

JOINT BASE SAN ANTONIO INSTALLATION FACILITIES STANDARDS (IFS) VOL. 3: JBSA SAM HOUSTON



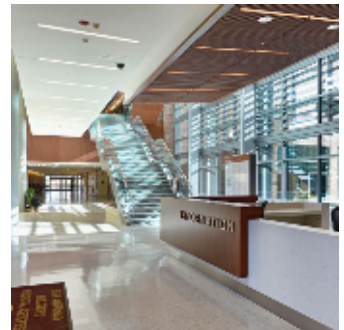
Installation Elements



Site Development



Facilities Exteriors



Facilities Interiors

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

Signature Field

JBSA Sam Houston IFS

Table of Contents

A. OVERVIEW	5	B03.2.3. Preserves	
A01. Facility Hierarchy	5	B03.2.4. Perimeter Fence	
A02. Facility Quality	5	C. SITE DEVELOPMENT	22
A03. Facility Districts	5	C01. Site Design	22
B. INSTALLATION ELEMENTS	7	C01.1. Site Design Considerations	22
B01. Comprehensive Planning	7	C01.2. Building Orientation	23
B01.1. Installation Development Plan (IDP)	7	C02. Utilities	25
B01.1.1. IFS Component Plan of IDP		C02.1. Utility Components	25
B01.1.2. Brief History of Base		C03. Parking Areas	26
B01.1.3. Future Development		C03.1. Configurations and Design	26
B02. Street Envelope Standards	9	C03.1.1. Paving and Striping	
B02.1. Hierarchy of Streets	9	C03.1.2. Curbing	
B02.1.1. Arterial Streets		C03.1.3. Internal Islands and Medians	
B02.1.2. Collector Streets		C03.2. Parking Structures	30
B02.1.3. Local Streets		C03.3. Connectivity	30
B02.1.4. Special Routes		C04. Stormwater Management	30
B02.2. Hierarchy of Intersections	13	C04.1. Stormwater Requirements	30
B02.2.1. Arterials		C05. Sidewalks, Bikeways and Trails	31
B02.2.2. Arterial/Collector		C05.1. Circulation and Paving	31
B02.2.3. Collectors		C05.1.1. Ramps and Stairs	
B02.2.4. Special Intersections		C05.1.2. Lighting	
B02.2.5. Street Frontage Requirements		C06. Landscape	34
B02.2.6. Sight Lines		C06.1. Climate-based Materials	34
B02.3. Street Elements	15	C06.1.1. Landscape Design Concept	
B02.3.1. Paving		C06.1.2. Xeriscape Design Principles	
B02.3.2. Curb and Gutter		C06.1.3. Minimizing Water Requirements	
B02.3.3. Utility Service Elements		C06.1.4. Plant Material Selection	
B02.3.4. Traffic Signs		C06.1.5. Water Budgeting (Hydrozones)	
B02.3.5. Street Lighting		C06.1.6. Base Entrance Landscaping	
B02.3.6. Other		C06.1.7. Streetscape Landscaping	
B03. Open Space / Public Space	18	C06.1.8. Pedestrian Circulation Landscaping	
B03.1. Plazas, Monuments and Static Displays	18	C06.1.9. Parking Lot Landscaping	
B03.1.1. Paved Plazas		C06.1.10. Screen/Accent Landscaping	
B03.1.2. Sculptures, Markers and Statuary		C06.1.11. Other	
B03.1.3. Static Display of Aircraft		C07. Site Furnishings	40
B03.2. Grounds and Perimeters	19	C07.1. Furnishings and Elements	40
B03.2.1. Parade Grounds			
B03.2.2. Parks			

Table of contents continued

C07.2. Site Furnishings Products, Materials / Color ..	43	D03.3.4. Thermal Shading	
C07.2.1. Barbeque Grills		D03.3.5. Renewable Heating/Cooling	
C07.2.2. Benches		D03.3.6. Solar Photovoltaic System	
C07.2.3. Bike Racks		D03.3.7. Solar Thermal System	
C07.2.4. Bike Lockers		D04. Building Entrances	80
C07.2.5. Bollards		D04.1. Primary Entrances	81
C07.2.6. Bus Shelters		D04.2. Secondary Entrances	81
C07.2.7. Drinking Fountains		D05. Wall Systems	82
C07.2.8. Dumpster Enclosures / Gates		D05.1. Hierarchy of Materials	83
C07.2.9. Fencing		D05.2. Layout, Organization and Durability	83
C07.2.10. Flagpoles		D05.3. Equipment, Vents and Devices	83
C07.2.11. Lighting – Landscape / Accent		D05.4 Wall Systems Materials	84
C07.2.12. Litter and Ash Receptacles		D05.4.1. Flat Metal Panels	
C07.2.13. Picnic Tables		D05.4.2. Brick Veneer	
C07.2.14. Planters – Free Standing		D05.4.3. Architectural Precast	
C07.2.15. Play Equipment		D05.4.4. Stucco Over Sheathing	
C07.2.16. Screen Walls		D05.4.5. Curtain Wall	
C07.2.17. Tree Grates		D05.4.6. Cast-in Place Concrete	
C07.2.18. Other		D05.4.7. Tilt-up Concrete	
C08. Exterior Signs	57	D05.4.8. Ribbed Metal Sheeting	
C08.1. Colors and Types	57	D05.4.9. EFIS	
C08.1.1. Materials and Color Specifications		D05.4.10. GRFC	
C08.1.2. Installation and Gate Identification Signs		D05.4.11. Concrete Block	
C08.1.3. Building Identification Signs		D05.4.12. Fiber Cement Siding	
C08.1.4. Traffic Control Devices (Street Signs)		D05.4.13. Other	
C08.1.5. Directional and Wayfinding Signs		D06. Doors and Windows	89
C08.1.6. Informational Signs		D06.1. Types	90
C08.1.7. Motivational Signs		D06.2. Layout and Geometry	90
C08.1.8. Parking Lot Signs		D06.3. Glazing and Shading	90
C08.1.9. Regulatory Signs		D06.4. Hardware	91
C08.1.10. Other		D06.5. Doors and Windows Materials	91
C09. Lighting	65	D06.5.1. Anodized Aluminum	
C09.1. Fixtures and Lamping	66	D06.5.2. Hollow Metal	
C09.2. Light Fixture Types	67	D06.5.3. Aluminum-clad Wood	
C09.2.1. Street Lighting		D06.5.4. Other	
C09.2.2. Parking Lot Lighting		D07. Roof Systems	93
C09.2.3. Lighted Bollards		D07.1. Roof Type and Form	94
C09.2.4. Sidewalk Lighting		D07.2. Roof Slope	94
C09.2.5. Walls / Stairs Lighting		D07.3. Parapets and Copings	95
C09.2.6. Other		D07.4. Color and Reflectivity	95
D. FACILITIES EXTERIORS	73	D07.5. Gutters, Downspouts, Scuppers, Drains	95
D01. Supporting the Mission	73	D07.6. Roof Vents and Elements	95
D02. Sustainability	73	D07.7. Clerestories and Skylights	96
D03. Architectural Features	74	D07.8. Vegetated Roof	96
D03.1. Orientation, Massing and Scale	75		
D03.2. Architectural Character	75		
D03.3. Details and Color	75		
D03.3.1. Climate-based Data			
D03.3.2. Natural Ventilation System			
D03.3.3. Thermal Mass			

Table of contents continued

D07.9. Roof Systems Materials	96	E04. Ceilings	117
D07.9.1. Standing Seam Metal		E04.1. Ceiling Materials	117
D07.9.2. Membrane Single-ply		E04.1.1. Exposed Framing (Roof / Floor Structure	
D07.9.3. Built-up Multi-ply		Above)	
D07.9.4. Concrete Tile		E04.1.2. Exposed Concrete	
D07.9.5. Clay Tile		E04.1.3. Grid and Acoustical Tile	
D07.9.6. Slate Shingles		E04.1.4. Gypsum Board	
D07.9.7. Vegetated System		E04.1.5. Metal Panels	
D07.9.8. Ribbed Metal Sheeting		E04.1.6. Wood	
D07.9.9. Composite Shingles		E04.1.7. Rapidly-Renewable Products	
D07.9.10. Other		E04.1.8. Other	
D08. Structural Systems	100	E05. Doors and Windows	120
D08.1. Systems and Layouts	101	E05.1. Doors and Windows and Frames Materials	120
D08.2. Structural Systems Materials	101	E05.1.1. Aluminum	
D08.2.1. Concrete		E05.1.2. Hollow Metal	
D08.2.2. Insulated Concrete Forming (ICF)		E05.1.3. Wood	
D08.2.3. Steel		E05.1.4. Other	
D08.2.4. Pre-Engineered Steel		E06. Casework Systems	124
D08.2.5. Masonry		E06.1. Casework Materials	124
D08.2.6. Heavy Timber		E06.1.1. Plastic Laminate	
D08.2.7. Light-gauge Steel		E06.1.2. Solid Polymer Surface	
D08.2.8. Lumber Framing		E06.1.3. Rapidly-Renewable Products	
D08.2.9. Other		E06.1.4. Metal	
D09. Mechanical, Electrical and Plumbing	105	E06.2. Countertop Materials	126
D09.1. Passive and Active Systems	106	E06.2.1. Plastic Laminate	
D09.2. Functionality and Efficiency	106	E06.2.2. Solid Polymer Surface	
E. FACILITIES INTERIORS	107	E06.2.3. Natural Stone	
E01. Building Configurations	108	E06.2.4. Cast Stone	
E01.1. Layout and Common Areas	108	E06.2.5. Metal	
E01.1.1. Interior Design Process		E07. Furnishings	129
E01.1.2. Codes and Regulations		E07.1. Durability and Serviceability	129
E01.2. Quality and Comfort	109	E07.2. Accessories	129
E02. Floors	110	E08. Interior Signs	129
E02.1. Floor Materials	110	E08.1 Types and Color	129
E02.1.1. Prepared Slabs		E08.2. Interior Signs Materials	129
E02.1.2. Natural Stone and Terrazzo		E09. Lighting, Power and Communication	129
E02.1.3. Quarry Tile		E09.1. Functionality and Efficiency	129
E02.1.4. Ceramic Tile		E09.2. Types and Color	130
E02.1.5. Resilient Floor		F. Appendices	131
E02.1.6. Carpet			
E02.1.7. Rapidly-Renewable Products			
E02.1.8. Other			
E03. Walls	114		
E03.1. Wall Materials	115		
E03.1.1. Concrete			
E03.1.2. Masonry			
E03.1.3. Ceramic Tile			
E03.1.4. Gypsum Board			
E03.1.5. Metal Panels			
E03.1.6. Wood Paneling			
E03.1.7. Rapidly-Renewable Products			
E03.1.8. Other			

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

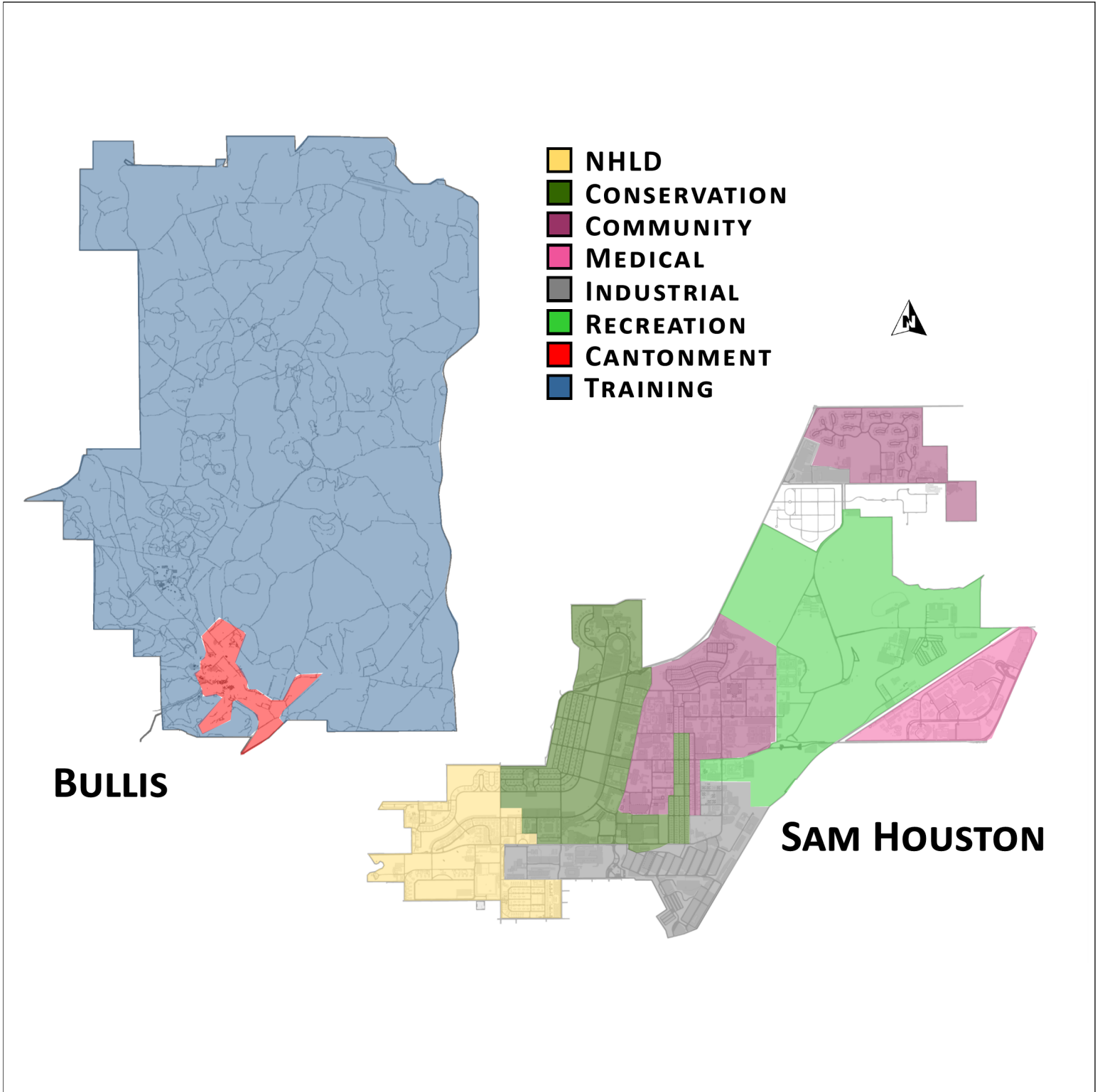
Comply with AF Corporate Standards for Facility Quality (and subsections):

<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>



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://afcs.wbdg.org/installation-elements/index.html>

