-visibility areas.

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

4. Ensure adequate drainage, and connect to the subsurface rain collection system where available. All drainage shall fall away from the facility, all drainage shall have proper sloping to provide drainage away from building to prevent foundation damage.

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

6. Provide underlayment material as required for the roofing type as directed by the applicable UFCs.

D07.3. Parapets and Copings

1. Extend wall materials vertically above the roof line and provide metal copings to match the wall. Ensure copings are properly flashed and detailed to avoid roof leaks. Ensure that vertically applied material is properly supported within the cap and parapet substrate.

D07.4. Color and Reflectivity

1. Sloped roofs in Groups 1 and 2 and smaller facilities in Group 3 shall be factory finished medium bronze to match adjacent facilities and follow requirements of IFS.

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

3. Sloped roofs in Group 4 shall be integrally colored earth tones unless directed otherwise by base management for energy efficiency.

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 and finish 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. Do not use concealed gutters of interior leaders to avoid potential leakage.

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

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

4. Size the roof drainage system per IBC and SMACNA for the region unless otherwise specified by base management on certain conditions.

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. All downspout tubing shall be secured with a welded or soldered connection.

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).

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

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 benefical.

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

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 visually screened with materials matching the building's roof system.

4. Provide access points and service routes to equipment that protect the roof. Provide walkway mats along the service route so that roofs are not damaged by walking of service people.

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 unless these are integrated with the roofing design.

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. All LPS systems shall be certified by a licensed Lightning Protection Inspector.

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 to a roof with a slope above 3:12 per UFC 3-110-03.

D07.7. Clerestories and Skylights

1. Clerestories and skylights are permitted in Group 1 facilities. These are allowed in Group 3 facilities only when serving passive systems and are justifiable by life cycle analysis.

2. Clerestories are preferred to skylights to avoid roof penetrations. Skylights, when permitted, must be simple in shape and integrated with the roof system to eliminate leakage. Both shall be flashed in accordance to manufacturer's recommendation.

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

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

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

6. Skylights shall be installed at the highest point of the roof.

D07.8. Vegetated Roof

1. Vegetated roofing is permitted for Group 1 medical facilities on a case basis by the Base Civil Engineer.

D07.9. Roof Systems Materials

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

D07.9.1. Standing Seam Metal

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Berridge

Color: Medium Bronze

Finish: Matte

Model #: Tee-Panel

Other: Shed, gabled or hipped standing seam metal

UFGS: Section 07 61 14 Steel Standing Seam Roofing
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 61 14.00 20.pdf

D07.9.2. Membrane Single-ply

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Carlisle Systems

Color: Off-white

Finish: Smooth

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

Other: N/A

UFGS: Section 07 53 23 Ethylene-Propylene-Diene-Monomer Roofing
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 53 23.pdf
Section 07 54 50 TPO Thermoplastic Single-Ply Roofing
(Not Available on UFGS)

D07.9.3. Built-up Multi-ply

○ Applicable ◉ N/A

D07.9.4. Concrete Tile

○ Applicable ◉ N/A

D07.9.5. Clay Tile

○ Applicable ◉ N/A

D07.9.6. Slate Shingles

○ Applicable ◉ N/A

D07.9.7. Vegetated System

○ Applicable ◉ N/A

D07.9.8. Ribbed Metal Sheeting

○ Applicable ◉ N/A

D07.9.9. Composite Shingles

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Tamko

Color: Earth Tones

Finish: Factory

Model #: Heritage

Other: Gabled or hipped with transverse gable or hipped features

UFGS: Section 07 31 13 Glass-fiber-reinforced Asphalt Shingles
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 31 13.pdf

D07.9.10. Other

○ Applicable ◉ N/A

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:
http://afcfs.wbdg.org/facilities-exteriors/structural-systems/index.html

Comply with AFCFS Recommended Materials:
http://afcfs.wbdg.org/facilities-exteriors/structural-systems/materials/index.html

Insert 3 photos for each facility group.

Image Sizing and Cropping Tool (small)

Group 1



Group 2



Group 3



Group 4



D08.1. Systems and Layouts

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

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

3. Wood framing or light-gauge steel framing shall be used for Group 4.

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 provide an organized appearance and coordinate with mechanical, electrical, plumbing, fire protection, information technology, and communications systems.

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

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

D08.2. Structural Systems Materials

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

D08.2.1. Concrete

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Varies

Color: Natural Gray

Finish: Light texture

Model #: Post and beam, waffle slab

Other: N/A

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

D08.2.2. Insulated Concrete Forming (ICF)

○ Applicable ◉ N/A

D08.2.3. Steel

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Rigid Framing**

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

Mfr: US Steel

Color: Shop primed

Finish: Matte

Model #: Structural steel shapes

Other: N/A

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

D08.2.4. Pre-Engineered Steel

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Moment Frame**

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

Mfr: Behlen Building Systems

Color: Factory primed

Finish: Matte

Model #: Moment Frame

Other: Draped insulation may be used behind wall system; Behlen standing seam roof system may be used for Group 3.

UFGS: Section 13 12 00 Steel Building Systems
(Not Available on UFGS)
Section 13 34 19 Metal Building Systems
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 13 34 19.pdf

D08.2.5. Masonry

○ Applicable ◉ N/A

D08.2.6. Heavy Timber

○ Applicable ◉ N/A

D08.2.7. Light-gauge Steel

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Steelrite

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

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type:

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

Mfr: Boise Cascade Wood Products

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
Section 06 11 00 Wood Framing and Sheathing
(Not Available on UFGS)

D08.2.9. Other

◯ Applicable ◉ N/A

D09. MECHANICAL, ELECTRICAL AND PLUMBING

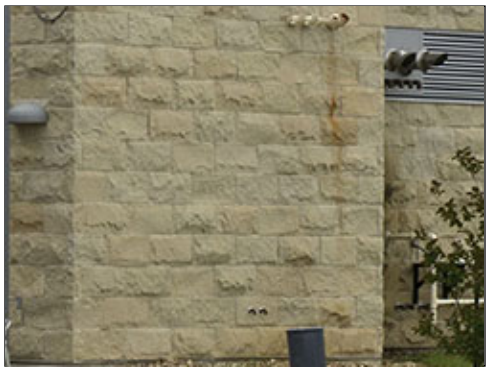
Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Mechanical, Electrical and Plumbing:
http://afcfs.wbdg.org/facilities-exteriors/machanical-electrical-and-plumbing/index.html

Insert 3 photos for each facility group.

Image Sizing and Cropping Tool (small)

Group 1



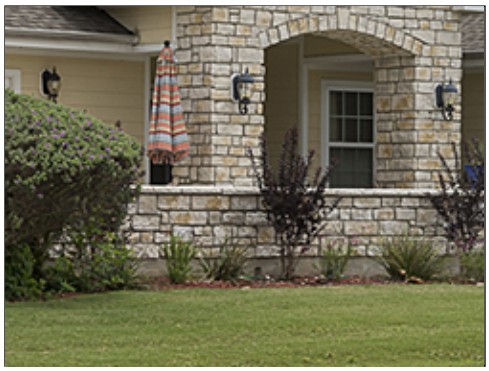
Group 2



Group 3



Group 4



D09.1. Passive and Active Systems

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

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

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

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

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

6. Integrate shading into building exteriors to reduce solar heat gain during hot seasons.

7. All mechanical systems shall follow AFCFS and its referenced UFCs.

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 AT/FP 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.

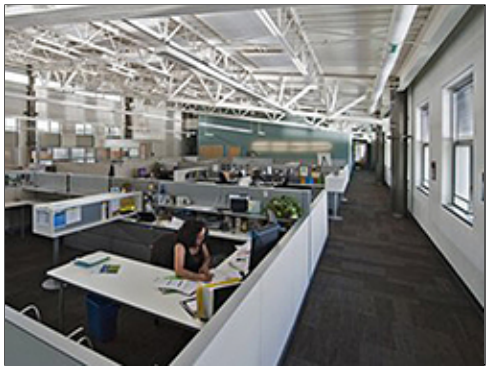
E. FACILITIES INTERIORS

Comply with Air Force Corporate Standards for Facilities Interiors:
http://afcfs.wbdg.org/facilities-interiors/index.html

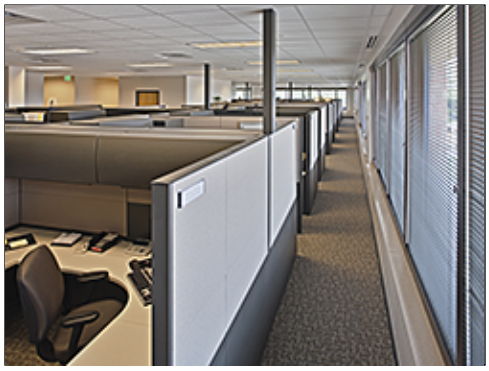
Insert 3 photos for each facility group.

Image Sizing and Cropping Tool (small)

Group 1



Group 2



Group 3



Group 4



E01. Building Configurations

Comply with Air Force Corporate Standards for Building Configurations:
http://afcfs.wbdg.org/facilities-interiors/buildings-configurations/index.html

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 and anticipate two or more uses (operations) during a facility's lifespan.

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

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

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

5. Comply with UFC 1-200-01, general building requirements. UFC 1-200-01 provides applicability of model building codes and government unique criteria for typical design disciplines and building systems, as well as for accessibility, antiterrorism, security, high performance and sustainability requirements, and safety.

6. Meet security and force protection requirements in UFC 4-010-01: DoD Minimum Antiterrorism Standards for Buildings.

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.

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 and maintain contact with the State Historic Preservation Officer (SHPO) and base-level Historic Preservation offices during all stages of design 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:
http://afcfs.wbdg.org/facilities-interiors/buildings-configurations/layout-and-common-areas/index.html

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 AFH 32-1084. Identify special requirements if any, such as privacy separation, VIP areas, gathering spaces and storage. Note: The occupant's rank and position will influence the square footage and selection of materials.

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

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

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

8. SID Format shall follow HQ AFCEC standards.

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

E01.1.2. Codes and Regulations

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

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

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

4. All interior designs must comply with ADA/ABA requirements unless directed otherwise by base management or special circumstances.

E01.2. Quality and Comfort

Comply with Air Force Corporate Standards for Quality and Comfort:
http://afcfs.wbdg.org/facilities-interiors/buildings-configurations/quality-and-comfort/index.html

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.