B.01. COMPREHENSIVE PLANNING

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

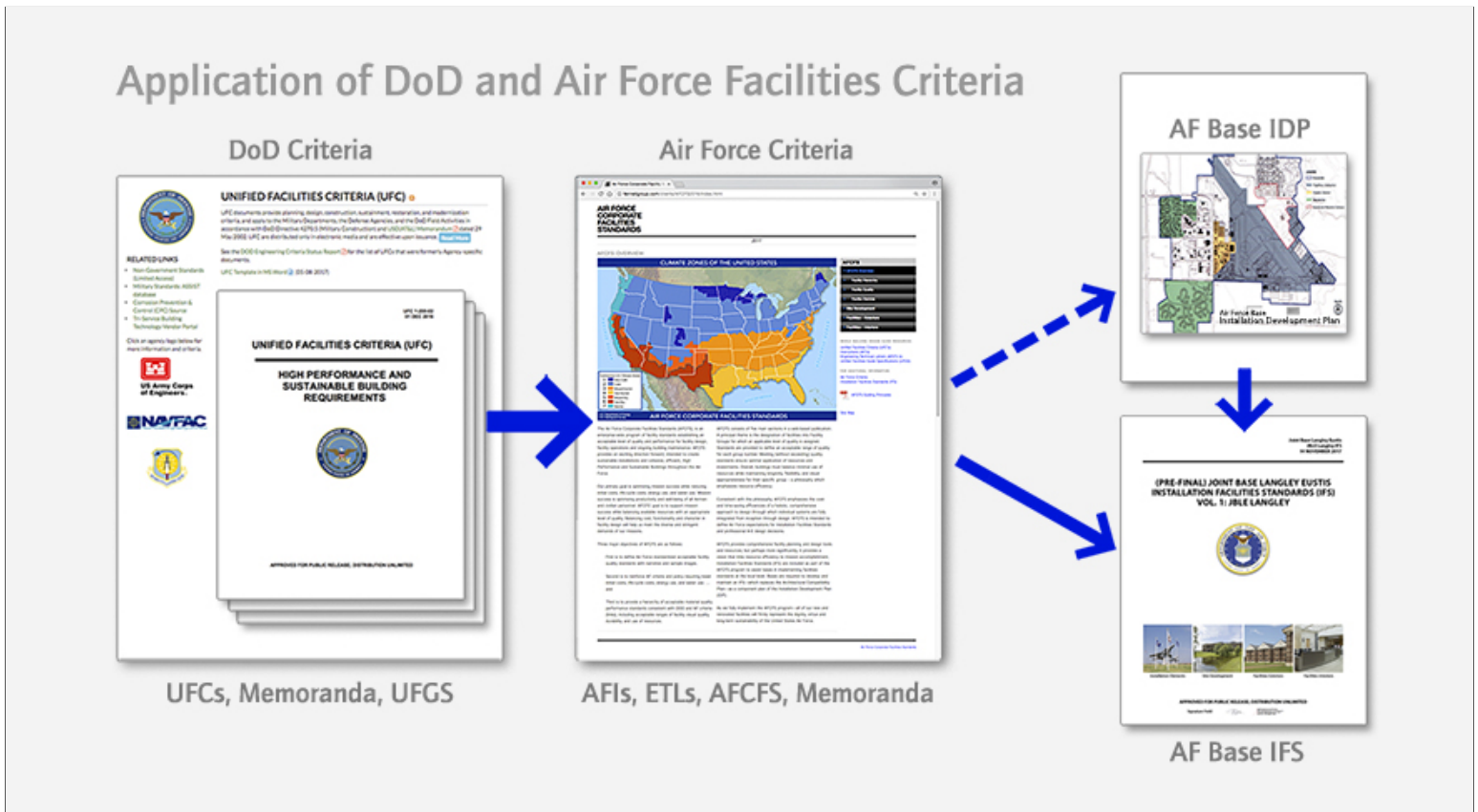
B01.1. Installation Development Plan (IDP)

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

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

Image Sizing and Cropping Tool (large)



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

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

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)



Clock Tower



Old BAMC



BAMC & SAMMC

JBSA Sam Houston is located within the City of San Antonio while Camp Bullis is located outside the city limits in northern Bexar County. Fort Sam Houston (FSH) is unique among military installations. On one hand it is a major, active military installation that plays a vital role in the defense of the United States. On the other hand, it contains some of the oldest structures of any military installation. The fort first occupied rented land in 1845 and grew into a major garrison starting with the construction of the Quadrangle in 1876. Since then, it has developed into a large modern military installation. Its mission began to shift toward a medical emphasis after World War II as a result of the presence of Brooke General Hospital and relocations of other medical missions to FSH. Camp Bullis is located about 18 miles northwest of FSH. Approximately 17,000 acres were originally purchased for Camp Bullis in 1906 (known until 1917 as Leon Springs Military Reservation), to provide adequate space for field training and weapons ranges to support units at FSH. During World War II, the role of Camp Bullis as a major processing and training center for U.S. troops expanded. As the role of FSH shifted to medical training, Camp Bullis provided the larger area required for field training of troops going into combat. Over time, the Camp Bullis mission increased significantly as it became a preferred site for joint military field training in south Texas.

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://afcs.wbdg.org/installation-elements/index.html>

Comply with AF Corporate Standards for Street Envelope Standards:

<http://afcs.wbdg.org/installation-elements/street-envelope-standards/index.html>

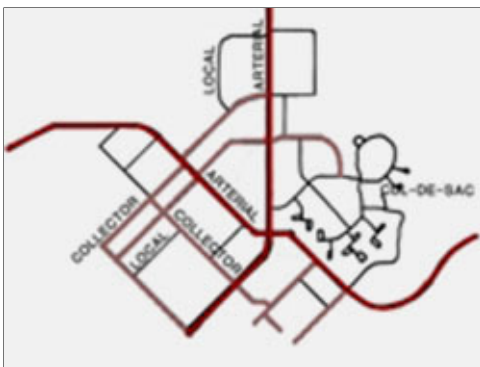
B02.1. Hierarchy of Streets

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

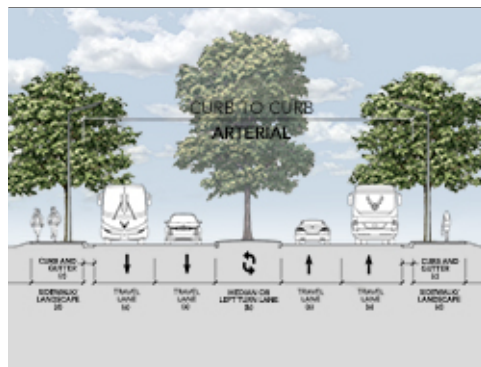
Applicable N/A Has small graphics to include (250px x 188px)

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 Arterial Street

1. Develop and evolve a hierarchical transportation network of arterial, collector and local streets following UFC 3-201-01 and its industry references.
2. Provide consistent functionality throughout the installation and a level of visual quality relating to the adjacent Facility Group number.
3. Routes along facilities in Group 1 may have materials, finishes and features with a higher visual quality than Groups 2, 3 and 4. Reduce maintenance requirements by installing highly durable materials and finishes in routes along Group 3 industrial facilities.
4. Special routes may have a visual quality comparable to those along facilities in Group 1.

5. Create and maintain arterials with two lanes of traffic in each direction with landscaped or paved medians as applicable to the local climate and adjacent facility group designation / land use.
6. Minimize stops and turns along arterials. Eliminate on-street parking along arterials and collector streets.
7. Connect arterials to local streets with appropriately scaled collector streets.
8. Provide appropriate landscape setbacks and pedestrian buffers along all streets.
9. Minimize and consolidate curb cuts along streets.
10. Ensure access for emergency and service vehicles.
11. Define 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.
12. Use consistent landscape treatment at all base entrances. Plant material massing, spacing, and height are characteristics that should visually reinforce the type of street.
13. 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.
14. Bicycles comprise an alternate form of transportation at JBSA-Sam Houston, 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.

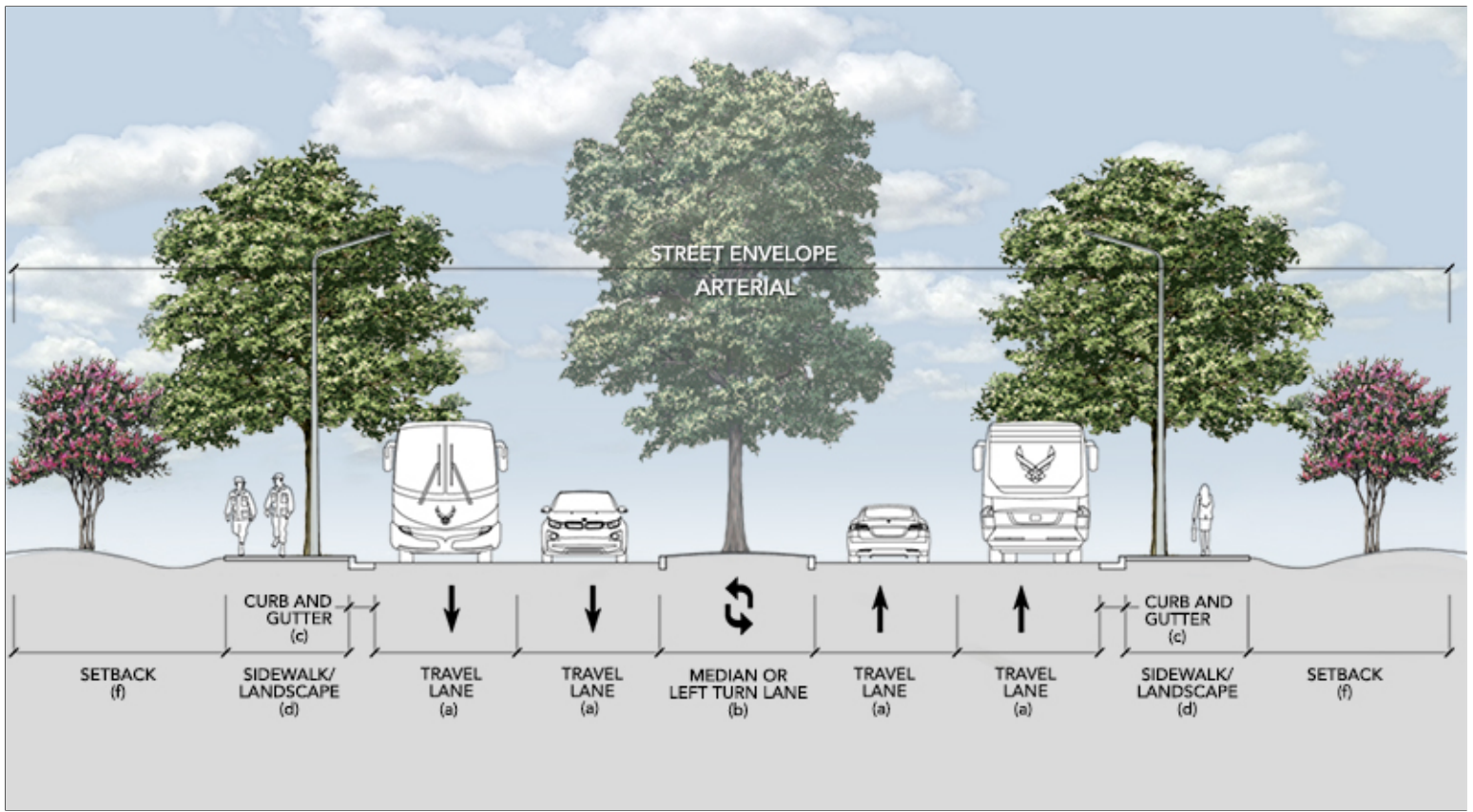
B02.1.1. Arterial Streets

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)



Travel Lane (a): 12' Median (b): 12' Curb and Gutter (c): 2' Sidewalk / Landscape (d): 12' Setback (f): Per AT/FP requirements

1) Maintain the following streets as arterial streets:

- Winfield Scott Rd
- Wilson Way
- Garden Ave
- Schofield Rd
- Stanley Rd
- Dickman Rd
- Old Austin Rd
- Hardee Rd
- Williams Way
- William Hardee
- George Beach Ave

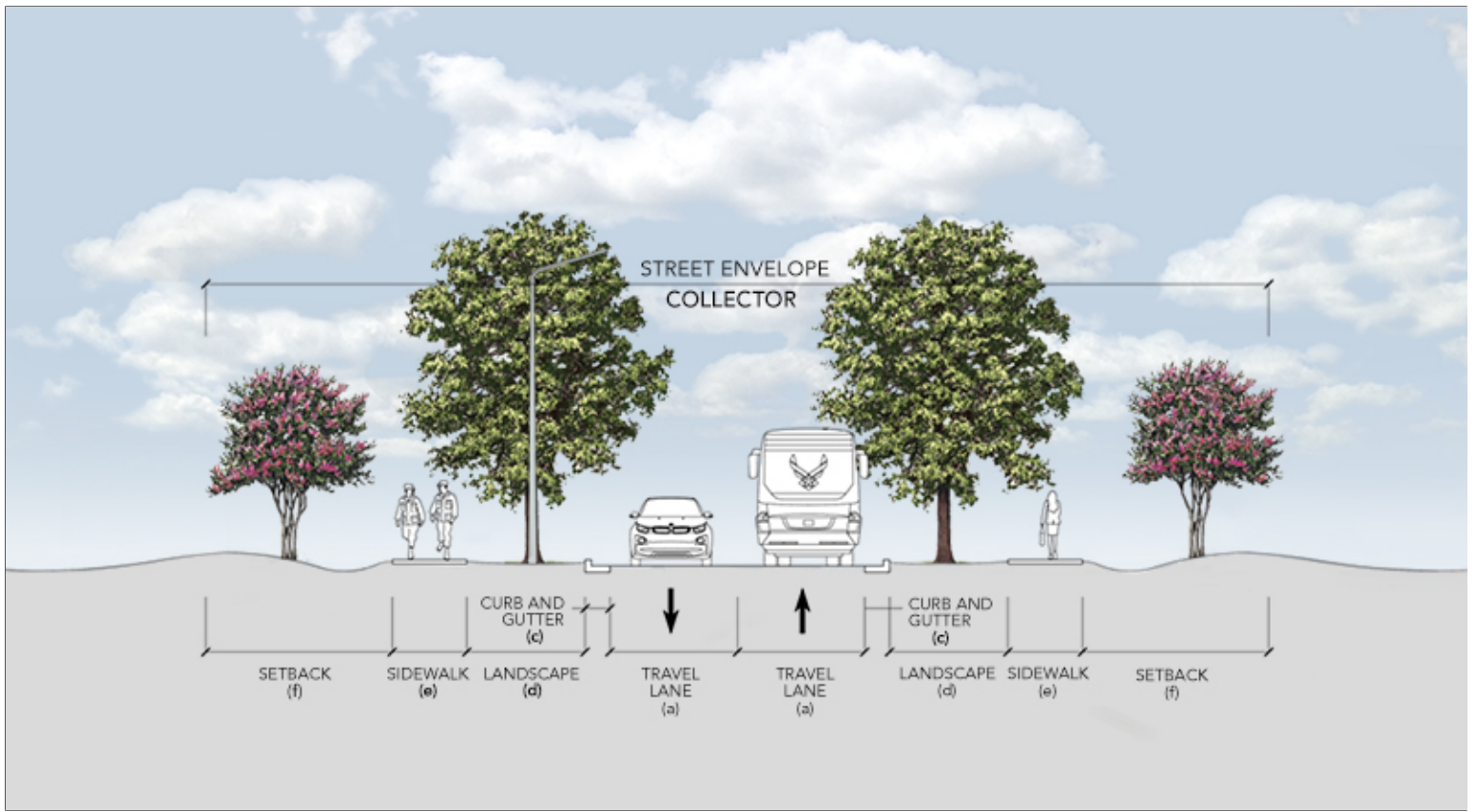
B02.1.2. Collector Streets

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

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

Image Sizing and Cropping Tool (large)



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

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.

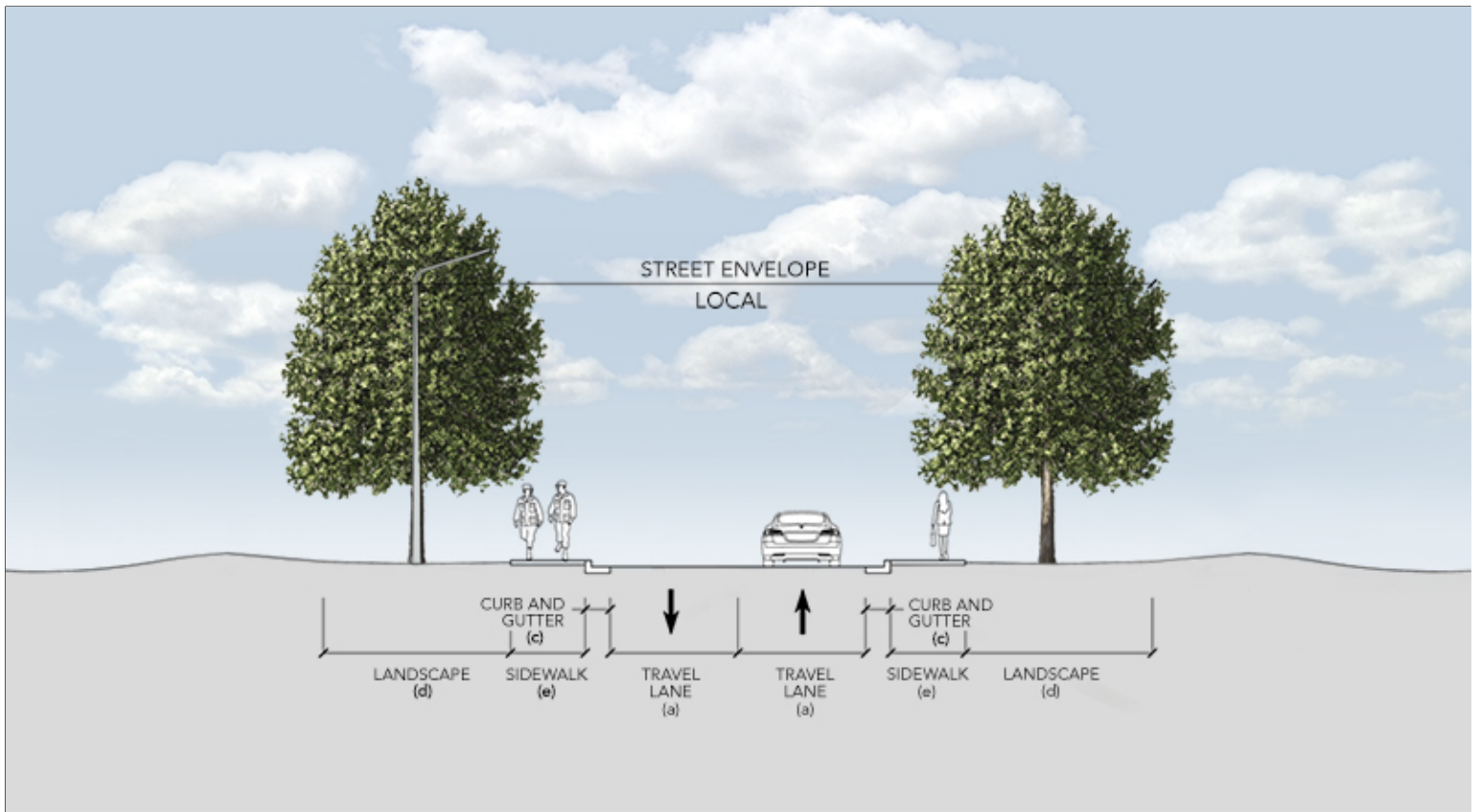
B02.1.3. Local Streets

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

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

Image Sizing and Cropping Tool (large)



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

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/collector 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 collector 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 with arm-mounted signal systems having enclosed wiring raceways.
9. Integrate 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 standard regulation size traffic signals, one for each forward traffic lane, and one for each left-turn and/or right turn lane as necessary.

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.

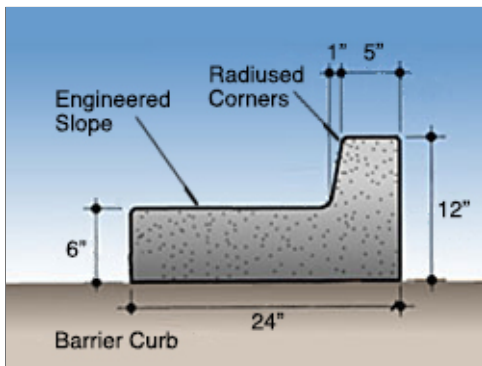
B02.3.2. Curb and Gutter

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

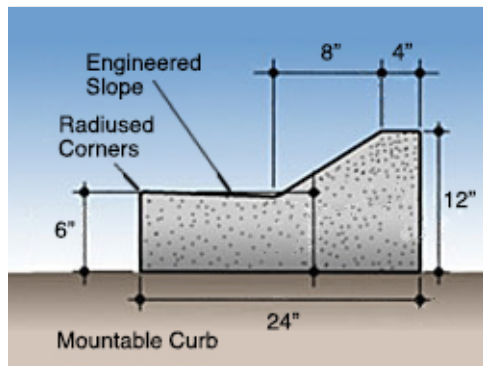
Applicable N/A Has small graphics to include (250px x 188px)

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://afcs.wbdg.org/installation-elements/index.html>

Comply with AF Corporate Standards for Open Space / Public Space:

<http://afcs.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)

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)

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)

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 ongoing 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://afcs.wbdg.org/site-development/index.html>

C01. SITE DESIGN

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

Comply with AF Corporate Standards for Site Design / NEPA:
<http://afcs.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



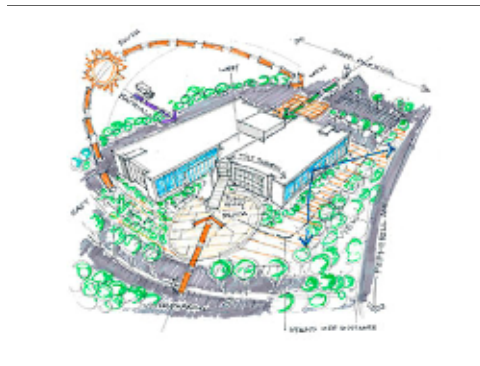
Integrated Force Protection Measures



Accent Landscaping



Site Design



Climatic Considerations



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 versus base-wide infrastructure; consider open space, natural features, bioswales, building roofs, streets, and paved surfaces.
4. Limit the impact of development on land and water resources. All site elements and infrastructure shall reinforce an image of sustainability, with reduced energy demand, renewable-energy usage, and water conservation.

5. Consider energy conservation during site design for the following categories: building and site lighting, auxiliary systems and equipment (refrigerators, elevators, etc.), building envelope, electric power and distribution, HVAC systems and equipment, service hot water, energy management (metering, EMCS).
6. Coordinate on-site renewable-energy systems and components to minimize area requirements and maximize efficiencies. Appropriately buffer and screen these and other mechanical systems and equipment.
7. New building projects should preserve open space and protect natural habitat.
8. Conform to existing topography to the greatest extent possible and use slopes to increase site and building efficiencies. Design sites to minimize irrigation and impacts to storm water 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)

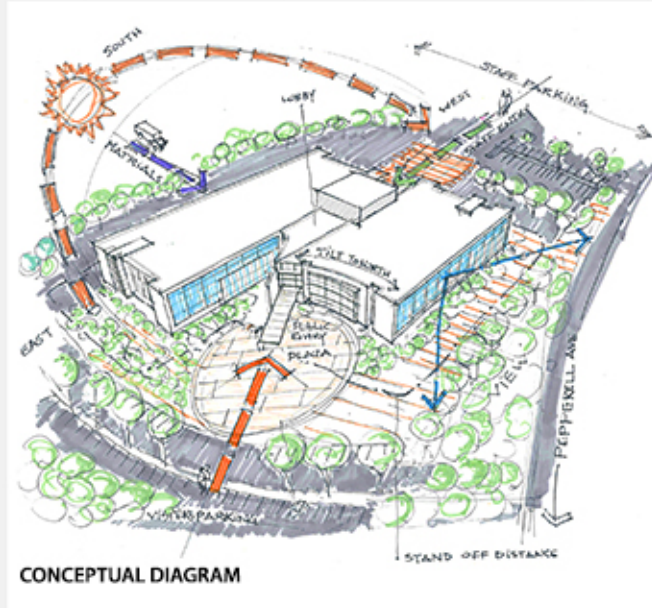
Applicable N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 6

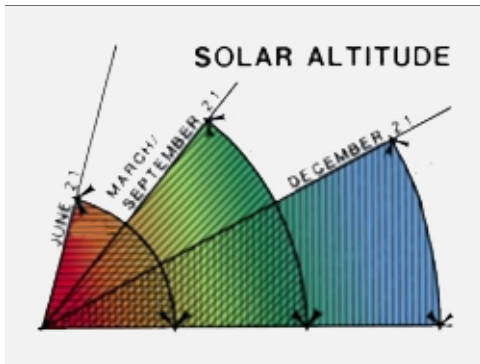
Image Sizing and Cropping Tool (small)

DRIVING FACTORS

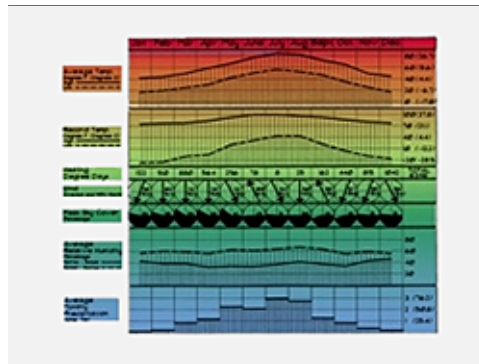
- Optimal solar orientation of the building.
- Main entrance from Pepperrell street.
- Addressing the orientation of the future ACC
- Maximize the daylight & desirable views.
- Saving existing vegetation and trees
- Visibility of the new facility from main roads
- Meet the required AT/FP standoff distance
- Separation between staff/public/materials entrance
- Required parking spaces for public and staff
- Create a unified campus
- Outdoor healing environment
- Implementation of landscape zones A, B, C & D



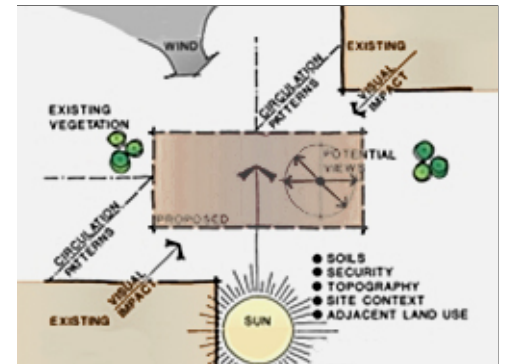
Conceptual Site Analysis and Site Design Diagram



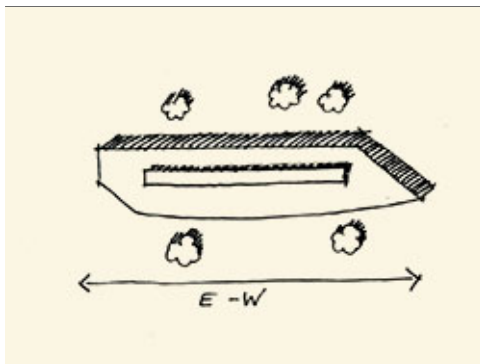
Local Solar Data



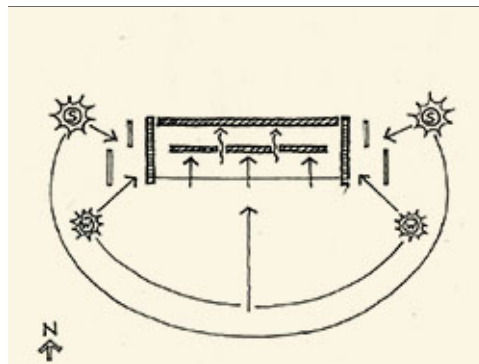
Local Climate Data



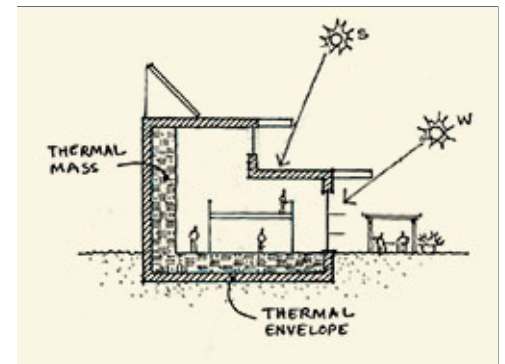
Site Data



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://afcs.wbdg.org/site-development/index.html>

Comply with AF Corporate Standards for Utilities:

<http://afcs.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)



Clearly Labeled Components



Feed to Interiors



Screened Utility Yard



Screened Utility Elements



Coordinated Lightning Protection



Utility Protection

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://afcs.wbdg.org/site-development/index.html>

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

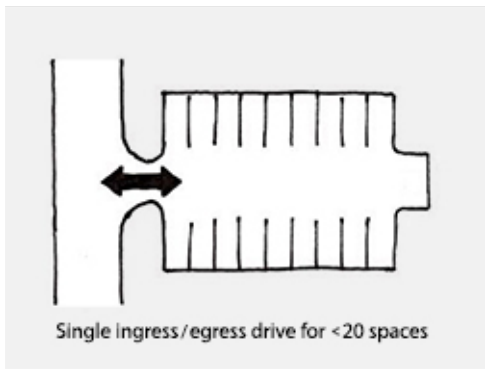
C03.1. Configurations and Design

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

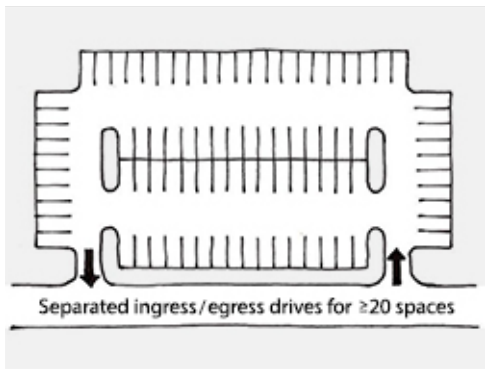
Applicable N/A Has small graphics to include (250px x 188px)

Select number of graphics / images (small: 250 px x 188 px) to insert 9

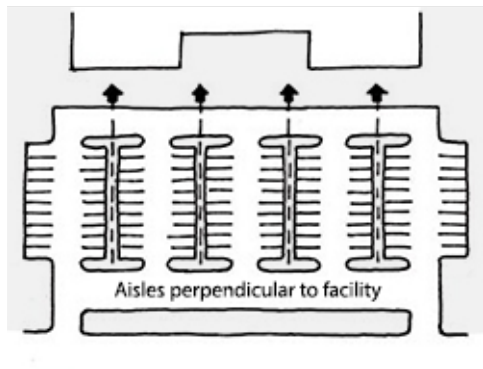
Image Sizing and Cropping Tool (small)



Small Lot Configuration



Large Lot Configuration



Facility Group 1 Configuration



Central Parking Collector



Covered Drop-off



Accessible Parking



Island Lanscaping



Consolidated Parking Area



Connected Parking Lot

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: Concrete
 Accent: Permeable pavers

Facility Group 3 paving materials shall be as follows.

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

Facility Group 2 paving materials shall be as follows.

Primary: Asphaltic Concrete
 Secondary: N/A
 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 may be considered on a case basis.
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.

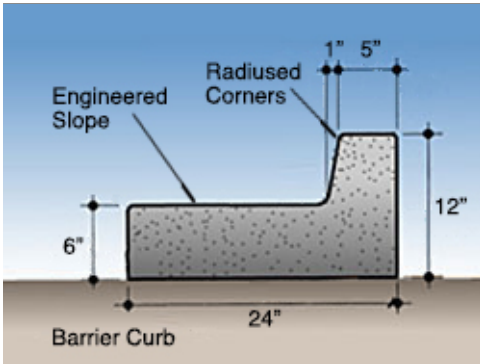
C03.1.2. Curbing

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

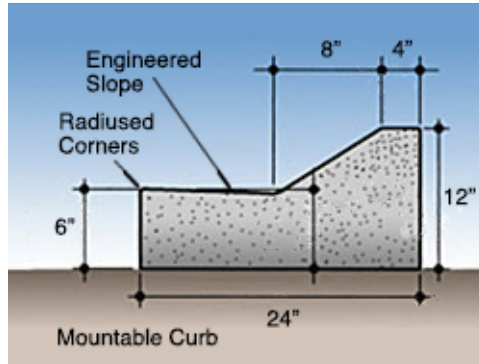
Applicable N/A Has small graphics to include (250px x 188px)

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

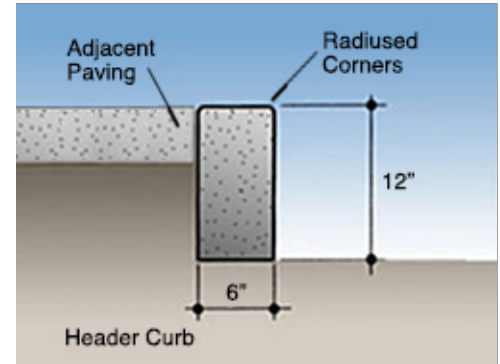
Image Sizing and Cropping Tool (small)



"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 3 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 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 AFTP 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.