9. Promote air movement and daylighting for human health and wellbeing.

E02. Floors

Comply with Air Force Corporate Standards for Floors:
http://afcfs.wbdg.org/facilities-interiors/floors/index.html

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. All finishes shall be an appropriate level of quality and durability for the facility Group number and appropriate for the use and functions of the building. Furthermore, in Groups 1 & 2 the finishes shall attempt to match the established existing facility districts.

2. Natural stone and terrazzo flooring may be used in high traffic areas of Group 1 as approved on a case basis.

3. Resilient and rapidly renewable flooring may be used in low traffic areas in Group 1, 2 and 4.

4. Acceptable resilient floor includes rubber, VCT, LVT, cork, and linoleum. Resilient flooring may be used for stairs, office break rooms, dining areas, fitness areas and (rubber) floor base.

5. Use carpet tiles under system furniture installations. Refer to TARR Rating for carpets following AF criteria. Refer to AFCFS.

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

E02.1.1. Prepared Slabs

◉ Applicable ○ N/A Number of base standards 2 Image Sizing and Cropping Tool (small)

Type: **Style 1, Ground and Polished**

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

Mfr: Transit Mix San Marcos

Color: Natural gray cement, light to dark beige aggregates

Finish: Fine polished texture

Model #: Medium to small aggregate

Other: N/A

UFGS: Section 03 35 45 Polished Concrete Finishing
(Not Available on UFGS)

Type: **Style 2, Medium Polished**

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

Mfr: Transit Mix San Marcos

Color: Natural gray cement, light to dark beige aggregates

Finish: Medium polished texture, slip resistant

Model #: Medium to small aggregate

Other: N/A

UFGS: Section 03 35 45 Polished Concrete Finishing
(Not Available on UFGS)

E02.1.2. Natural Stone and Terrazzo

○ Applicable ◉ N/A

E02.1.3. Quarry Tile

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Daltile

Color: Earth tones

Finish: Matte, slip resistant

Model #: N/A

Other: Use in commercial kitchen flooring.

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 30 10.pdf

E02.1.4. Ceramic Tile

◉ Applicable ○ N/A Number of base standards 2 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Daltile

Color: Earth tones

Finish: Matte, slip resistant

Model #: Porcelain tile

Other: Use in high traffic areas. Epoxy grout is recommended.

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 30 10.pdf

Type: **Style 2**

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

Mfr: Daltile

Color: Earth tones

Finish: Matte, slip resistant

Model #: Ceramic tile

Other: Use in low traffic area toilet rooms.

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 30 10.pdf

E02.1.5. Resilient Floor

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Roppe

Color: Neutral tones

Finish: Factory

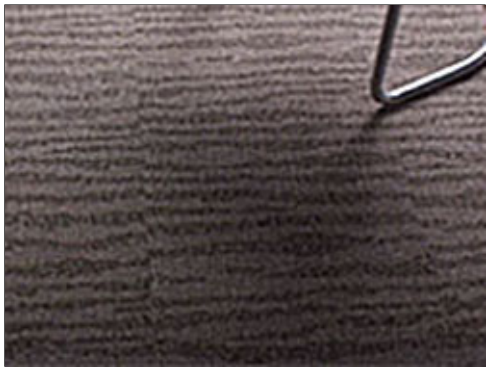
Model #: Raised design rubber tread

Other: Stair treads material

UFGS: Section 09 65 00 Resilient Flooring
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 65 00.pdf

E02.1.6. Carpet

◉ Applicable ○ N/A Number of base standards 2 Image Sizing and Cropping Tool (small)



Type: **Style 1**

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

Mfr: Mohawk Group

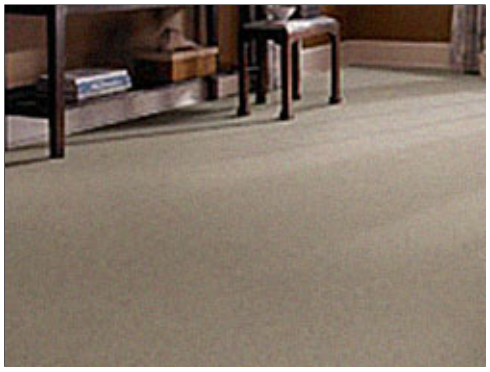
Color: Neutral multi-colored tones/patterned/solid

Finish: Yarn: Nylon 6 or 6.6/cut pile or loop pile

Model #: Broadloom, 6' wide rolled, carpet tiles, entry walk-off carpet

Other: N/A

UFGS: UFGS 09 68 00 Carpeting
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 68 00.pdf



Type: **Style 2**

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

Mfr: Mohawk Group

Color: Earth tones

Finish: Factory

Model #: Broadloom, residential loop, "Smartstrand"

Other: N/A

UFGS: UFGS 09 68 00 Carpeting
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 68 00.pdf

E02.1.7. Rapidly-Renewable Products

○ Applicable ◉ N/A

E02.1.8. Other

○ Applicable ◉ N/A

E03. Walls

Comply with Air Force Corporate Standards for Walls:
http://afcfs.wbdg.org/facilities-interiors/walls/index.html

E03.1. Wall Materials

Facility Group 1 wall materials shall be as follows.

Primary:	Brick or natural stone 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
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. Painted block may be allowed under special conditions for Group 2 with Base Civil Engineer approval.

5. Provide rubber base on drywall partitions in Groups 1, 2 and 3 administrative areas.

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.

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 ◉ N/A

E03.1.2. Masonry

◉ Applicable ○ N/A Number of base standards 2 Image Sizing and Cropping Tool (small)

Type: **Modular Face Brick**

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

Mfr: Meridian Brick

Color: Match Elgin Butler #6910

Finish: Straight Edges

Model #: Bessemer Collection

Other: Nominal size: 4x8x2.6

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

Type: **Coursed Ashlar Masonry**

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

Mfr: Acme Brick and Stone

Color: Light Buff

Finish: Light Rusticated

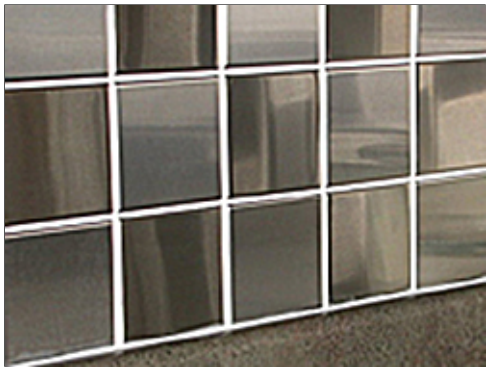
Model #: Ledgestone

Other: Nominal size: Varies, compatible with brick masonry coursing

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

E03.1.3. Ceramic Tile

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)



Type: **Style 1**

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

Mfr: Daltile

Color: Earth tones

Finish: Gloss, Semi-gloss

Model #: Ceramic wall tile

Other: Located on wet walls in restrooms

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 30 10.pdf

E03.1.4. Gypsum Board

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: US Gypsum

Color: Solid Earth tone colors

Finish: Paint (Sheen per UFGS)

Model #: Tapered edge

Other: N/A

UFGS: Section 09 29 00 Gypsum Board
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 29 00.pdf
Section 09 90 00 Paints and Coatings
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 90 00.pdf

E03.1.5. Metal Panels

○ 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) (restrooms)

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.

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)

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Vulcraft

Color: Neutral colors reviewed on a case basis

Finish: Field painted (Sheen per UFGS)

Model #: Formlok floor and roof decking

Other: N/A

UFGS: Section 05 30 00 Steel Decks
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 05 30 00.pdf

E04.1.2. Exposed Concrete

○ Applicable ◉ N/A

E04.1.3. Grid and Acoustical Tile

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Armstrong

Color: White

Finish: Factory

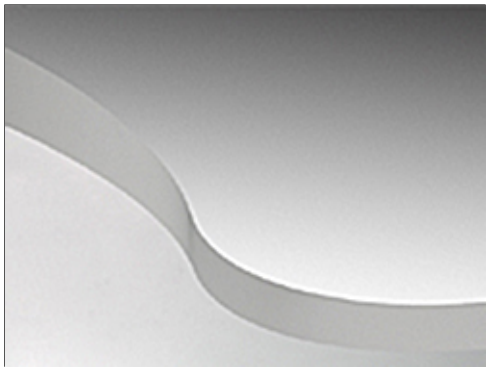
Model #: 2'x2' Tegular with reveal edge and fine texture, grid 15/16"

Other: Performance characteristics are Class A; NRC-0.70; CAC-40; LR-0.86; minimum recycled content 82%.

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

E04.1.4. Gypsum Board

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)



Type: **Style 1**

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

Mfr: US Gypsum

Color: Solid neutral colors

Finish: Paint (sheen per UFGS)

Model #: Tapered edge

Other: N/A

UFGS: Section 09 29 00 Gypsum Board
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 29 00.pdf
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:
http://afcfs.wbdg.org/facilities-interiors/doors-and-windows/index.html

E05.1. Doors and Windows and Frames Materials

Facility Group 1
door (frame) and window frame materials shall be as follows.

Primary:	Aluminum, clear anodized
Secondary:	Hollow metal (painted)
Tertiary:	N/A

Facility Group 1
door (leaf) materials shall be as follows.

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

Facility Group 2
door (frame) and window frame materials shall be as follows.

Primary:	Aluminum, clear anodized
Secondary:	Hollow metal (painted)
Tertiary:	N/A

Facility Group 2
door (leaf) materials shall be as follows.

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

Facility Group 3
door (frame) and window frame materials shall be as follows.

Primary:	Hollow metal (galvanized, painted)
Secondary:	Hollow metal (galvanized, painted)
Tertiary:	N/A

Facility Group 3
door (leaf) materials shall be as follows.

Primary:	Hollow metal (galvanized, painted)
Secondary:	Hollow metal (galvanized, painted)
Tertiary:	N/A

Facility Group 4
door (frame) and window frame materials shall be as follows.

Primary:	Wood
Secondary:	N/A
Tertiary:	N/A

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

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

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. All door hardware shall meet ADA/ABA requirements unless directed by base management or special circumstances.