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)



Directed Roof Drainage



Directed Stormwater



Retention Pond as Amenity



Inconspicuous Swale



Coordinated Landscape and Paving



Storm Drainage Inlet

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. Consider rainwater harvesting and storage that is attached to the building's roof drain systems to support grey water irrigation; consider freeze protection for winter months.
7. 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.
8. Cost-effectively integrate stormwater systems with ATRP measures.

C05. SIDEWALKS, BIKEWAYS AND TRAILS

Comply with AF Corporate Standards for Site Development:

<http://afcs.wbdg.org/site-development/index.html>

Comply with AF Corporate Standards for Sidewalks, Bikeways and Trails:

<http://afcs.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)

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

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

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

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

C05.1.1. Ramps and Stairs

Applicable N/A 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)

Select number of graphics / images (small: 250 px x 188 px) to insert 6

Image Sizing and Cropping Tool (small)



Group 1 Pathway Lighting



Group 2 Sidewalk Lighting



Stairway Lighting



Entrance Pathway Light



Group 2 Pathway Lighting



Open Space Lighting

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://afcs.wbdg.org/site-development/index.html>

Comply with AF Corporate Standards for Landscape:

<http://afcs.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)



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)



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. Provide open spaces as transitions between developed and native areas that promote quality of life and provide visual relief and allow walkable connections to the transportation system.
8. Return suitable areas to a natural state to minimize and, whenever possible, eliminate ground maintenance requirements.
9. In tree clusters replace grass with naturalized shrub beds and leaf litter mulch to eliminate mowing requirements.
10. Use plantings in open spaces to reinforce the space as a visual asset.
11. Consider landscape windbreaks when suitable for the local climate per IFS.
12. 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.
13. Berms may be used as an integral part of the overall landscape strategy for screening, security and/or visual interest.
14. Streetscape and Intersection Landscaping: Refer to the Installation Elements section.
15. Base Entrance Landscaping: Refer to the Installation Elements section.
16. Use raised planters, plinth walls, or landscaped berms as vehicular barriers.
17. AFTP 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 3

Image Sizing and Cropping Tool (small)



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)

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)

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

Image Sizing and Cropping Tool (small)



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. Comply with DoD and Air Force policy on potable-water irrigation systems.
2. Provide irrigation systems in new construction to establish plant materials following "Water for Landscaping" in UFC 1-200-02. JBSA is in a hot-humid location with annual precipitation averaging approximately thirty-three inches (33").
3. 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.
4. Provide irrigation design following UFC 3-201-02. Install drip irrigation products and components following UFGS Section 32 84 24 Irrigation Sprinkler Systems. Match the color of valve box lids to the adjacent ground treatment (i.e. green at turf & native seed areas, brown at wood mulch & rock areas).

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

C06.1.6. Base Entrance Landscaping

Applicable N/A 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 Group 1.
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)

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

Image Sizing and Cropping Tool (small)



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. Define walkways with landscaping where appropriate.

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

3. 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)

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

Image Sizing and Cropping Tool (small)



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)

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

Image Sizing and Cropping Tool (small)



1. Provide complimentary accent landscaping at monuments and static displays.
2. Appropriate landscaping shall surround all freestanding signs without detracting from its communication ability.
3. Provide landscape screening of utility elements adjacent to Facility Group 1.
4. Providing landscaping as visual screening is preferred to the construction of walls and fences; berming and mounding may supplement landscape screening.

C06.1.11. Other

Applicable N/A 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 9

Image Sizing and Cropping Tool (small)



Convenient Seating



Convenient Bike Rack



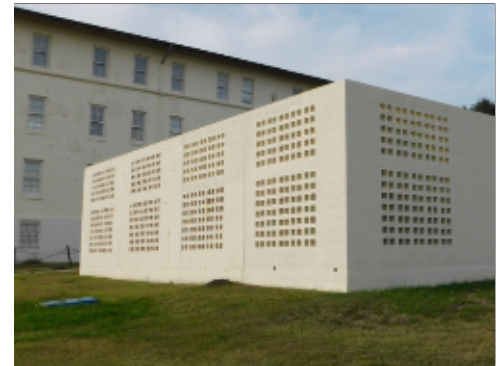
Lighted Bollard



Architecturally Coordinated Containers



Visual Screening for Dumpster



Screened Mechanical Yard



Utility Protection



Security Fencing



Accessway Control

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 ATRP 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) for all Groups, parks and trails. Illuminated bollards may be used as approved on a case basis. All bollard designs must conform to UFC 4-010-01.
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 all Facility Groups with materials and type to match adjacent facilities; all gates shall be metal factory finished with color as approved.
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.

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

C07.2. Site Furnishings Products, Materials and Color

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

C07.2.1. Barbeque Grills

Applicable N/A

Number of base standards 2

[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: Concrete foundation, coordinate with Base Architect

UFGS: N/A



Type: **Natural Gas**

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

Mfr: BBQ Coach

Color: Natural stainless steel

Finish: Mill

Model #: 32" 4-Burner

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

UFGS: N/A

C07.2.2. Benches

Applicable N/A

Number of base standards 1

[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

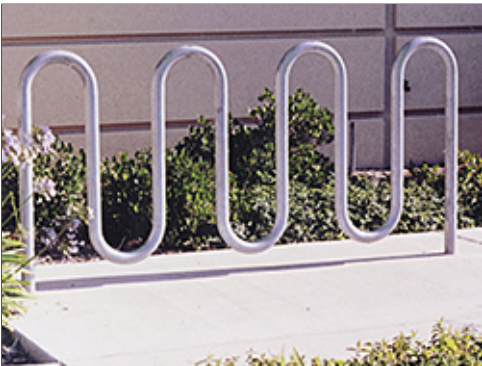
UFGS: N/A

C07.2.3. Bike Racks

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: Brandir International Inc.

Color: Galvanized

Finish: Factory

Model #: The Ribbon Bike Rack, RB-07

Other: N/A

UFGS: N/A

C07.2.4. Bike Lockers

Applicable N/A

C07.2.5. Bollards

Applicable N/A

Number of base standards 3

[Image Sizing and Cropping Tool \(small\)](#)

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

Type: **Lighted Round Dome Top**



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

Mfr: Lithonia Lighting Products

Color: Dark Bronze

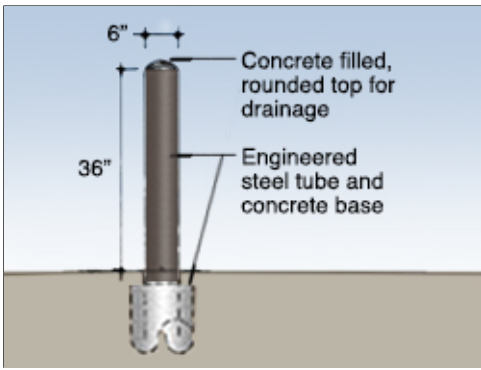
Finish: Anodized aluminum

Model #: KBA

Other: Flared cone, 3000K LED Lamp

UFGS: N/A

Type: **Building Protection, steel**



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

Mfr: (Bollard Cover) Reliance Foundry

Color: Brown cover may be field painted dark bronze

Finish: Factory

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

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

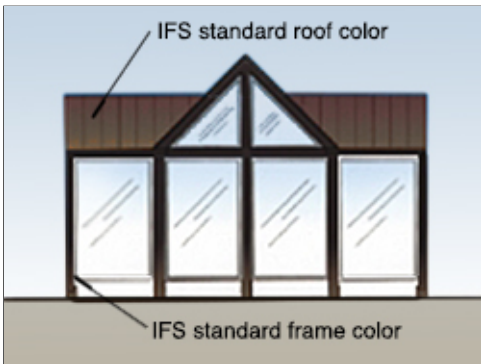
UFGS: N/A

C07.2.6. Bus Shelters

Applicable 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: Dark Bronze

Finish: Powder coated

Model #: Gabled roof

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

UFGS: N/A

Type: **Style 2**



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

Mfr: Custom

Color: Dark green

Finish:

Model #: Gabled roof

Other: Standing seam metal roof

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: Natural

Finish: Stainless Steel

Model #: MDF 440 SMSS

Other: Accessible

UFGS: N/A

C07.2.8. Dumpster Enclosures / Gates

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: Red brick blend, dark brown doors

Finish: Face brick, powder coated doors

Model #: Match adjacent building

Other: Steel gates and hardware, dark brown, dumpsters shall be painted dark brown

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

Type: **Style 2**



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

Mfr: Custom

Color: Match facility

Finish: Clear-sealed split face, steel gates.

Model #: Coursed masonry, slatted or fluted steel sheeting.

Other: CMU wall with concrete cap. Steel gates either galvanized or painted.

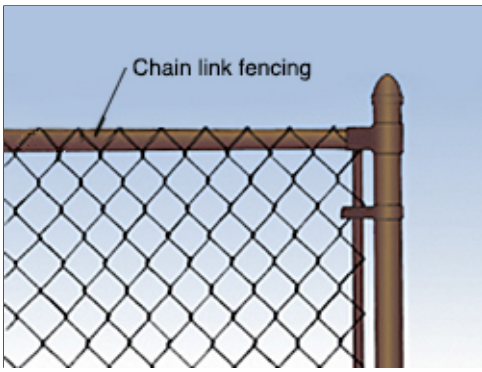
UFGS: Section 04 20 00 Unit Masonry, Section 05 50 13 Misc. Metal

C07.2.9. Fencing

Applicable N/A

Number of base standards 7

[Image Sizing and Cropping Tool \(small\)](#)



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

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

Mfr: General Wire Co.

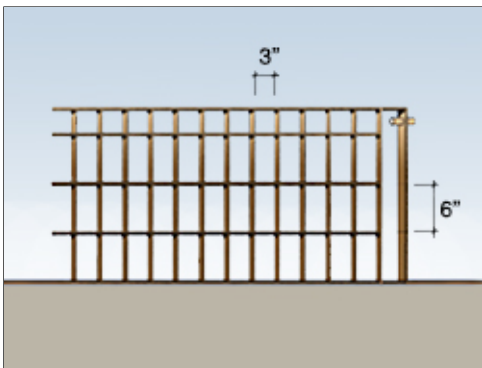
Color: Dark brown

Finish: PVC coating over galvanized steel

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

Other: N/A

UFGS: Section 32 31 13 Chain Link Fences and Gates



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

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

Mfr: Custom

Color: Dark brown

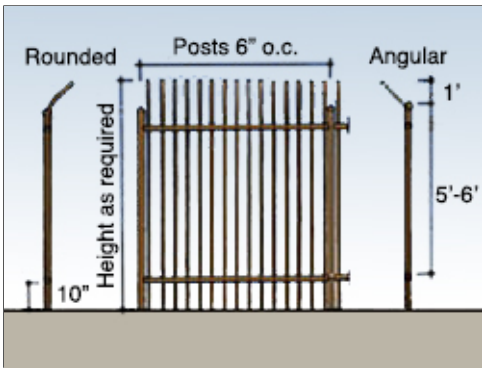
Finish: Powder coat

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

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

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

Type: **Style C Barrier: Medium security, medium visibility**



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

Mfr: Custom

Color: Dark Brown

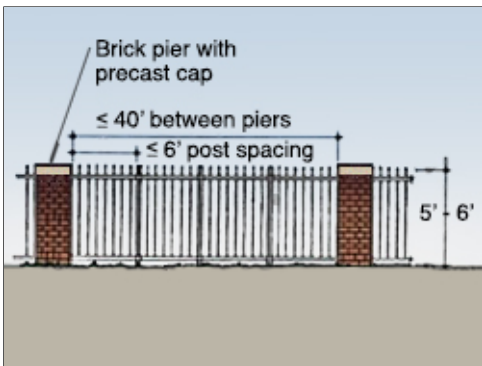
Finish: Powder coat

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

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

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

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



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

Mfr: Custom

Color: Red brick blend, dark brown fencing

Finish: Face brick, powder coated metal

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

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

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

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

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

Mfr: Custom

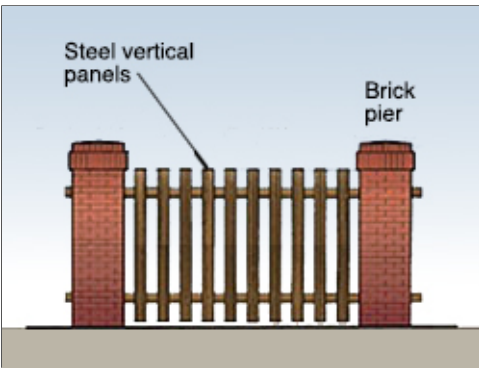
Color: Red brick blend, dark brown fencing

Finish: Powder coated metal

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

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

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



Type: **Style F Barrier: Very low security, high visibility**

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

Mfr: Custom

Color: Integral mixed Davis Colors: dark warm gray

Finish: Factory

Model #: Post and rail

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

UFGS: SECTION 03 33 00 Cast-In-Place Architectural Concrete



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



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

Mfr: James Hardie Building Products, Inc.

Color: Off white and Earth tones

Finish: Factory

Model #: Post and rail with vertical boards

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

UFGS: Not Available (SECTION 074646 Fiber Cement Siding)

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.

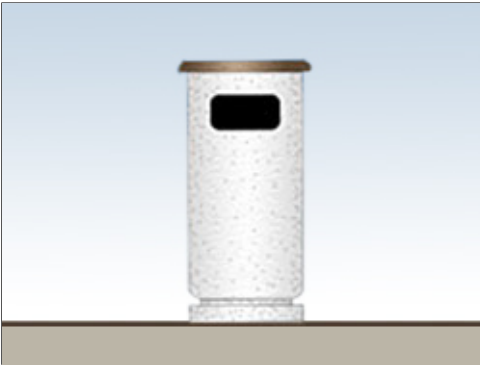
C07.2.12. Litter and Ash Receptacles

Applicable N/A

Number of base standards 2

[Image Sizing and Cropping Tool \(small\)](#)

Type: **Style 1: Precast concrete**



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

Mfr: Materials, Inc.

Color: Weatherstone Gray or as approved

Finish: Smooth

Model #: TR-3225 Sante Fe (round or square)

Other: Rigid plastic internal liner,
http://materialsinc.com/wp-content/uploads/2014/10/TR-3225_SANTA_FE.pdf

UFGS: N/A

Type: **Style 2: Metal**



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

Mfr: Wabash Valley

Color: Black or as approved

Finish: Perforated Pattern

Model #: Urbanscape "E" with liner, 32 Gallon

Other: With dome top, without side door

UFGS: N/A

C07.2.13. Picnic Tables

Applicable N/A

Number of base standards 2

[Image Sizing and Cropping Tool \(small\)](#)



Type: **Precast concrete**

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

Mfr: Materials, Inc.

Color: Weatherstone Gray

Finish: Standard Finish (Smooth)

Model #: TS-3490 New Mexican

Other: (303) 458-9595

UFGS: N/A



Type: **Metal, vinyl coated**

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

Mfr: Wabash Valley

Color: Brown or as approved

Finish: Factory vinyl coated

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

Other: Perforated Pattern, In-ground mount

UFGS: N/A

C07.2.14. Planters

Applicable N/A

Number of base standards 1

[Image Sizing and Cropping Tool \(small\)](#)

Type: **Precast concrete**

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

Mfr: Materials, Inc.

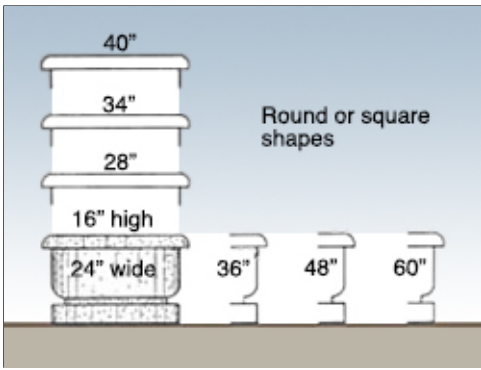
Color: Weatherstone Gray

Finish: Smooth

Model #: Santa Fe

Other: N/A

UFGS: N/A



C07.2.15. Play Equipment

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

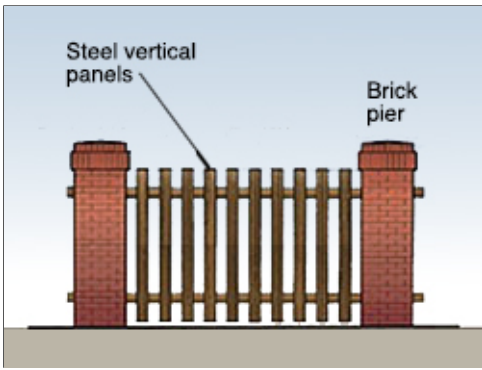
UFGS: N/A

C07.2.16. Screen Walls

Applicable N/A Number of base standards 2

[Image Sizing and Cropping Tool \(small\)](#)

Type: **Style 1**



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

Mfr: Custom

Color: Red brick blend, dark brown fencing

Finish: Powder coated metal

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

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

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

Type: **Style 2**



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

Mfr: Custom

Color: As approved

Finish: Clear-sealed split face

Model #: Coursed masonry

Other: CMU wall with concrete cap

UFGS: Section 04 20 00 Unit Masonry

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

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

C08.1.1. Materials and Color Specifications

Applicable N/A 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

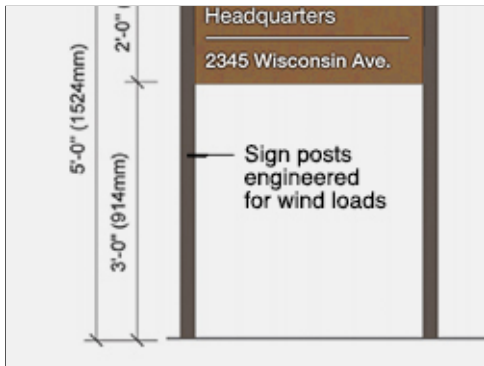
Color: Medium bronze

Finish: Matte vinyl

Model #: Aluminum flat sheet

Other: Mount to square posts. Provide sizes following UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Typical Sign Post**

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

Mfr: Custom

Color: Dark bronze, powder coat finish

Finish: Matte

Model #: Extruded aluminum with capped top ends

Other: Square posts and squared ends. Provide engineered sizes.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

Type: **Typical Sign Base**

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

Mfr: Custom

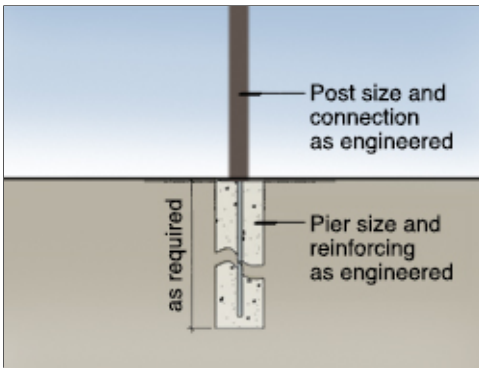
Color: Natural Gray

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. Provide dimensions per UFC. Secondary signs shall match primary sign's materials, but shall be smaller in size per UFC. Tertiary signs shall follow the UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



C08.1.3. Building Identification Signs

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

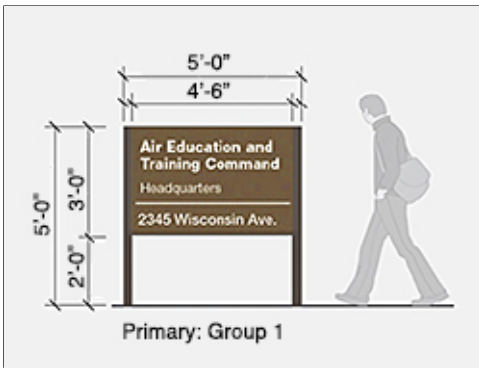
Color: Medium brown face, dark bronze posts, white vinyl lettering

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

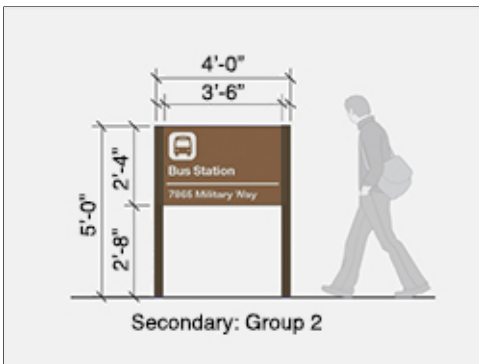
Color: Medium brown face, dark bronze posts, white vinyl lettering

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

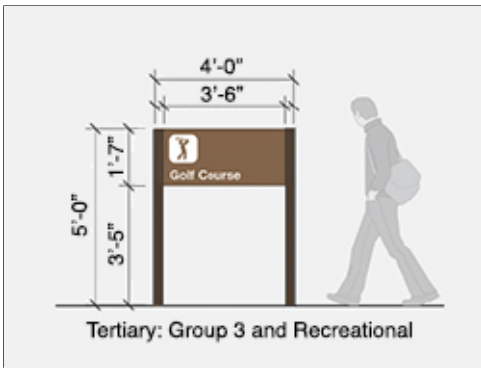
Mfr: Custom

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

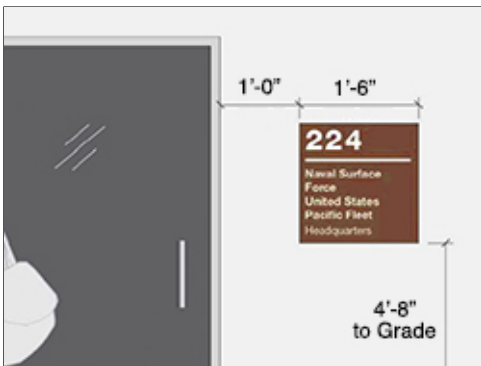
Mfr: Custom

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: N/A

Type: **Glass Mounted**



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

Mfr: Custom

Color: White vinyl lettering

Finish: Matte vinyl

Model #: Machine-cut sheet vinyl

Other: Apply vinyl lettering to glass. Provide sizes following UFC.

UFGS: N/A

C08.1.4. Traffic Control Devices (Street Signs)

Applicable N/A Number of base standards 1

[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 Standard Brown background

Finish: Powder coat or vinyl sign face

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

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

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

C08.1.5. Directional and Wayfinding Signs

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

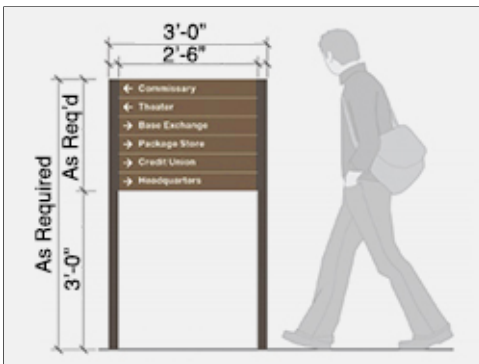
Color: Medium brown face, dark bronze posts

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://afcs.wbdg.org/site-development/index.html>

Comply with AF Corporate Standards for Lighting:
<http://afcs.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)



Wall-mounted Downlighting



Static Display Lighting



Integrated Force Protection

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

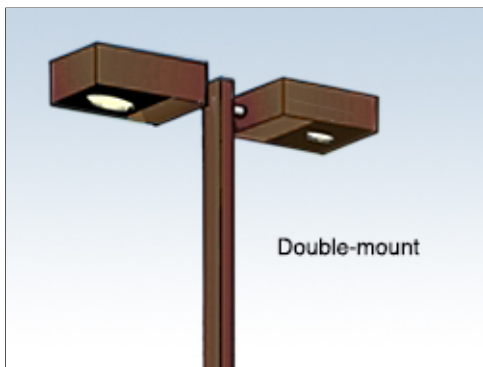
C09.2. Light Fixture Types

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

C09.2.1. Street Lighting

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: 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

Type: **Style 2**

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

Mfr: Hubbell, Kim Lighting

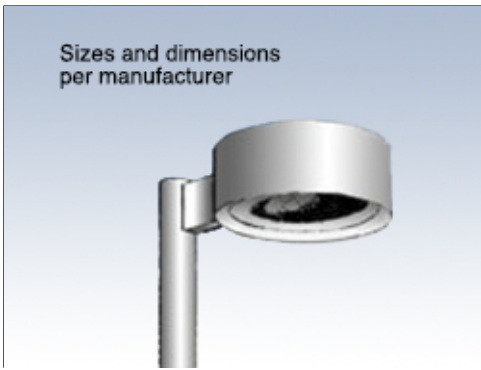
Color: Clear Anodized as approved by BCE

Finish: Factory

Model #: Round 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 2

[Image Sizing and Cropping Tool \(small\)](#)

Type: **Parking Lot Style 1**

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

Mfr: Hubbell, Kim Lighting

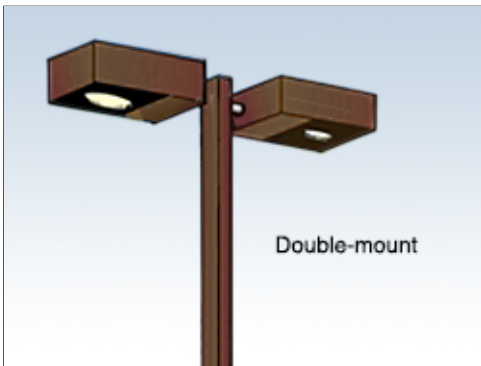
Color: Dark Bronze Anodized (or Clear Anodized as approved by BCE)

Finish: Factory

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

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

UFGS: N/A



Type: **Parking Lot Fixture Base**

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

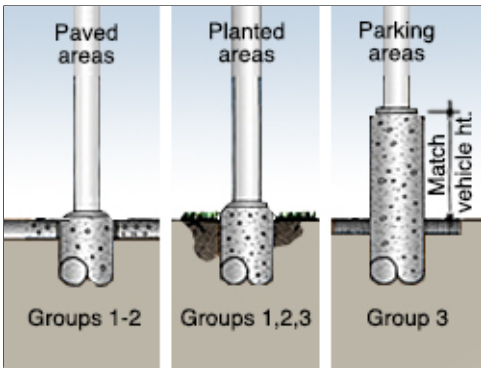
Mfr: Custom

Color: Natural gray

Finish: Trowel

Model #: Form-cast, round

Other: N/A



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

C09.2.3. Lighted Bollards

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

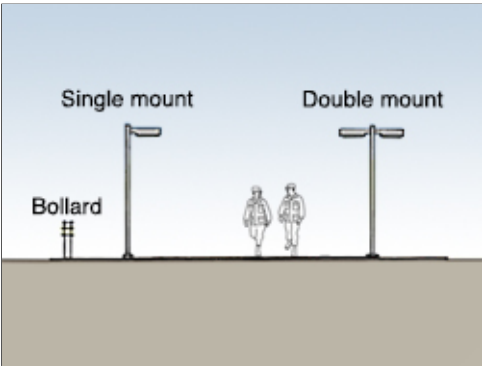
UFGS: N/A

C09.2.4. Sidewalk Lighting

Applicable N/A

Number of base standards 2

[Image Sizing and Cropping Tool \(small\)](#)



Type: **Rectilinear Cutoff**

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 #: Rectilinear Cutoff, Single Arm or Dual Arm Mount

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

UFGS: N/A



Type: **Ornate**

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

Mfr: Philips LUMEC

Color: BRTX Textured Bronze

Finish: Manufacturer's finish

Model #: DOS-DBA/DOS-DBA-2

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

UFGS: N/A

C09.2.5. Walls / Stairs Lighting

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: Vista Lighting

Color: Dark bronze anodized

Finish: Smooth

Model #: Aluminum Step and Brick Lights, 5230 round louvered

Other: Lamp: LED

UFGS: N/A

Type: **Style 2**

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

Mfr: Philips LUMEC

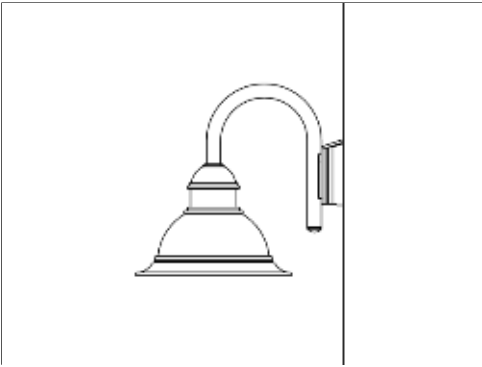
Color: BRTX Textured Bronze

Finish: Manufacturer's finish

Model #: DOS-DBA-M

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

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://afcs.wbdg.org/facilities-exteriors/index.html>

Comply with AF Corporate Standards for Architectural Features:

<http://afcs.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.
9. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

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

- Climate dominated by mechanical cooling
- Climate dominated by mechanical heating
- Climate with similar mechanical cooling / heating needs
- Climate with minimal mechanical cooling / heating needs

- Climate with high humidity
- Climate with moderate humidity
- Climate with low humidity

- High Solar Insolation
- Moderate Solar Insolation
- Low Solar Insolation

- Soils with High Thermal Conductivity
- Soils with Average Thermal Conductivity
- Soils with Low Thermal Conductivity

Other: Consider the potential for flooding and corrosion.

Other:

Facility: Narrow buildings along E-W axis are preferred

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

Doors: Recessed

Windows: Provide insulating glazing on north-facing windows / maximize shading for windows on south, west, and east facades

Roof: High to medium albedo, moderate slope for all buildings except hangars / large industrial facilities

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

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: Dark Bronze (or clear anodized as approved by BCE)

Finish: Anodized

Model #: 2x4, slider or awning type

Other: Provide thermally broken frames.

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

D03.3.3. Thermal Mass

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: Custom, TBD

Color: Red brick blend

Finish: Light texture

Model #: Coursed unit masonry

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

UFGS: Section 04 20 00 Unit Masonry

D03.3.4. Thermal Shading

Applicable N/A Number of base standards 1

[Image Sizing and Cropping Tool \(small\)](#)



Type: **Style 1 Wall Devices**

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

Mfr: Kawneer (or equivalent) or custom

Color: Dark bronze

Finish: Factory, to match frames

Model #: Louver

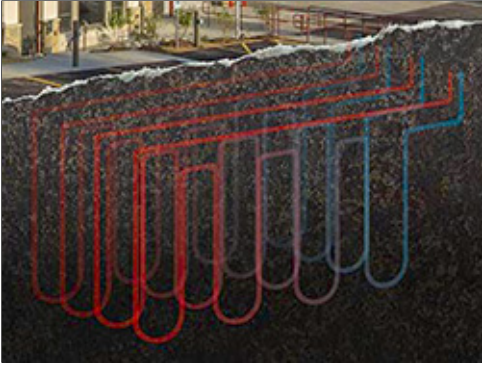
Other: Shading devices may be attached to frames or structure

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

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 #: N/A

Other: Vertical ground loop well field

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

D03.3.6. Solar Photovoltaic System

Applicable 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://afcs.wbdg.org/facilities-exteriors/index.html>

Comply with AF Corporate Standards for Building Entrances:

<http://afcs.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 façade 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 color 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. Integrate service and egress doors and loading areas with the building design by matching the materials and detailing and reflect the overall quality of the facility.
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 weather-stripping 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://afcs.wbdg.org/facilities-exteriors/index.html>

Comply with AF Corporate Standards for Doors and Windows:

<http://afcs.wbdg.org/facilities-exteriors/wall-systems/index.html>

Comply with AFCFS Recommended Materials:

<http://afcs.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 a combination of Brick and stucco, which are the preferred materials for exterior walls. Brick and/or stucco colors should be similar to that used on existing structures within view of the new building; the use of light-colored brick or other good quality masonry unit, or a combination of masonry unit and cast concrete, tinted to match the surrounding buildings may be used as well. The use of ribbed metal sheeting, concrete masonry units and/or cast concrete panels with an exterior paint finish or texturing to upgrade their visual appearance 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 be a combination of two of the following materials: stucco, brick and/or fiber cement horizontal siding.
4. Multi-story Group 1 facilities may include a transition in material, color or detailing to create a visual base. Generally limit cast concrete panels and/or concrete masonry units to a single color on Group 2, 3 and 4 facilities.
5. Use high-performance building envelopes following UFC 1-200-02.
6. Use detailing not subject to excessive weathering. Provide wall accents consistently throughout the base.
7. Use integrally colored materials and factory-finished metals. Do not paint concrete block.
8. Stone veneers may be used in Facility Group 1 and recreational uses in Group 2.
9. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

D05.2. Layout, Organization and Durability

1. Organize wall components including doors, windows, accents, shading devices, control joints, etc., to provide an ordered, professional appearance.
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 Stucco
Secondary: Architectural precast
Accent: Optional: Brick veneers

Facility Group 2 wall materials shall be as follows.