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

◉ Applicable ○ N/A Number of base standards 1 Image Sizing and Cropping Tool (small)

Type: **Style 1**

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

Mfr: Kawneer

Color: Clear anodized

Finish: Factory

Model #: InFrame Interior Framing, (2x4 nominal framing)

Other: Satin stainless steel hardware

UFGS: Section 08 41 13 Aluminum-Framed Entrances and Storefronts
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 41 13.pdf
Section 08 71 00 Door Hardware
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 Image Sizing and Cropping Tool (small)

Type: **Steel Doors**

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

Mfr: Steelcraft

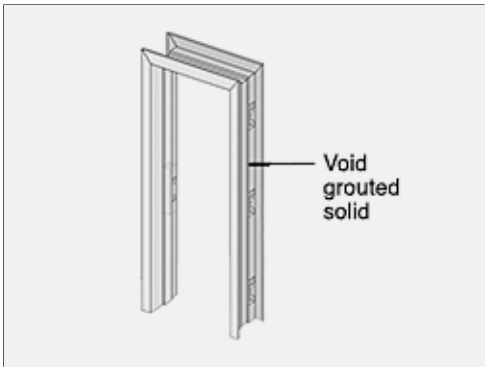
Color: Neutral colors

Finish: Paint (Sheen per UFGS)

Model #: Hollow metal, 2" w. frames, 16 gauge (welded corners) grouted solid

Other: Provide in Group 3 and in utility areas of Group 1 and 2. Provide A25 "galvannealed" coating. All interior steel doors shall have a factory applied primer finish. Provide satin stainless steel hardware.

UFGS: Section 08 11 13 Steel Doors and Frames
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 11 13.pdf
Section 08 71 00 Door Hardware
https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf



Type: **Steel Frames**

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

Mfr: Steelcraft

Color: Neutral colors

Finish: Paint (Sheen per UFGS)

Model #: Hollow metal, frame grouted solid

Other: Satin stainless steel hardware

UFGS: Section 08 11 13 Steel Doors and Frames
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 11 13.pdf
Section 08 71 00 Door Hardware
https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf

E05.1.3. Wood

◉ Applicable ○ N/A Number of base standards 2 Image Sizing and Cropping Tool (small)

Type: **Style 1, Administrative**

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

Mfr: Simpson

Color: Natural hardwood veneer

Finish: Clear Sealer, satin (aqueous)

Model #: 3'x7'x 1 ¾", solid core

Other: Satin stainless steel hardware, Glass lites may be used. Stained birch veneer face, 5 ply construction, rotary cut finish.

UFGS: Section 08 14 00 Wood Doors
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 14 00.pdf
Section 08 71 00 Door Hardware
https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf

Type: **Style 2, Residential**

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

Mfr: Simpson

Color: Natural hardwood veneer or paint grade

Finish: Clear Sealer or paint, satin (aqueous)

Model #: Full slab or panels

Other: Satin nickel hardware

UFGS: Section 08 14 00 Wood Doors
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 ◉ N/A

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.

E06.1.1. Plastic Laminate

○ Applicable ◉ N/A

E06.1.2. Solid Polymer Surface

○ Applicable ◉ N/A

E06.1.3. Rapidly-Renewable Products

○ Applicable ◉ N/A

E06.1.4. Metal

○ Applicable ◉ N/A

E06.2. Countertop Materials

E06.2.1. Plastic Laminate

◯ Applicable ◉ N/A

E06.2.2. Solid Polymer Surface

◯ Applicable ◉ N/A

E06.2.3. Natural Stone

◯ Applicable ◉ N/A

E06.2.4. Cast Stone

◯ Applicable ◉ N/A

E06.2.5. Metal

◯ Applicable ◉ N/A

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:
http://afcfs.wbdg.org/facilities-interiors/furnishings/durability-and-serviceability/index.html

E07.2. Accessories

Comply with AF Corporate Standards for Accessories:
http://afcfs.wbdg.org/facilities-interiors/furnishings/accessories/index.html

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:
http://afcfs.wbdg.org/facilities-interiors/interior-signs/types-and-color/index.html

E08.2. Interior Signs Materials

1. Natural stone, masonry and cast stone signs may only be used in Group 1 with approval on a case basis.

2. All interior signage shall follow UFC-3-120-01. http://www.wbdg.org/FFC/DOD/UFC/ufc_3_120_01_2014.pdf

E09. Lighting, Power and Communication

http://afcfs.wbdg.org/facilities-interiors/lighting-power-and-communication/index.html

E09.1. Functionality and Efficiency

Comply with Air Force Corporate Standards for Functionality and Efficiency:
http://afcfs.wbdg.org/facilities-interiors/lighting-power-and-communication/functionality-and-efficiency/index.html

E09.2. Types and Color

1. All interior lighting shall follow UFC 3-520-01. http://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/ufc-3-520-01

2. All communication systems must follow UFC 3-580-01. http://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/ufc-3-580-01

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:

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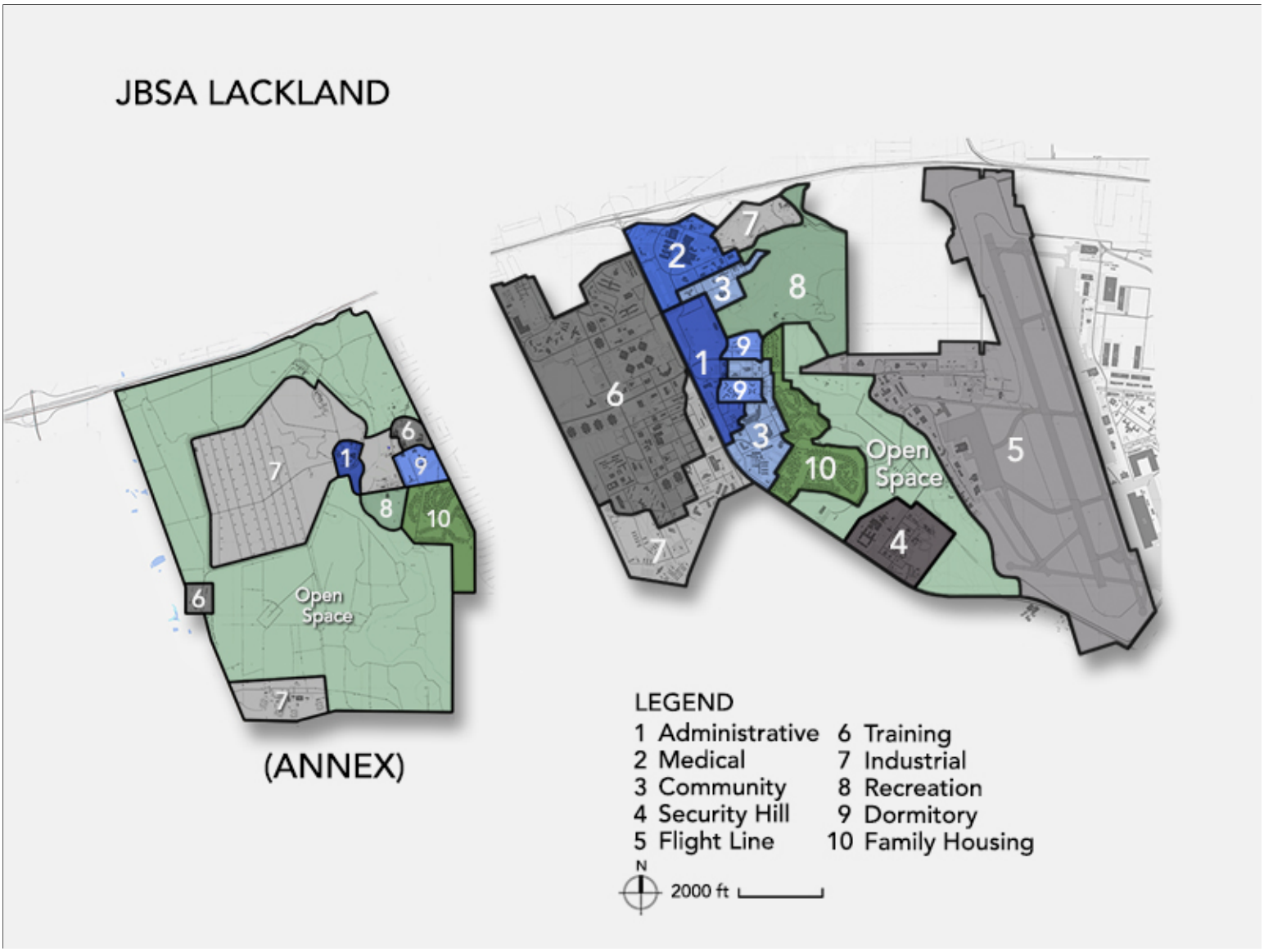


Note: *Apply the base-wide standards in this IFS for Installation Elements, Site Development, Facilities Exteriors and Facilities Interiors (products, materials, color, etc.). Following application of the base-wide standards, refer to the Appendix and apply any additional requirements specifically related to the Facility District.*