Primary: Brick or Stucco
Secondary: Architectural precast
Accent: Optional: Cast-in-Place Concrete

Facility Group 3 wall materials shall be as follows.

Primary: Concrete masonry units with texturing
Secondary: Ribbed Metal Sheeting in Alternate Color
Accent: Optional: Cast-in-Place Concrete

Facility Group 4 wall materials shall be as follows.

Primary: Fiber Cement Siding or Stucco
Secondary: Fiber Cement Siding or Trim Boards
Accent: Optional: Concrete

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: **Style 1**

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

Mfr: Alucobond

Model #: Alucobond Classic, Rainscreen I

Color: Anodic Clear Mica PVDF 2

Finish: Matte

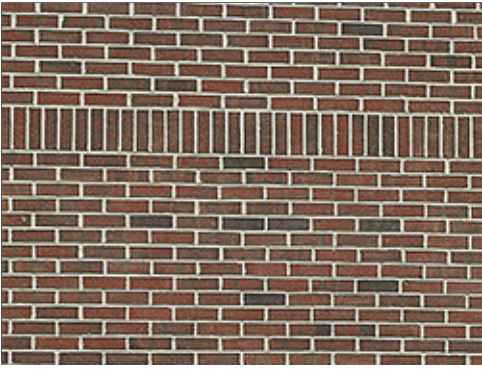
Other: Route and Return Dry Seal

UFGS: Section 07 42 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: Local, TBD

Model #: Modular Face Brick

Color: TBD

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: **Coursed precast**

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

Mfr: Local, TBD

Model #: Smooth Casting

Color: Light Beige

Finish: Very Light texture

Other: N/A

UFGS: Section 03 45 00 Precast Architectural Concrete:
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 45 00.pdf>

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

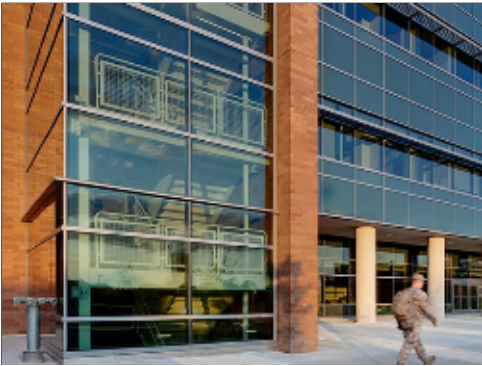
UFGS: Section 09 24 23 Cement Stucco:
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 24 23.pdf>

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 Anodized / 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

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: TBD

Model #: Sheet-formed with exposed-tie reveals

Color: TBD

Finish: Exposed Aggregate

Other: Medium Texture (or media blasted)

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

D05.4.7. Tilt-Up Concrete

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: TBD

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

D06. DOORS AND WINDOWS

Comply with AF Corporate Standards for Facilities Exteriors:

<http://afcs.wbdg.org/facilities-exteriors/index.html>

Comply with AF Corporate Standards for Doors and Windows:

<http://afcs.wbdg.org/facilities-exteriors/doors-and-windows/index.html>

Comply with AFCFS Recommended Materials:

<http://afcs.wbdg.org/facilities-exteriors/doors-and-windows/materials/index.html>

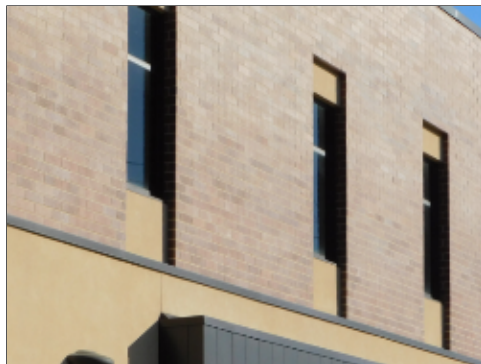
Insert 3 photos for each facility group.

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

D06.2. Layout and Geometry

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

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: _____

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

Mfr: Hollow Metal Doors, Windows and Frames

Color: Dark Brown

Finish: Powder Coated, Satin

Model #: 2x4 frame

Other: Provide thermally broken frames

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

D06.5.3. Aluminum-clad Wood

Applicable N/A Number of base standards 1

[Image Sizing and Cropping Tool \(small\)](#)



Type: **Aluminum-clad Residential**

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

Mfr: Marvin

Color: White or Earth tones

Finish: Powder coated, satin

Model #: Aluminum-clad wood windows

Other: Double hung

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

D06.5.4. Other

Applicable N/A

D07. ROOF SYSTEMS

Comply with AF Corporate Standards for Facilities Exteriors:

<http://afcs.wbdg.org/facilities-exteriors/index.html>

Comply with AF Corporate Standards for Roof Systems:

<http://afcs.wbdg.org/facilities-exteriors/roof-systems/index.html>

Comply with AFCFS Recommended Materials:

<http://afcs.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.
16. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

D07.2. Roof Slope

1. Group 1 and 2 buildings 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 Group 1 and 2, and smaller facilities in Group 3 shall be red 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 beneficial.

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: Red or as approved

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

Number of base standards 1

Image Sizing and Cropping Tool (small)



Type: _____

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

Mfr: _____

Color: _____

Finish: _____

Model #: _____

Other: _____

UFGS: Section 07 32 13 Clay Roof Tiles
(Not Available on UFGS)
Section 07 32 14 Clay Tile Roofing Replacement or Repair
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS.07.32.14.pdf>

D07.9.6. Slate Shingles

Applicable N/A

D07.9.7. Vegetated System

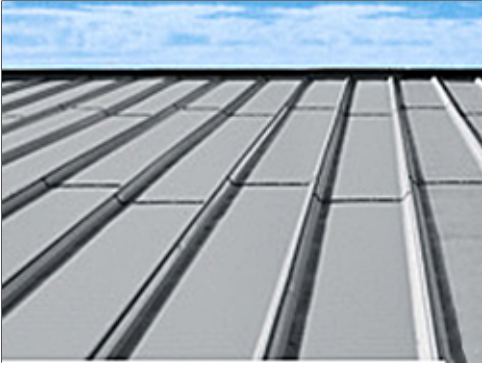
Applicable N/A

D07.9.8. Ribbed Metal Sheeting

Applicable N/A

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: Red

Finish: Factory

Model #: High Seam Tee-Panel

Other: 24 gauge steel, Width: 16" Batten height: 1-3/4

UFGS: Section 07 41 13.19 Batten-Seam Metal Roof Panels
(Not Available on UFGS)

D07.9.9. Composite Shingles

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://afcs.wbdg.org/facilities-exteriors/index.html>

Comply with AF Corporate Standards for Structural Systems:

<http://afcs.wbdg.org/facilities-exteriors/structural-systems/index.html>

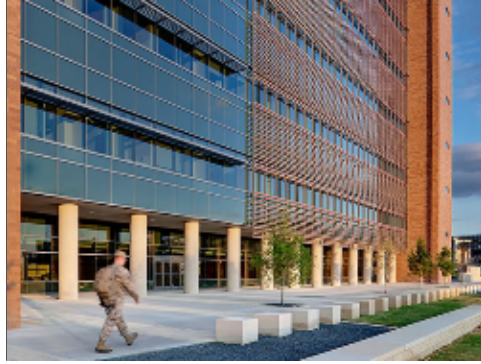
Comply with AFCFS Recommended Materials:

<http://afcs.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.
9. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

D08.2. Structural Systems Materials

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

D08.2.1. Concrete

Applicable 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: Custom

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: **Style 1**

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://afcs.wbdg.org/facilities-exterior/index.html>

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

<http://afcs.wbdg.org/facilities-exterior/machanical-electrical-and-plumbing/index.html>

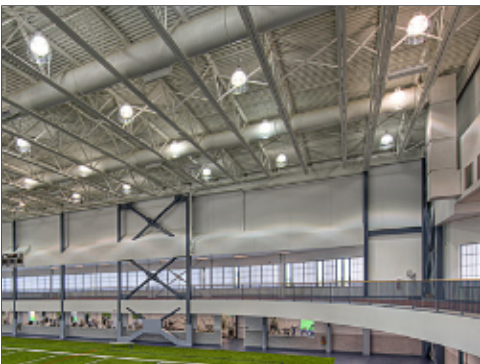
Insert 3 photos for each facility group.

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.

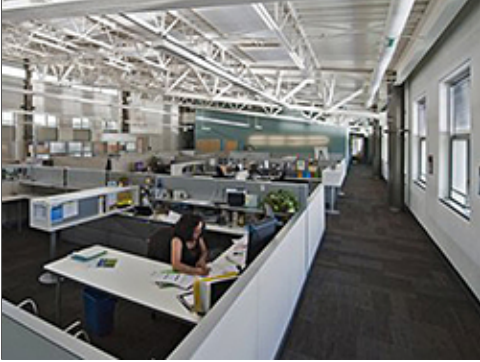
E. FACILITIES INTERIORS

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

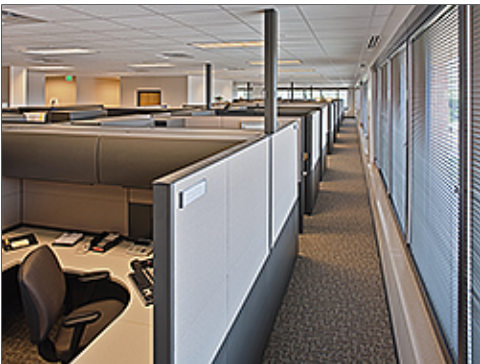
Insert 3 photos for each facility group.

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.

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

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

E02.1.1. Prepared Slabs

Applicable 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: Local (TBD)

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: Local (TBD)

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 Porcelain**

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

Mfr: Daltile

Color: Earth tones

Finish: Matte, slip resistant

Model #: Porcelain tile

Other: Use in high traffic areas. Epoxy grout is recommended.

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 30 10.pdf>

Type: **Style 2 Ceramic**



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 Stair Treads**

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://afcs.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, sealed (do not paint)

Secondary: N/A

Tertiary: Ceramic tile (restrooms)

Facility Group 4 wall materials shall be as follows.

Primary: Gypsum board (painted)

Secondary: N/A

Tertiary: Ceramic tile (restrooms)

1. Follow UFC 3-450-01 (Vibration and Noise Control) for acoustic design issues including speech privacy, sound isolation or sound masking.
2. Select and apply paint with sheens (gloss levels) appropriate for the application following UFGS Section 09 90 00 Paints and Coatings.
3. Provide ceramic tile on wet walls of kitchens, toilet rooms, locker rooms, etc., in all facility groups.
4. Neutral split-face or ground-face integrally colored block with a clear sealer may be used in Group 3. Do not paint block. 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.
11. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

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

E03.1.1. Concrete

Applicable N/A

E03.1.2. Masonry

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: Local (TBD)

Color: Red blend

Finish: Light texture

Model #: Coursed unit masonry

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

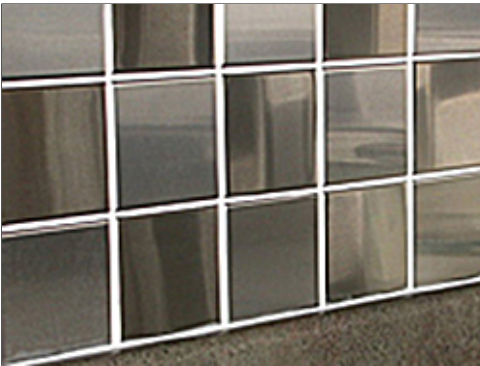
UFGS: Section 03 33 00 Cast-In-Place Architectural Concrete
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 33 00.pdf>

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://afcs.wbdg.org/facilities-interiors/ceilings/index.html>

E04.1. Ceiling Materials

Facility Group 1 ceiling materials shall be as follows.

Primary: Exposed Framing (Roof / Floor Structure Above)

Secondary: Grid and Acoustical Tile

Tertiary:

Facility Group 2 ceiling materials shall be as follows.

Primary: Exposed Framing (Roof / Floor Structure Above)

Secondary: Grid and Acoustical Tile

Tertiary: Gypsum board (painted)

Facility Group 3 ceiling materials shall be as follows.

Primary: Exposed Framing (Roof / Floor Structure Above)

Secondary: Exposed Framing (Roof / Floor Structure Above)

Tertiary: Gypsum board (painted)

Facility Group 4 ceiling materials shall be as follows.

Primary: Gypsum board (painted)

Secondary: N/A

Tertiary: N/A

1. Accent ceiling materials such as metal, wood, and rapidly renewable may be used in Group 1 as approved on a case basis.
2. Follow UFC 3-450-01 (Vibration and Noise Control) for acoustic design issues including speech privacy, sound isolation or sound masking.
3. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

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

E04.1.1. Exposed Framing (Roof / Floor Structure Above)

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://afcs.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.
6. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

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

E05.1.1. Aluminum

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

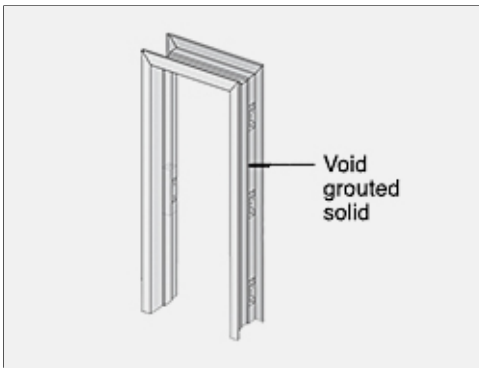
Mfr: Steelcraft

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 3/4", 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

UGFS: Section 08 14 00 Wood Doors
<http://www.wbdg.org/FFC/DOD/UGFS/UGFS 08 14 00.pdf>
Section 08 71 00 Door Hardware
<https://www.wbdg.org/FFC/DOD/UGFS/UGFS 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.
5. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

E06.1.1. Plastic Laminate

Applicable N/A Number of base standards 1

Image Sizing and Cropping Tool (small)



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

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

Mfr: Formica

Color: Medium Earth tones and neutral tones

Finish: Light textured

Model #: High pressure laminate

Other: Combine with matching solid-surface banding on casework edges.

UFGS: Section 06 41 16.00 10 Plastic-Laminate-Clad Architectural Cabinets
http://www.wbdg.org/FFC/DOD/UFGS/UFGS_06_41_16.00_10.pdf

E06.1.2. Solid Polymer Surface

Applicable N/A Number of base standards 1

[Image Sizing and Cropping Tool \(small\)](#)



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

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

Mfr: Corian

Color: Medium Earth tones and neutral tones

Finish: Light textured

Model #: Solid Surface

Other: Faces and edge banding

UFGS: Section 12 36 00 Countertops
http://www.wbdg.org/FFC/DOD/UFGS/UFGS_12_36_00.pdf

E06.1.3. Rapidly-Renewable Products

Applicable N/A Number of base standards 1

[Image Sizing and Cropping Tool \(small\)](#)



Type: **Style 1 Moderate Use Areas**

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

Mfr: Plyboo

Color: Natural or amber

Finish: Satin

Model #: Flat grain bamboo plywood

Other: FSC® Certified 100%.