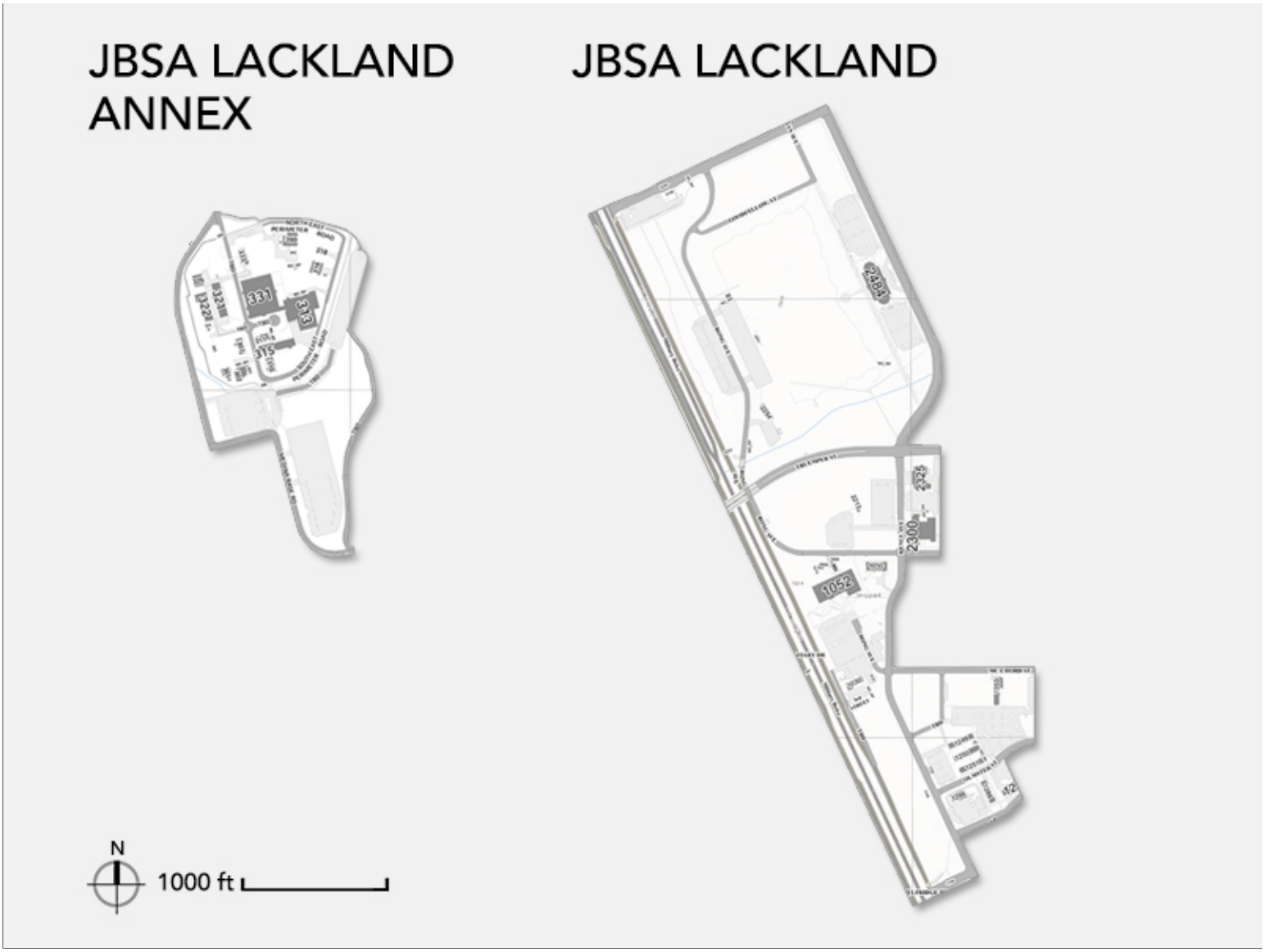
Enter No. of Facility Districts 10

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: F01. Administrative

Image Sizing and Cropping Tool

Map of District



Insert 3 photos for each facility group within the Facility District as applicable.

Image Sizing and Cropping Tool (small)

Group 1	○ Applicable	◉ N/A
Group 2	○ Applicable	◉ N/A
Group 3	○ Applicable	◉ N/A
Group 4	○ Applicable	◉ N/A
Other	○ Applicable	◉ N/A

A. OVERVIEW (Links only)

B. INSTALLATION ELEMENTS (Only applicable sections are shown)
B01.

B03. Open Space / Public Space
1. Ensure architectural compatibility adjacent to the parade ground, which hosts airmen graduation ceremonies and thousands of visitors to the base each year.

C. SITE DEVELOPMENT (Not applicable)

D. FACILITIES EXTERIORS (Only applicable sections are shown)
D03. Architectural Features
1. Maintain the 37th Training Wing Headquarters as the dominant building in this district which defines its character.

D07. Roof Systems
1. Low sloping shed and gable sloped medium bronze standing seam metal roofs are to used.

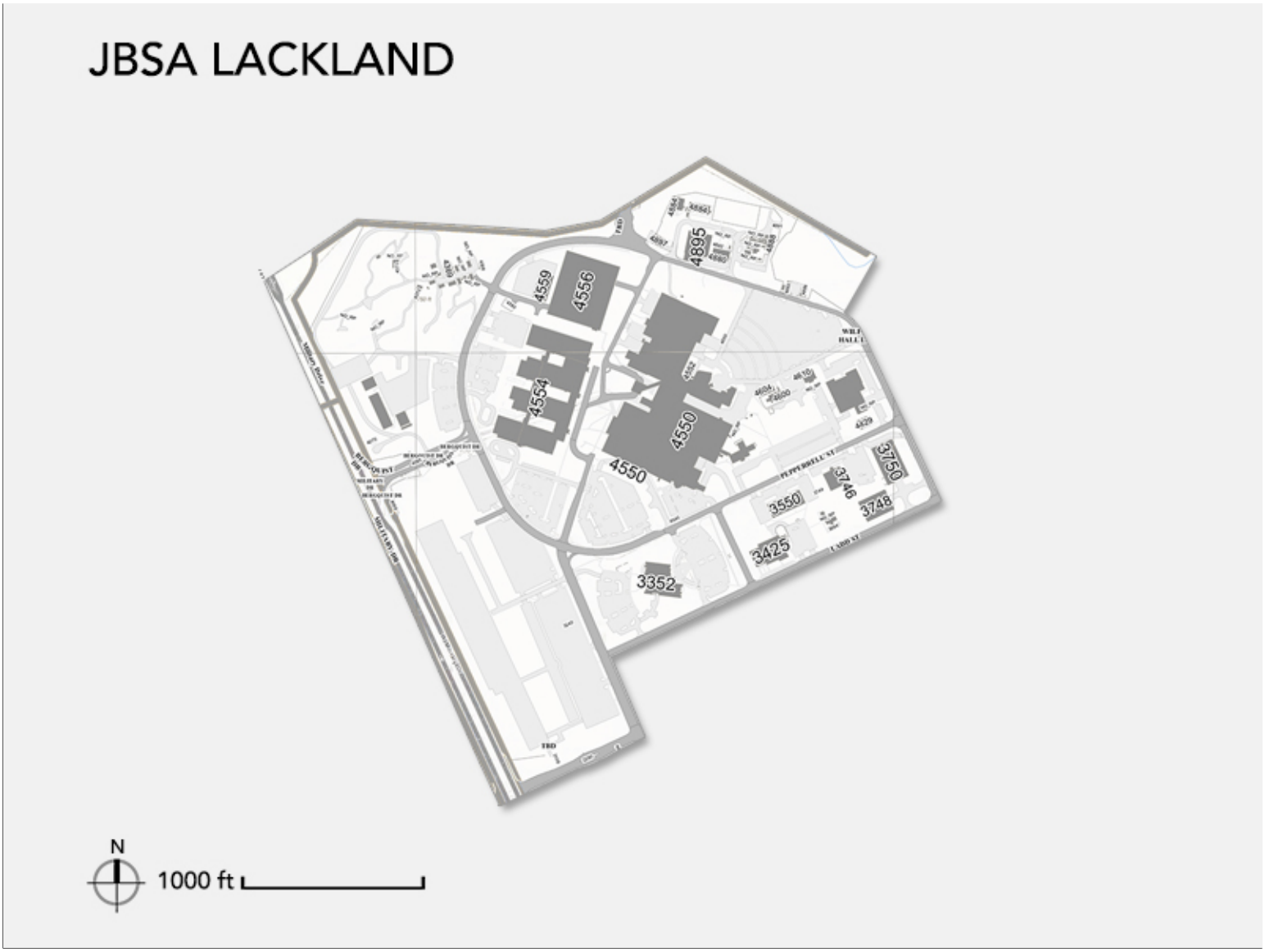
2. Building additions may have deep standing seam fascias only when matching existing conditions.

E. FACILITIES INTERIORS (Not applicable)

Name of District: F02. Medical

Image Sizing and Cropping Tool

Map of District



Insert 3 photos for each facility group within the Facility District as applicable.

Image Sizing and Cropping Tool (small)

Group 1	◯ Applicable	◉ N/A
Group 2	◯ Applicable	◉ N/A
Group 3	◯ Applicable	◉ N/A
Group 4	◯ Applicable	◉ N/A
Other	◯ Applicable	◉ N/A

B. INSTALLATION ELEMENTS (Only applicable sections are shown)
B01. Comprehensive Planning

Refer to the Facility District Map. Limit building heights and land use to the following:

Building Zone 'A' – Buildings within this zone should not have the highest occupied floor higher than 75 feet as dictated by the applicable building code to maintain a non-high-rise status.

Building Zone 'B' – Buildings within this zone should have a maximum height restriction of 40 feet to the top of parapet or peak of roof.

Medical Training Zone – This area should be used for medical training and exercises. Buildings within this zone should be limited to one story.

Support Zone – This area should be used for buildings or elements that support the Medical District. All buildings located in this zone should minimize their height as much as feasible. All structures should be screened from the building zones and must abide by the General Design Standards of the Medical District.

B02. Street Envelope Standards

1. For arterial streets, the base standard landscape medians may be increased in width to 15 feet in the Medical district.

2. Crosswalks within the Medical District area should utilize specialty paving to provide a change in texture and color, and to differentiate the pedestrian zone from the vehicular roadway.

B03. Open Space / Public Space

1. No development other than establishing new access control points with associated infrastructure at the corner Military Drive and Highway 90 should occur in the designated open space.

C. SITE DEVELOPMENT (Only applicable sections are shown)

C01. Site Design/NEPA

1. Create an aesthetically pleasing and healing environment that establishes a strong sense of place by designing spaces that:
• Provide an identifiable visual image for Medical District
• Provide clear orientation and ease of navigation
• Create a natural awareness and are accessible to open space
• Provide plant material that establishes a local native precedent
• Utilize pedestrian scale elements

2. Provide specialty hardscape materials such as decorative pavers and integral colored concrete should be used at drop-off areas to designate where vehicles should be slowing down and where pedestrian traffic is likely.

3. For buildings over 50,000 s.f., drop-off areas should be a minimum of three lanes, ten (10) feet per lane and provide queuing for five (5) vehicles per lane. All other buildings within the district with a patient/visitor use should have a minimum of two drop-off lanes, ten (10) feet per lane, along with queuing for three (3) vehicles per lane.

C02. Utilities

C03. Parking Areas

1. Provide a 15 foot setback distance from road development (edge of road or edge of walk) to parking areas with plant material and/or earthen berms to achieve a three (3) foot high screen along its length.

C04. Stormwater Management

C05. Sidewalks, Bikeways and Trails

C06. Landscape

1. Provide landscape screening along roads when adjacent to parking areas by berms and/or plant materials. Parking area setback distance from roadways to parking areas should be fifteen (15) feet. The setback area should have plant material and/or earthen berms to achieve a three (3) foot high screen along its length.

2. Parking lot planting islands should be a minimum width of ten (10) feet. Each planting island should contain one (1) tree centered within the island and a low groundcover or shrub combination. A two (2) foot strip, minimum, of groundcover is required around the perimeter of the island to allow for opening and closing of car doors.

3. Maintain landscape zones in the Medical district as follows:

Landscape Zone 'A' includes interior building courtyards and gardens. Not all projects will have a Landscape Zone 'A'. Plant material in this zone should be native and/or adapted plant material available in the San Antonio area. Complete irrigation systems are allowed in this zone as necessary. Water features, seating areas, plaza spaces and other landscape architectural features are highly desirable in this zone.