UFGS: Section 12 32 00 Manufactured Wood Casework
[http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 32 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS_12_32_00.pdf)

E06.1.4. 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: Steel Sentry

Color: Natural stainless steel or neutral colors (steel)

Finish: Mill (stainless) or Powder coated (steel)

Model #: Lab, workbench, computer workstation

Other: Provide highly durable fabrications and finishes in Group 3 which are subjected to heavy use.

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

E06.2. Countertop Materials

E06.2.1. Plastic Laminate

Applicable N/A

Number of base standards 1

[Image Sizing and Cropping Tool \(small\)](#)

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

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

Mfr: Formica

Color: Medium Earth tones and neutral tones

Finish: Light textured

Model #: High pressure laminate

Other: Only use rounded half or full bullnose and integral backsplash. Do not use plastic laminate edge banding on front edges.

UFGS: Section 06 41 16.00 10 Plastic-Laminate-Clad Architectural Cabinets
http://www.wbdg.org/FFC/DOD/UFGS/UFGS_06_41_16.00_10.pdf



E06.2.2. Solid Polymer Surface

Applicable N/A Number of base standards 1

[Image Sizing and Cropping Tool \(small\)](#)

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

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

Mfr: Corian

Color: Medium Earth tones and neutral tones

Finish: Light textured

Model #: Solid Surface

Other: Faces and edges

UFGS: Section 12 36 00 Countertops
http://www.wbdg.org/FFC/DOD/UFGS/UFGS_12_36_00.pdf



E06.2.3. Natural Stone

Applicable N/A Number of base standards 1

[Image Sizing and Cropping Tool \(small\)](#)



Type: **Style 1, Group 1 High Visibility, Heavy Use**

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

Mfr: Local (TBD)

Color: Neutral tones

Finish: High polish, sealer

Model #: Custom cut slabs

Other: N/A

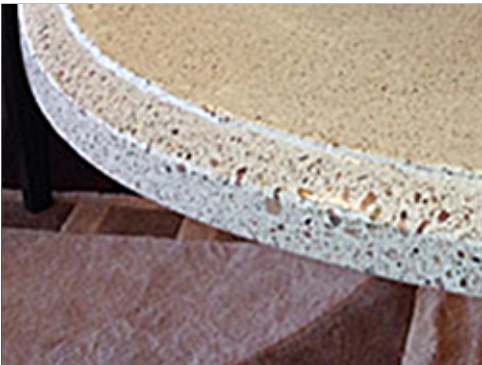
UFGS: Section 12 36 00 Countertops
[http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 36 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS_12_36_00.pdf)

E06.2.4. Cast Stone

Applicable N/A

Number of base standards 1

[Image Sizing and Cropping Tool \(small\)](#)



Type: **Style 1, Group 1 High Visibility, Heavy Use**

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

Mfr: Local (TBD)

Color: Neutral tones

Finish: High polish, sealer

Model #: Custom cast or cut slabs

Other: N/A

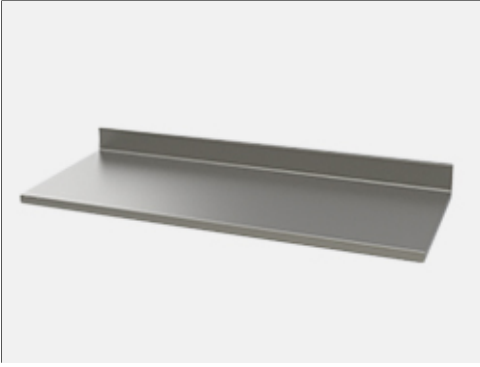
UFGS: Section 12 36 00 Countertops
[http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 36 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS_12_36_00.pdf)

E06.2.5. Metal

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: Local (TBD) _____

Color: Natural stainless steel _____

Finish: Mill _____

Model #: Custom fabricated countertops _____

Other: Provide integral fronts, sides and backsplash _____

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

E07. Furnishings

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

E07.1. Durability and Serviceability

Comply with AF Corporate Standards for Durability and Serviceability:
<http://afcs.wbdg.org/facilities-interiors/furnishings/durability-and-serviceability/index.html>

E07.2. Accessories

Comply with AF Corporate Standards for Accessories:
<http://afcs.wbdg.org/facilities-interiors/furnishings/accessories/index.html>

E08. Interior Signs

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

E08.1 Types and Color

Comply with Air Force Corporate Standards for Types and Color:
<http://afcs.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.

E09. Lighting, Power and Communication

<http://afcs.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://afcs.wbdg.org/facilities-interiors/lighting-power-and-communication/functionality-and-efficiency/index.html>

E09.2. Types and Color

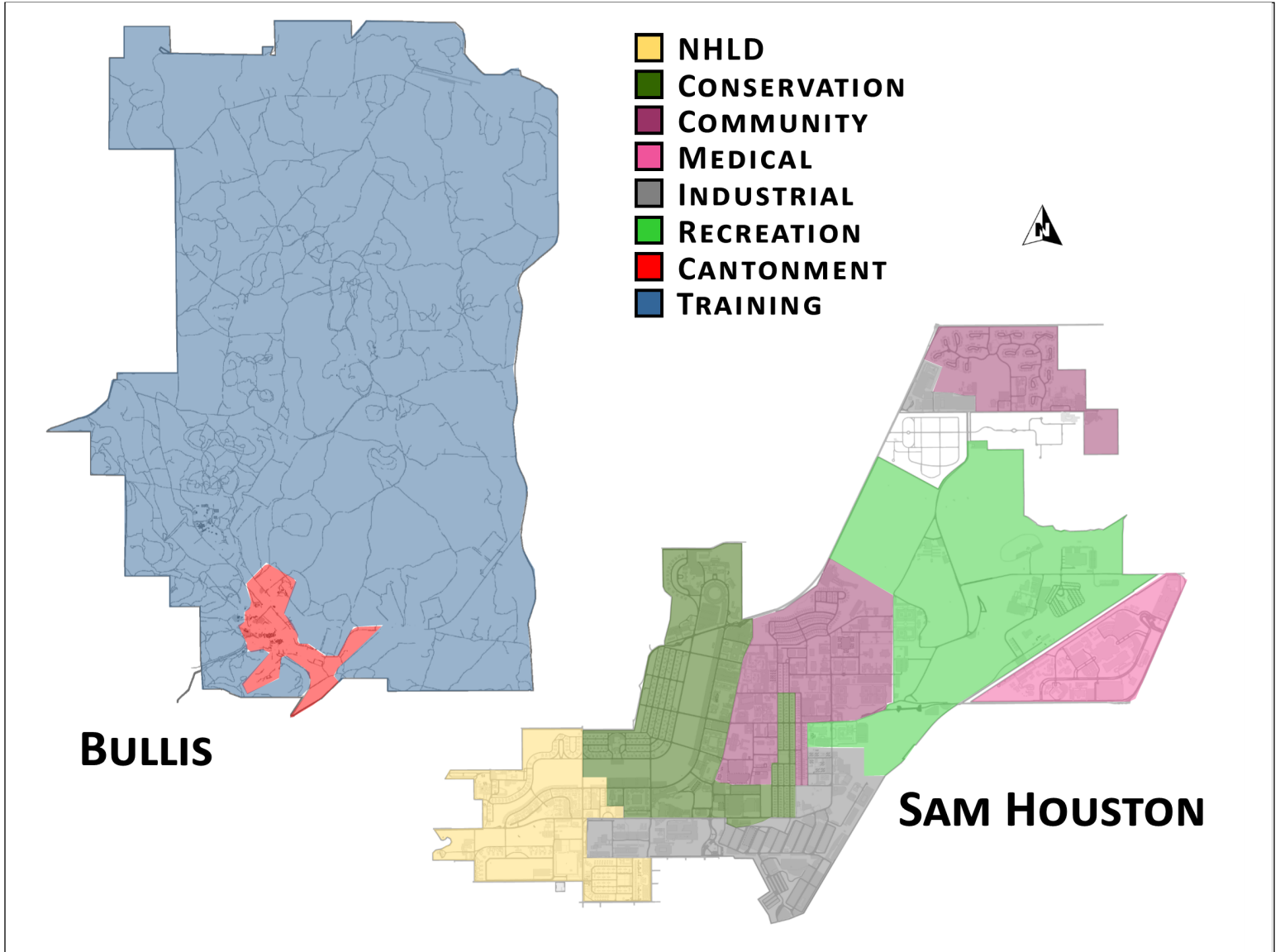
1. All interior lighting shall follow UFC 3-520-01.
2. All communication systems must follow UFC 3-580-01.

F. APPENDIX - Facility Districts

- Applicable
- N/A

Comply with Air Force Corporate Standards for Facility Districts:
<http://afcs.wbdg.org/facility-districts/index.html>

Facilities Districts Overview Map:



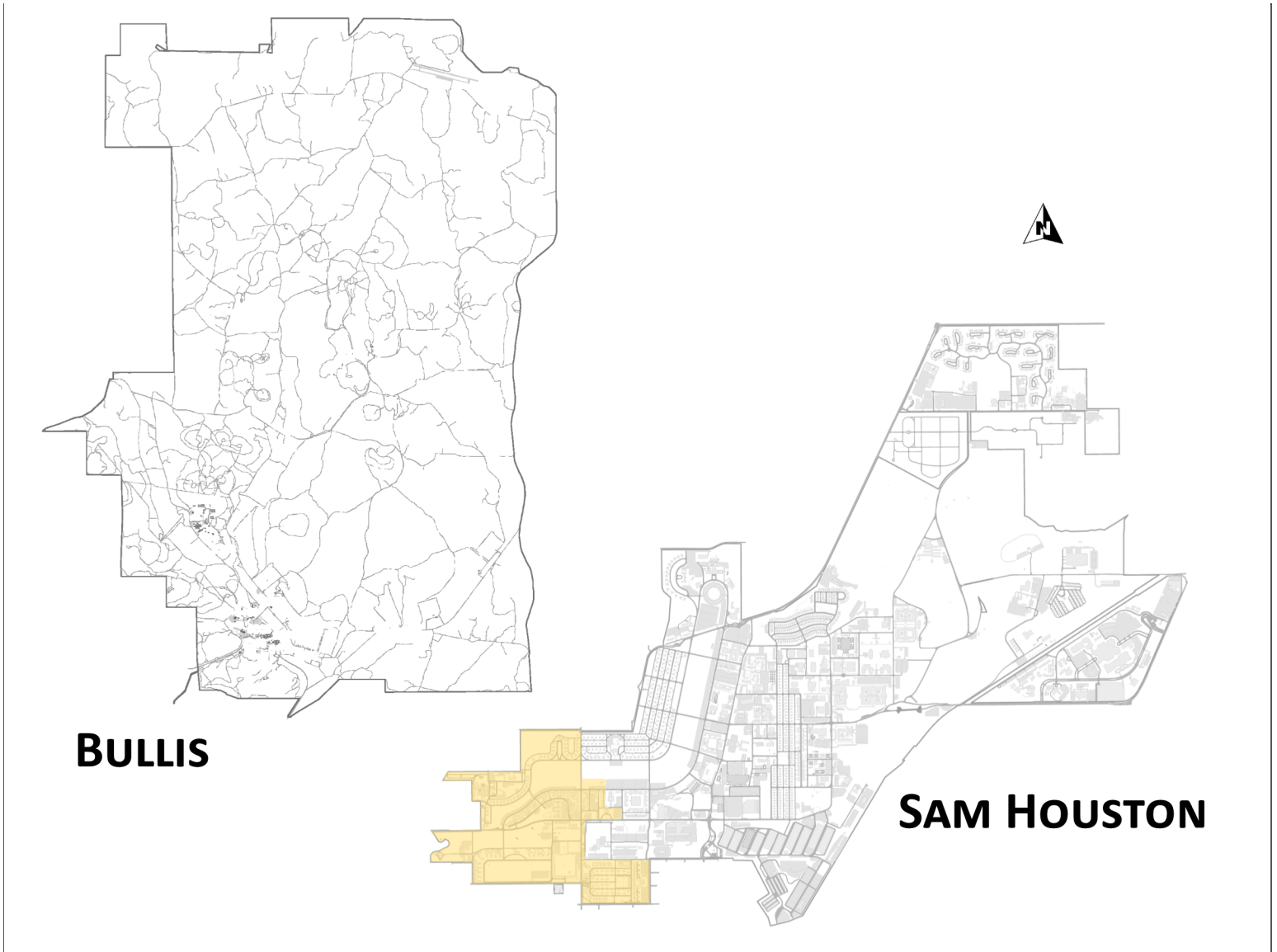
Note: Apply the base-wide standards in this IFS for Installation Elements, Site Development, Facilities Exteriors and Facilities Interiors (products, materials, color, etc.). Following application of the base-wide standards, refer to the Appendix and apply any additional requirements specifically related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

Enter No. of Facility Districts 8

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. National Historic Landmark District

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

The Quadrangle:

The historic limestone masonry detailing make the clock tower (B40) and the Quadrangle (B16) unique. Architecturally, heavy gray limestone walls with dressed buff-colored limestone detailing that includes large round arches along second floor loggias and around warehouse bay openings on the interior, segmental arch window surrounds with a modified keystone over exterior windows, flat limestone lintels on rear wall openings, and a broad segmental arch made up of graduated limestone voussoirs with "San Antonio Depot 1876" carved into its keystone make the Quadrangle a one-of-a-kind facility.

Staff Post:

Additional significance is attributable to Staff Post because noted San Antonio architect Alfred Giles designed all of the quarters specifically for the site. The Pershing House (Building 6), which stands at the northwest corner of the parade ground, is the most elaborate quarters at Sam Houston. Of the remaining fourteen officers quarters, each is one of two different floor plans that illustrate the two plan types Giles used for residential designs throughout his career.