Landscape Zone 'B' includes planting in the "unobstructed space"—the first 33 feet from the perimeter of the building. Reference UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings for what is allowed in this particular zone. The planting design should be more loosely arranged and contain low shrubs and groundcovers. The use of stone and gravel to articulate design elements is also encouraged. Plant material should be plants native to the San Antonio area. Drip irrigation systems will be allowed in this zone as necessary.

Landscape Zone 'C' includes planting located in the parking areas. This zone can include any combination of shade trees, ornamental trees, shrubs, ornamental grasses, groundcovers, and turf areas. Landscape islands and parking area setbacks should include plant material as described in the parking section of this manual. Plant material should be plants native to the San Antonio area. Drip irrigation systems will be allowed in this zone as necessary.

Landscape Zone 'D' is the planting area between the edge of the parking lot and the limits of construction. Zone 'D' is intended to be a restorative landscape that regenerates the natural, native landscape of the surrounding area. This zone is intended to be a non-irrigated, low maintenance landscape and should be designed to allow for regular mowing and native grass types should be selected accordingly.

C07. Site Furnishings

1. Site furnishings for all areas visible to the public, visitors and employees should be designed as a family of high-quality, "related" forms and materials to emphasize the unity of the district. Items such as bollards, benches, trash receptacles, ash urns, bike racks, planter pots, and newspaper racks should be included in publicly visible areas around the site such as plazas, courtyards, entry areas, and open spaces. These should all be in keeping with the design theme of the building.

2. Selection, design, and location of site furnishings should be determined by their function and aesthetic contribution to their surroundings. Site furnishing designs should be integrated with other site elements (i.e. walls, lighting, signage, etc.). The color, texture, form, and material of the furnishings should reinforce the design themes of each area as well as the project as a whole. Site furnishings should be designed or selected for safety, durability, ease of maintenance, and ease of replacement as well as visual appearance. Furnishings should conform to the Americans with Disabilities Act.

C08. Exterior Signs

C09. Lighting

1. Compliment the design and character of the site features, building and landscape while providing security and safety. Enhance the quality of environment and showcase focal areas at night. The fixtures should be energy efficient and be equipped with "full cutoff" such that the luminous intensity (in candelas) at or above an angle of 90° above nadir is zero and the luminous intensity at or above a vertical angle of 80° above nadir does not exceed 10% of the luminous flux (in lumens) of the lamp or lamps in the luminaire to reduce nighttime light pollution. Placement and distribution of the fixtures will be designed to prevent light trespass onto surrounding properties.

2. The Medical District Area shall be divided into the following: Parking Zone, Pedestrian Zone and Unobstructed Zone. Footcandle levels indicated are per IES recommendation (see UFC 4-510-01 Design: Medical Military Facilities) or greater for each of the areas indicated.

Parking Zone: 25 feet to 35 feet high, 0.2 to 0.5 footcandles for standard use areas, 0.5 to 1.0 footcandles for high security areas

Pedestrian Zone: 12 feet to 18 feet high, 1.0 to 5.0 footcandles

Unobstructed Zone: small scale lighting, 2.0 to 5.0 footcandles

D. FACILITIES EXTERIORS (Only applicable sections are shown)

D01. Supporting The Mission

D02. Sustainability

D03. Architectural Features

1. Facade modulation and building articulation of the facade is required at minimum intervals of 100 linear feet. This can be accomplished with the use of recesses or bump-outs to create "jogs" in the perimeter, free standing walls, significant change in materials, colonnade, or change in massing to create interruption within the length of the building.

2. Large expanses of a single material should be avoided. Articulation of materials by changing brick coursing to add relief and shadow, soldier coursing, banding or the introduction of an alternate material will help to achieve the intent.

3. Two story and taller buildings should include relief to the facade that articulates the base, middle, and top.

D04. Building Entrances
1. Patient entries should have a canopy. Coordinate canopies with drop-off lane configurations.

D05. Wall Systems
1. Exterior wall materials shall generally match or be compatible with adjacent buildings to create a homogenous medical campus setting.

2. The predominant wall material or "field" material should be light in color and be brick, fieldstone, limestone, cast stone, chiseled stone, granite, marble, textured architectural quality masonry units, pre-cast concrete, cast-in-place concrete, terra cotta panels, stucco are all acceptable "field" materials.

3. Metal panels should be used as "accents" to the "field" material system and should be light grey, silver, or galvanized.

4. All exposed metals should have a Galvalume Plus coating with sealer or a polyvinyldene (PVDF) coating system.

5. Textured surfaces are encouraged (sandblasted, rough, smooth, ground faces, chiseled face, embossed, cut, ribbed, fluted).

6. Color for glazing types should be clear to blue in range.

7. Articulation of frosted glass, fritted glass, non-mirrored glass that has a high reflectance and spandrel glass are acceptable.

D06. Doors and Windows
1. Generally match the glazing types, color and shading systems in the SAMMC-North patient tower addition.

2. Window and door frames should be of clear anodized aluminum.

3. Exterior doors can be either aluminum or steel. Steel doors should blend with the surrounding wall color.

4. Window systems such as curtain wall and storefront should be clear anodized in color and have low–e glazing. Aluminum storefront doors should match the windows.

D07. Roof Systems
1. Pitched roofs should not exceed 4/12 and no less than 2/12.

2. Roof height should be less than or equal to half the vertical dimension of the building walls.

3. Large buildings should be encouraged to have a majority of flat roofs.

4. Green Roofs are also encouraged as well as the inclusion of photovoltaic and other active energy recovery systems.

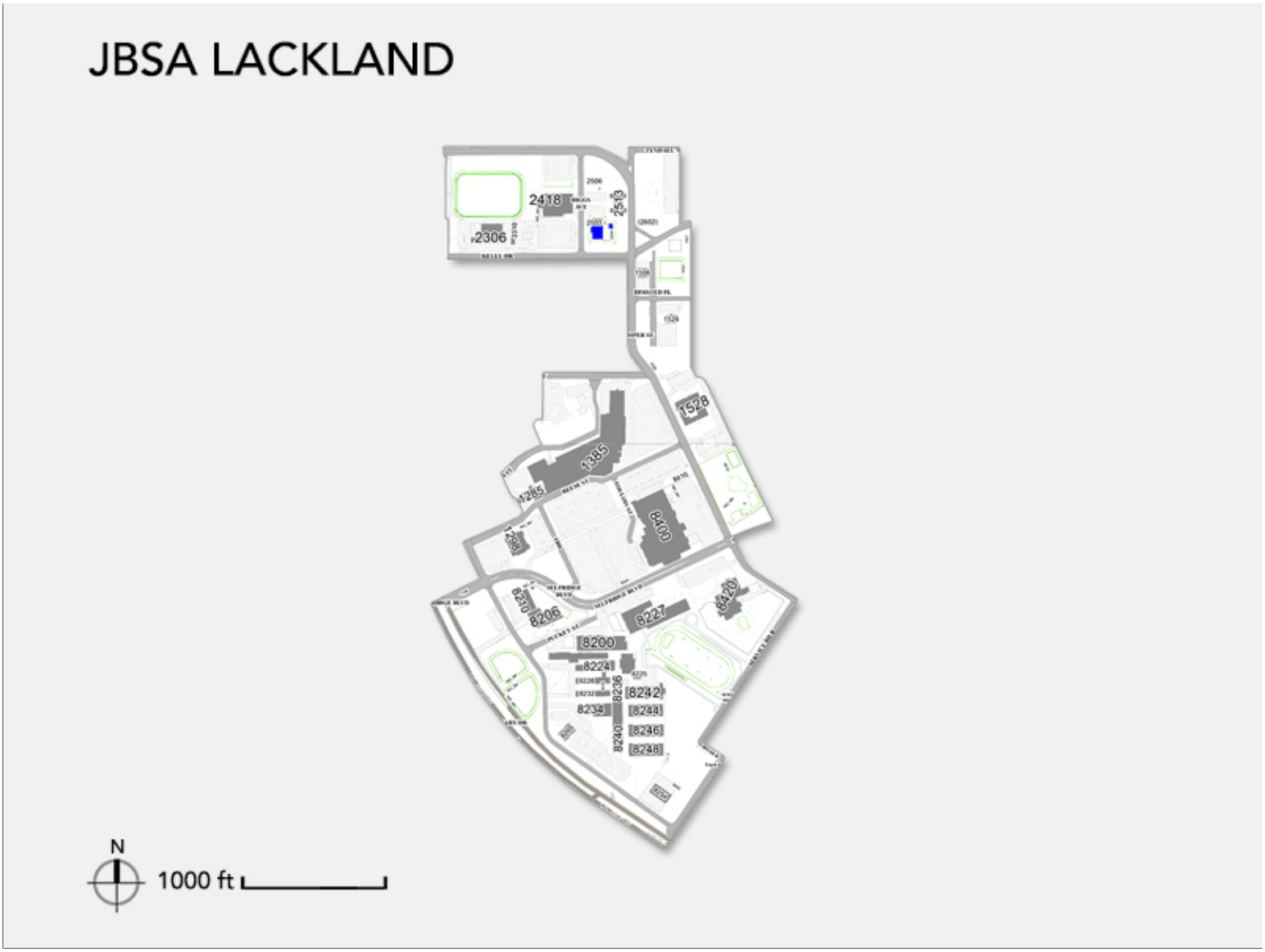
5. Rooftop mechanical units should be fully screened.

E. FACILITIES INTERIORS (Only applicable sections are shown)
E01. Building Configurations
1. Refer to the Office of the Surgeon General Interior Design Guide, US Air Force as a standard for interior design.

Name of District: F03. Community

Image Sizing and Cropping Tool

Map of District



Insert 3 photos for each facility group within the Facility District as applicable.

Image Sizing and Cropping Tool (small)

Group 1	◯ Applicable	◉ N/A
Group 2	◯ Applicable	◉ N/A
Group 3	◯ Applicable	◉ N/A
Group 4	◯ Applicable	◉ N/A
Other	◯ Applicable	◉ N/A

B. INSTALLATION ELEMENTS (Not applicable)

C. SITE DEVELOPMENT (Not applicable)

D. FACILITIES EXTERIORS (Only applicable sections are shown)

D03. Architectural Features

1. In future additions and remodeling projects unify the buildings in this district with the use of common colors, details, and materials.

D05. Wall Systems

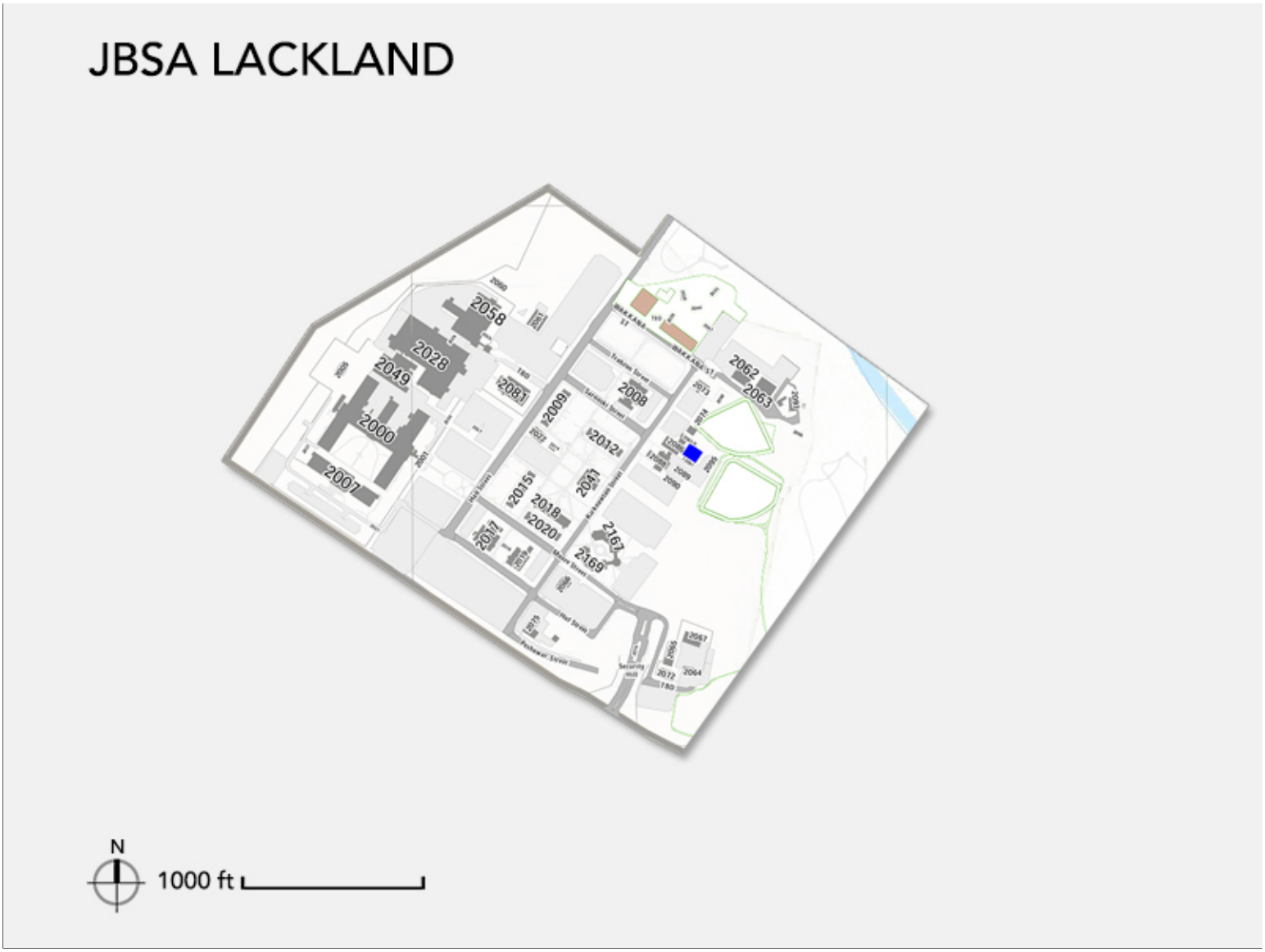
1. Split face block may be used as the predominant wall material in this district.

E. FACILITIES INTERIORS (Not applicable)

Name of District: F04. Security Hill

Image Sizing and Cropping Tool

Map of District



Insert 3 photos for each facility group within the Facility District as applicable.

Image Sizing and Cropping Tool (small)

Group 1	○ Applicable	◉ N/A
Group 2	○ Applicable	◉ N/A
Group 3	○ Applicable	◉ N/A
Group 4	○ Applicable	◉ N/A
Other	○ Applicable	◉ N/A

B. INSTALLATION ELEMENTS (Not applicable)

C. SITE DEVELOPMENT (Only applicable sections are shown)

C06. Landscape

1. Provide landscape buffers in noncompliant open parking areas in renovations and repair projects.

D. FACILITIES EXTERIORS (Only applicable sections are shown)

D03. Architectural Features

1. Provide contemporary Spanish revival architecture as the principal design theme in renovation and new construction projects.

2. “Tower” elements may be integrated into building massing in Group 1 facilities to provide visual interest.

3. Full radius arched openings should be used rather than flat arches.

D05. Wall Systems

1. Exterior walls may match the base-wide standard or may be beige stucco.

2. Ceramic tiles may be placed on stucco walls as decorative elements.

D06. Doors and Windows

1. Utilize punched type window openings with no exterior casing.

D07. Roof Systems

1. Provide deep overhangs at eaves of sloped roofs.

2. Utilize varying roof heights.

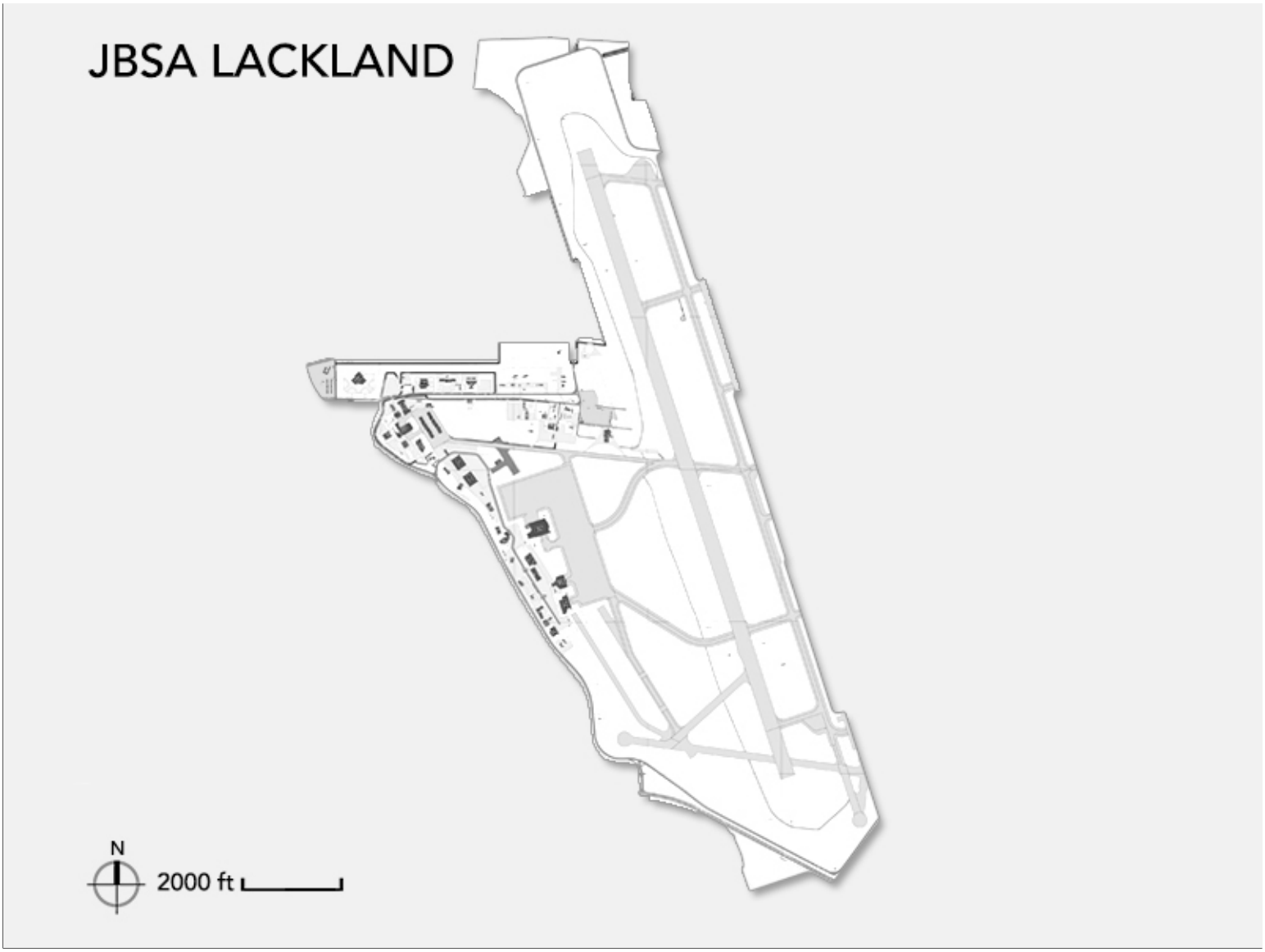
3. Roof material may be red Spanish tile when life cycle cost effective.

E. FACILITIES INTERIORS (Not applicable)

Name of District: F05. Flight Line

Image Sizing and Cropping Tool

Map of District



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Group 1	◯ Applicable	◉ N/A
Group 2	◯ Applicable	◉ N/A
Group 3	◯ Applicable	◉ N/A
Group 4	◯ Applicable	◉ N/A
Other	◯ Applicable	◉ N/A

B. INSTALLATION ELEMENTS (Not applicable)

C. SITE DEVELOPMENT (Not applicable)

D. FACILITIES EXTERIORS (Only applicable sections are shown)
D05. Wall Systems
1. Brick shall be light red in color to match that of the Security Forces Center.

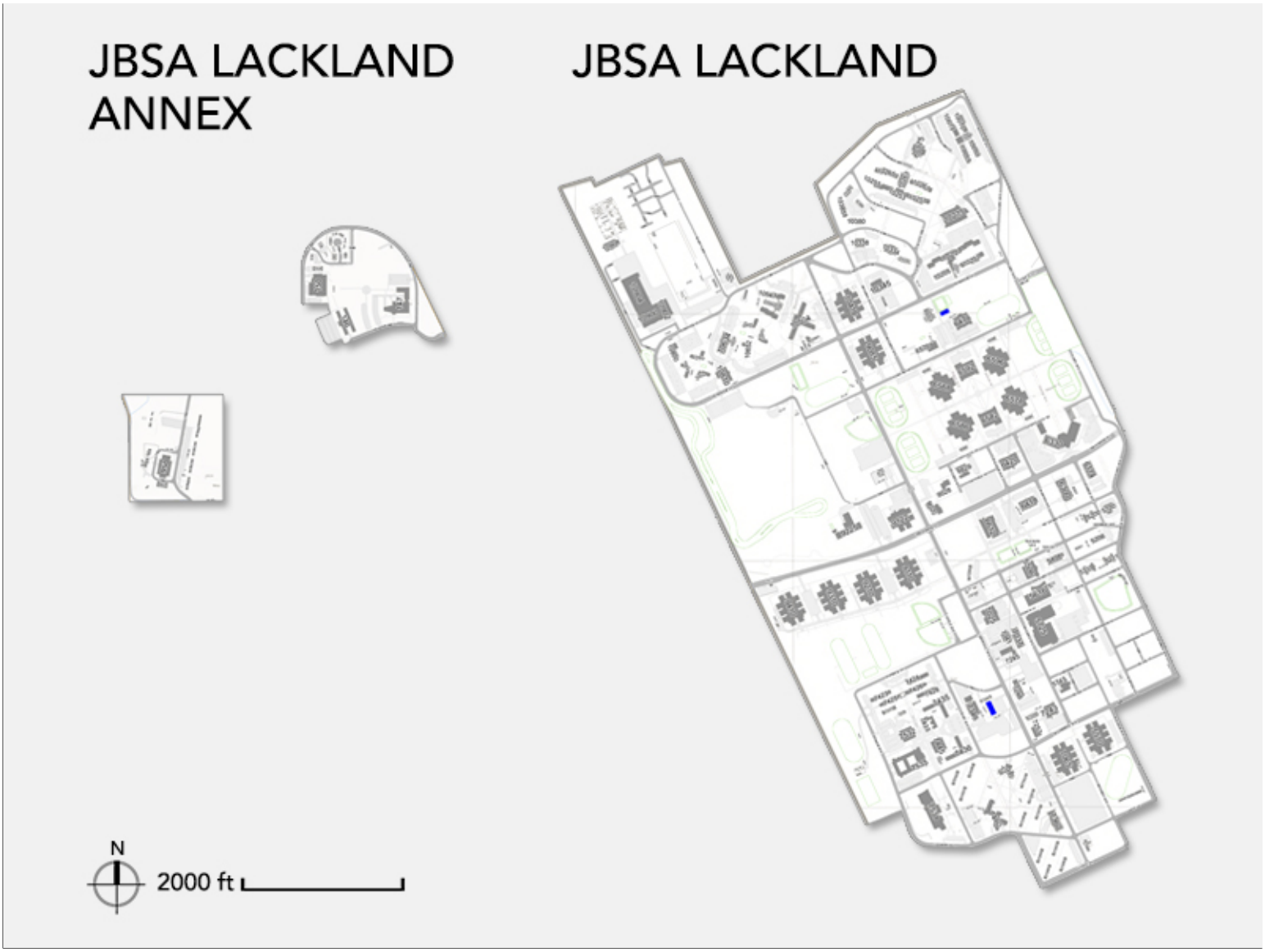
2. Cast stone accents shall be off-white.

E. FACILITIES INTERIORS (Not applicable)

Name of District: F06. Training

Image Sizing and Cropping Tool

Map of District



Insert 3 photos for each facility group within the Facility District as applicable.

Image Sizing and Cropping Tool (small)

Group 1	◯ Applicable	◉ N/A
Group 2	◯ Applicable	◉ N/A
Group 3	◯ Applicable	◉ N/A
Group 4	◯ Applicable	◉ N/A
Other	◯ Applicable	◉ N/A

B. INSTALLATION ELEMENTS (Not applicable)

C. SITE DEVELOPMENT (Not applicable)

C05. Sidewalks, Bikeways and Trails

1. Developed and maintain a functional system of troop walks to accommodate the high volume of troop activity. Coordinate these with vehicular traffic.

2. Create common outdoor activity areas to be shared among grouped buildings.

D. FACILITIES EXTERIORS (Not applicable) (Applicable) (Only applicable sections are shown)

D03. Architectural Features

1. Emulate the architectural features of the BMT Headquarters in new construction and renovations projects.

2. In the Lackland training annex generally follow the architectural features of the Combat Arms Training facility (#950).

3. Articulate massing and use receding colors to soften the physical appearance reduce the visual scale of large facilities.

D05. Wall Systems

1. Predominantly brick facades with cast stone accents are preferred.

D07. Roof Systems

1. Convert flat roofs to sloped roofs to renovations projects.

2. Shed roof may be used in this district.

E. FACILITIES INTERIORS (Not applicable)

Name of District: F07. Industrial

Image Sizing and Cropping Tool

Map of District

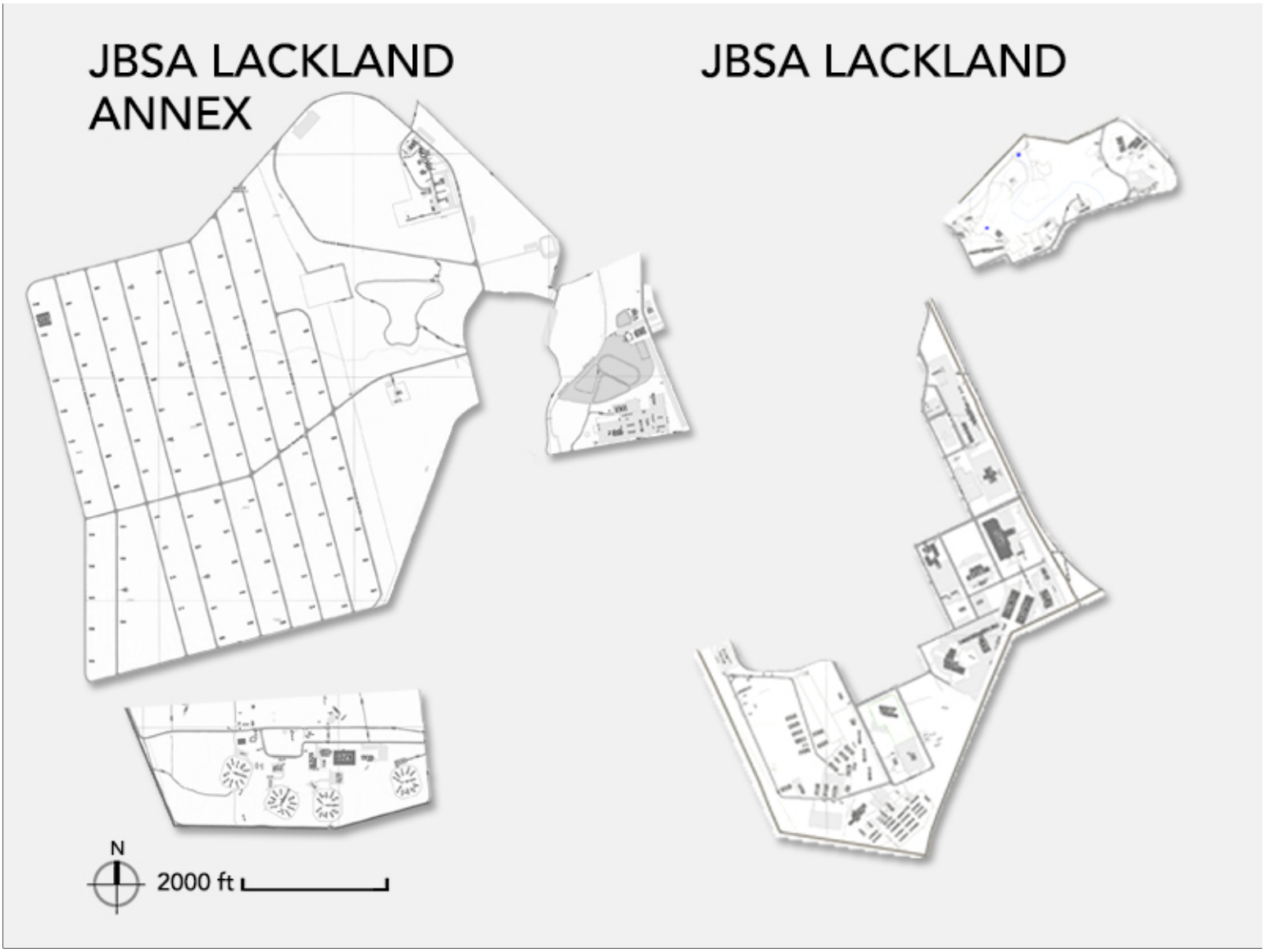


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Image Sizing and Cropping Tool (small)

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Group 2	○ Applicable	◉ N/A
Group 3	○ Applicable	◉ N/A
Group 4	○ Applicable	◉ N/A
Other	○ Applicable	◉ N/A

B. INSTALLATION ELEMENTS (Not applicable)

C. SITE DEVELOPMENT (Only applicable sections are shown)

C01. Site Design/NEPA

1. Consolidate outdoor storage areas wherever practical.

2. Provide visual screening between non-compatible uses along the district boundary.

D. FACILITIES EXTERIORS (Only applicable sections are shown)

D03. Architectural Features

1. Ensure facility designs are utilitarian in character and consistent with base-level guidance for facility Group 3.

2. Facilities should be rectilinear and usually emphasize the horizontal dimension in overall proportion.

D05. Wall Systems

1. Group 3 facilities such as shop/warehouse buildings with ribbed metal sheeting should have ribs running vertically.

2. Maintain consistent ribbing and corrugation styles throughout the district.

E. FACILITIES INTERIORS (Not applicable)

Name of District: F08. Recreation

Image Sizing and Cropping Tool

Map of District

Insert 3 photos for each facility group within the Facility District as applicable.

Image Sizing and Cropping Tool (small)

Group 1	◯ Applicable	◉ N/A
Group 2	◯ Applicable	◉ N/A
Group 3	◯ Applicable	◉ N/A
Group 4	◯ Applicable	◉ N/A
Other	◯ Applicable	◉ N/A

B. INSTALLATION ELEMENTS (Not applicable)

C. SITE DEVELOPMENT (Only applicable sections are shown)

C01. Site Design/NEPA

1. Avoid building in sites prone to flooding.

C07. Site Furnishings

1. Maintain visual screening from the main base and flight line.

D. FACILITIES EXTERIORS (Only applicable sections are shown)

D03. Architectural Features

1. Provide architectural features that are understated and informal and visually compatible with the natural landscape.

D05. Wall Systems

1. Walls may use base-standard brick, stucco, or ribbed metal sheeting.

D07. Roof Systems

1. Roofs may use base-standard standing seam metal or asphalt shingles.

E. FACILITIES INTERIORS (Not applicable)

Name of District: F09. Dormitory

Image Sizing and Cropping Tool

Map of District

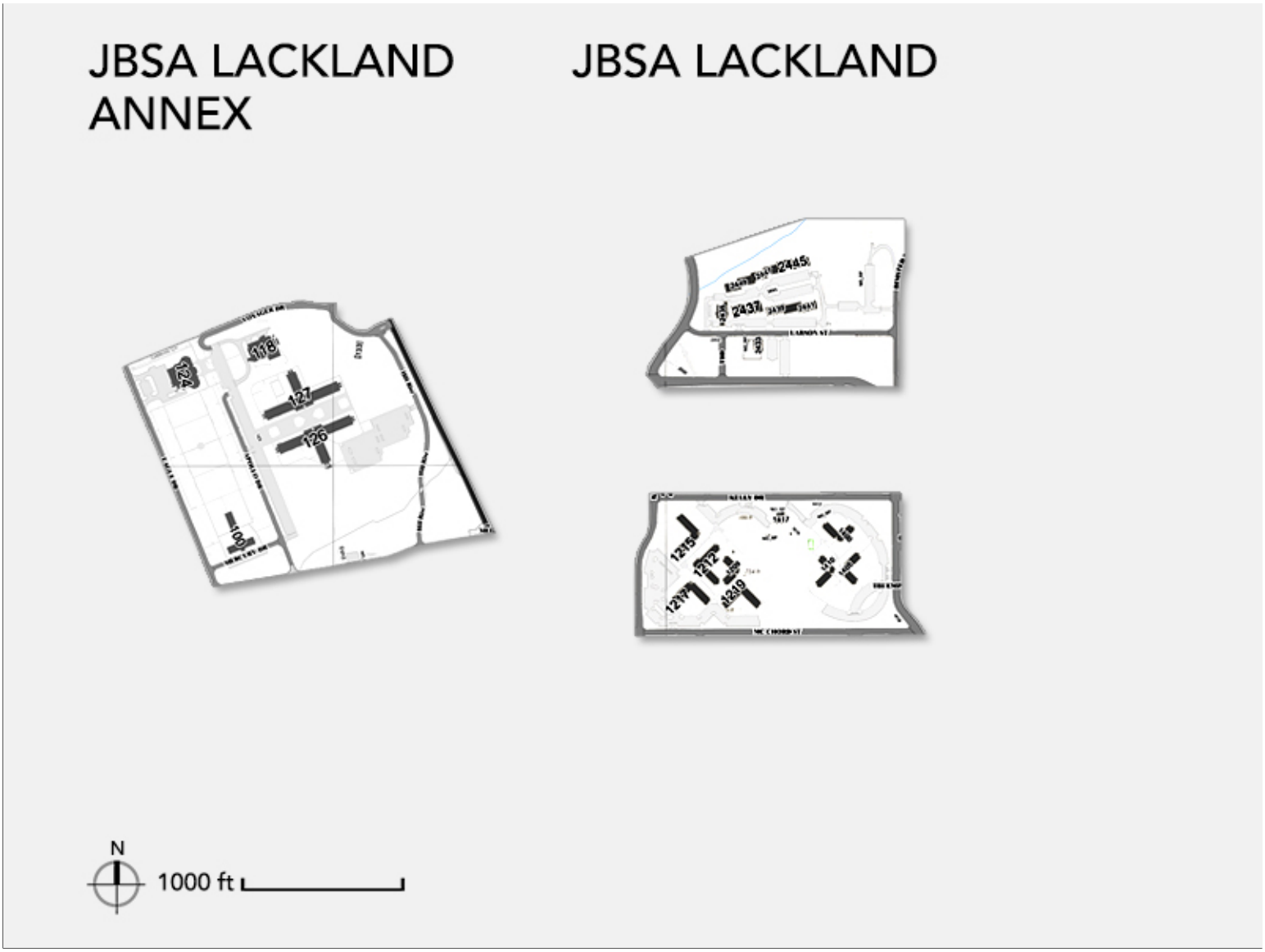

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Image Sizing and Cropping Tool (small)

Group 1	○ Applicable	◉ N/A
Group 2	○ Applicable	◉ N/A
Group 3	○ Applicable	◉ N/A
Group 4	○ Applicable	◉ N/A
Other	○ Applicable	◉ N/A

B. INSTALLATION ELEMENTS (Not applicable)

C. SITE DEVELOPMENT (Not applicable)

D. FACILITIES EXTERIORS (Only applicable sections are shown)

D03. Architectural Features

1. Refer to the "Air Force Enlisted Dormitory Design Guide" for specific guidance on dormitory design.

2. Limit the maximum height of facilities to 3 story buildings.

3. Utilize exterior balcony configurations to articulate facades and reduce the visual scale of large facilities.

4. Avoid simple rectilinear "box-shape" plan and massing configurations.

D05. Wall Systems

1. Predominantly brick walls with split face block accents are preferred. Cast stone accents are acceptable.

D07. Roof Systems

1. In renovation projects replace flat roofs with sloped roofs.

E. FACILITIES INTERIORS (Not applicable)

Name of District: F10. Family Housing

Image Sizing and Cropping Tool

Map of District

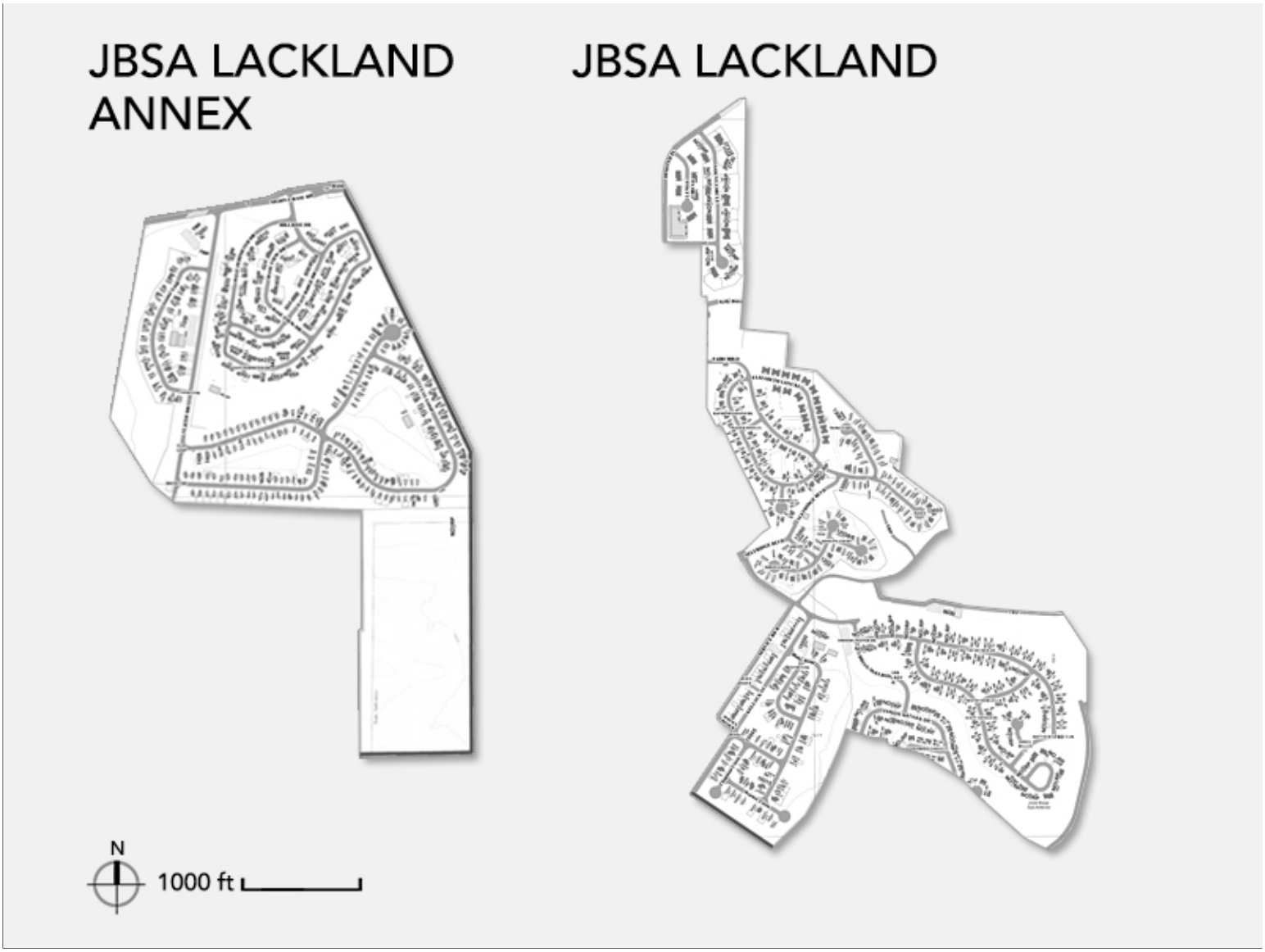

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Image Sizing and Cropping Tool (small)

Group 1	○ Applicable	◉ N/A
Group 2	○ Applicable	◉ N/A
Group 3	○ Applicable	◉ N/A
Group 4	○ Applicable	◉ N/A
Other	○ Applicable	◉ N/A

C. SITE DEVELOPMENT (Only applicable sections are shown)
C06. Landscape

1. Preserve mature landscaping when possible during new construction and renovations.

C07. Site Furnishings
1. Utility appurtenances such as fire hydrants shall be painted in a color that blends with the landscape.

2. Select site furnishings that are complementary to the residential character.

3. Provide screen walls around all mechanical equipment and trash containers.

D. FACILITIES EXTERIORS (Only applicable sections are shown)
D03. Architectural Features
1. High ranking officer's quarters may display formal massing to indicate their relative importance.

2. Training Annex family housing shall generally match the architectural features found ion the Frank Tejeda Estates West area.

D04. Building Entrances
1. Entrances should be accented by the use of landscaping and roof projections.

D05. Wall Systems
1. Walls in the Annex housing shall be a combination of two of the following materials: brick, stucco, and horizontal cementitious siding. A varied palette of Earth-tone colors should be used for siding to create visual interest.

2. Wall materials shall be integrally colored (or factory finished).

3. Brick may be light red or tan.

D07. Roof Systems
1. Typically match roof slopes with adjacent housing units.

2. Red Spanish tile roofs shall be used in the Yount Circle area.

3. Asphalt composition roofs shall be red or light brown.

4. Roofs shall have a continuous overhang of a depth which matches adjacent units.

E. FACILITIES INTERIORS (Not applicable)