Infantry Post:

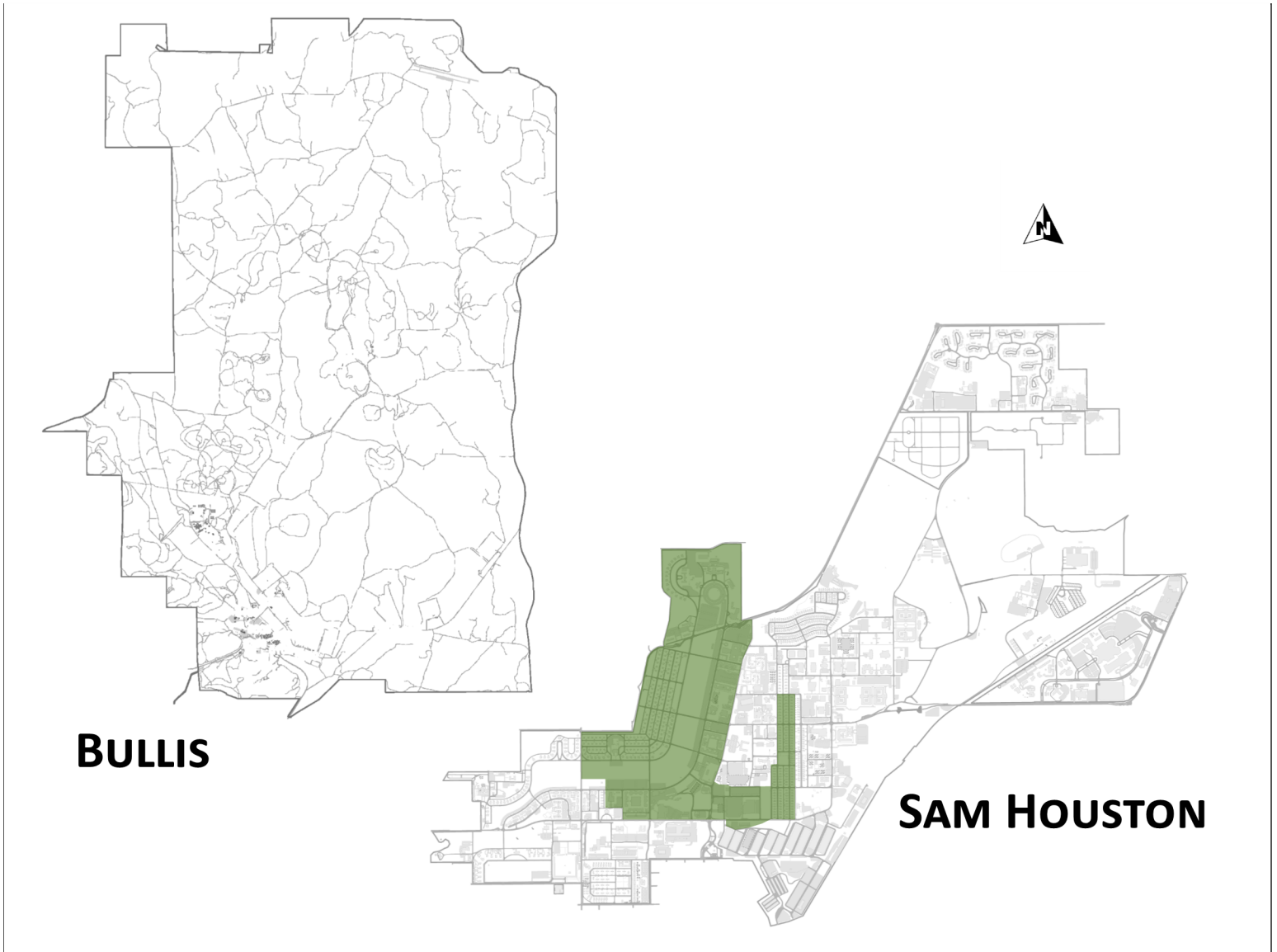
The barracks and sally port at the east end of the original parade ground stand out as being architecturally significant. Historically, this was the most ornate part of Sam Houston with uniform Italianate detailing of wood porches that created a sort of lacy edge around the parade ground. Heavy limestone lintels and sills were meant to contrast with the bare brick walls.

Artillery/ Cavalry Post:

Many design elements are consistent for all officers quarters buildings, although eight different forms exist for 41 buildings.

Name of District: F02. New Post Historic Conservation District

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

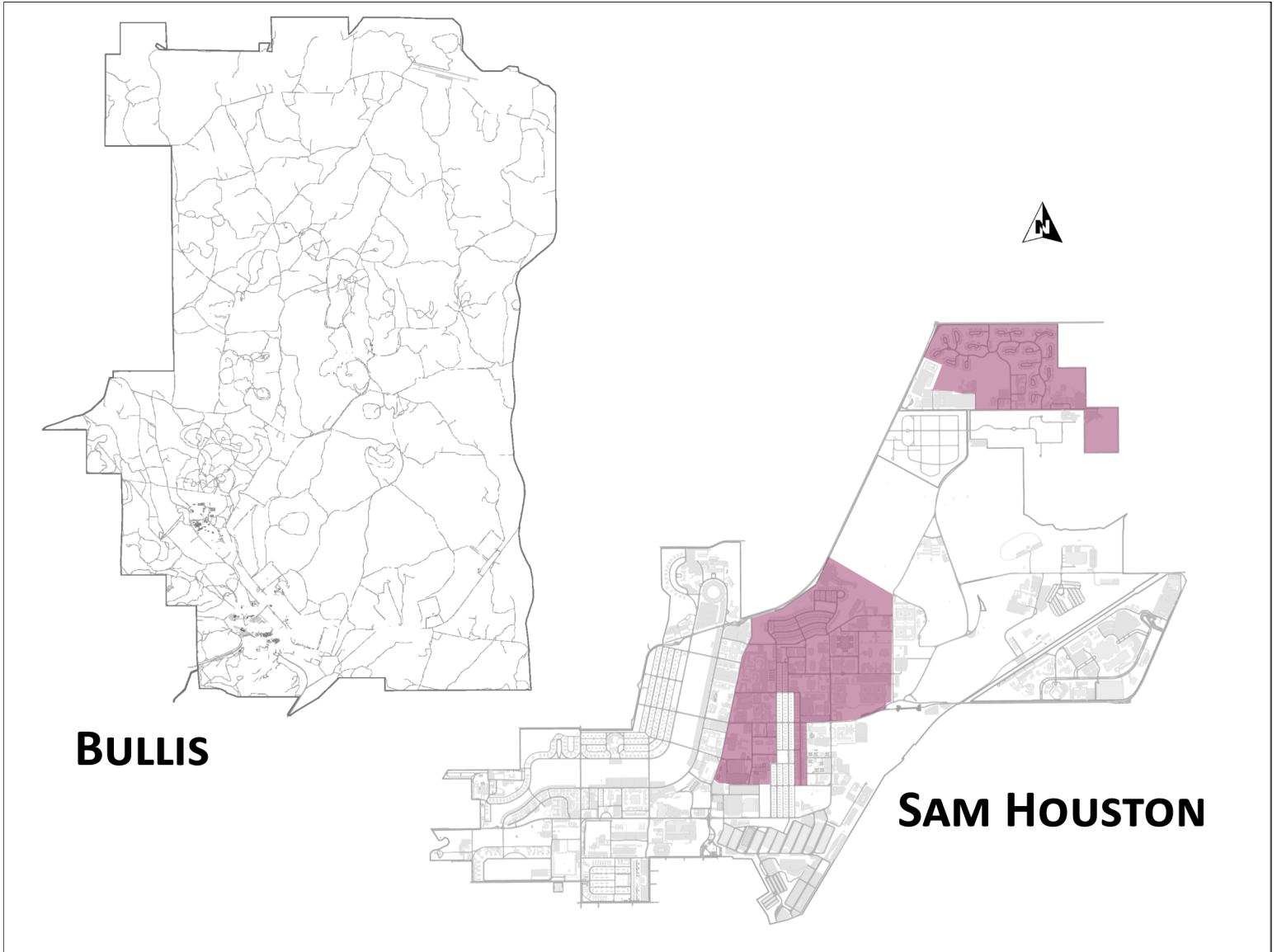
New Post, Macarthur Field & Old BAMC:

There is an overall integrity to New Post. This integrity is accomplished by the coherence of materials and architectural style of all its buildings. The regularity of their spacing and the uniformity of setbacks also contribute to the unity of the whole. Above all else, it is the predominance of the over-sized - parade ground that not only ties New Post's pieces together, but this sweep of relatively uninterrupted green space ties New Post into the older parts of FSH, making it all a harmonious whole.

New Post, Officer & Enlisted Housing:

The officer-housing portion of New Post completed between 1931 and 1935, consists of one and two-story, Mission/Spanish Colonial Revival structures organized with service roads and garages to the rear and formal access along wider streets in the front. A number of exterior designs were employed to add variation to the residences. This was primarily achieved by alternating round-arched, single-bay entry porches with flat-arched, single-bay entry porches, and by reversing floor plans. Foundations are reinforced concrete, and walls are hollow tile and stucco. As with the officer's housing area, a standard Quartermaster plan was used to construct these single story, Mission/Spanish Colonial Revival style quarters. Completed between 1931 and 1934, these double rows of small single-family detached residences share common alleys in a small strip neighborhood separated from the rest of New Post by the former railroad right-of-way. The device of alternating the roof shape and porch openings on every other house relieves the monotony of these rows of Spanish Colonial bungalows.

Map of District



Insert 3 photos for each facility group within the Facility District as applicable.

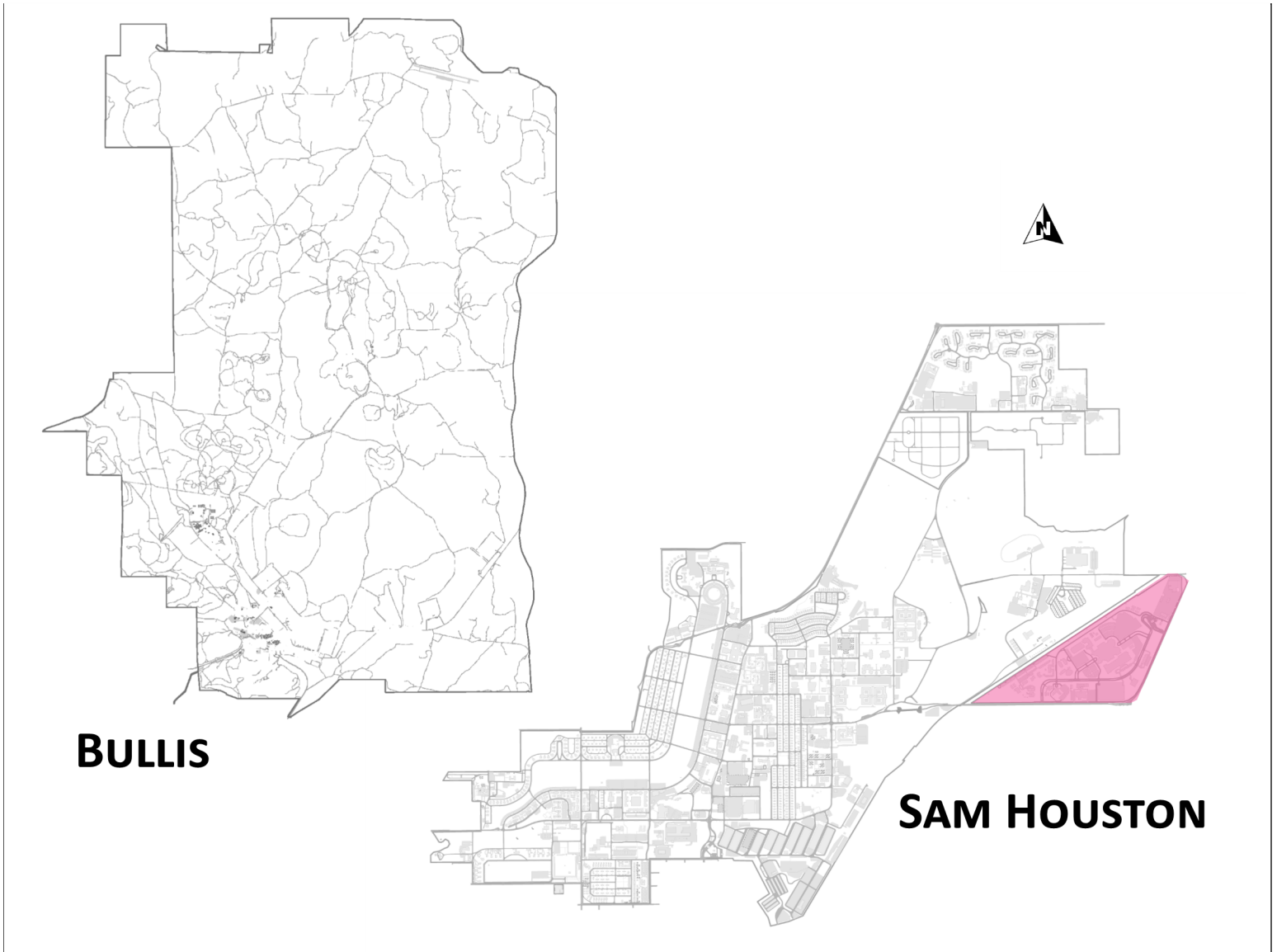
Image Sizing and Cropping Tool (small)

- Group 1 Applicable N/A
- Group 2 Applicable N/A
- Group 3 Applicable N/A
- Group 4 Applicable N/A
- Other Applicable N/A

The Community district is a land use designation and shall follow the base-wide facility standards of this IFS.

Name of District: F04. Medical

Map of District



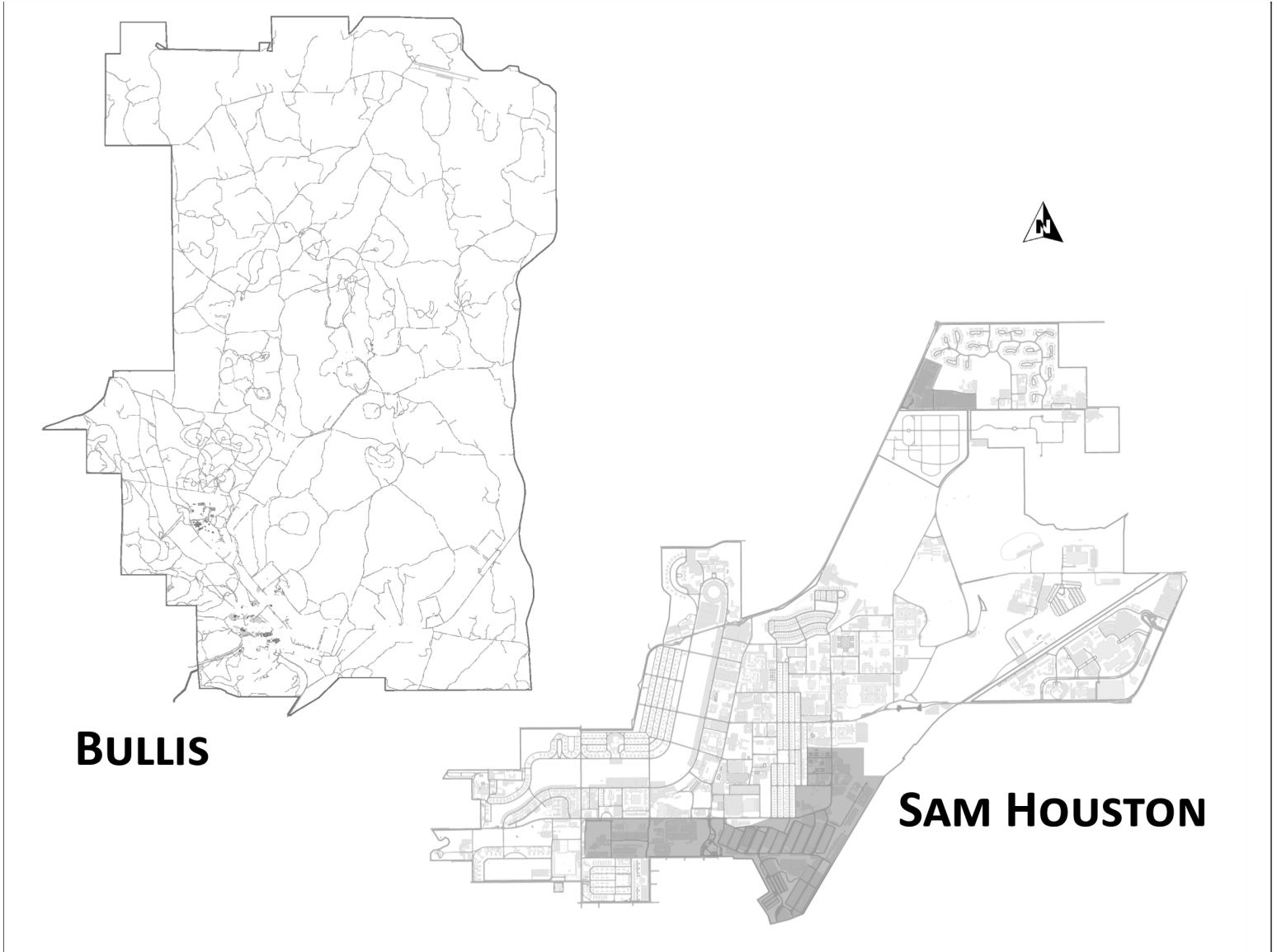
Insert 3 photos for each facility group within the Facility District as applicable.

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

The Medical district is a land use designation and shall follow the base-wide facility standards of this IFS.

Map of District



Insert 3 photos for each facility group within the Facility District as applicable.

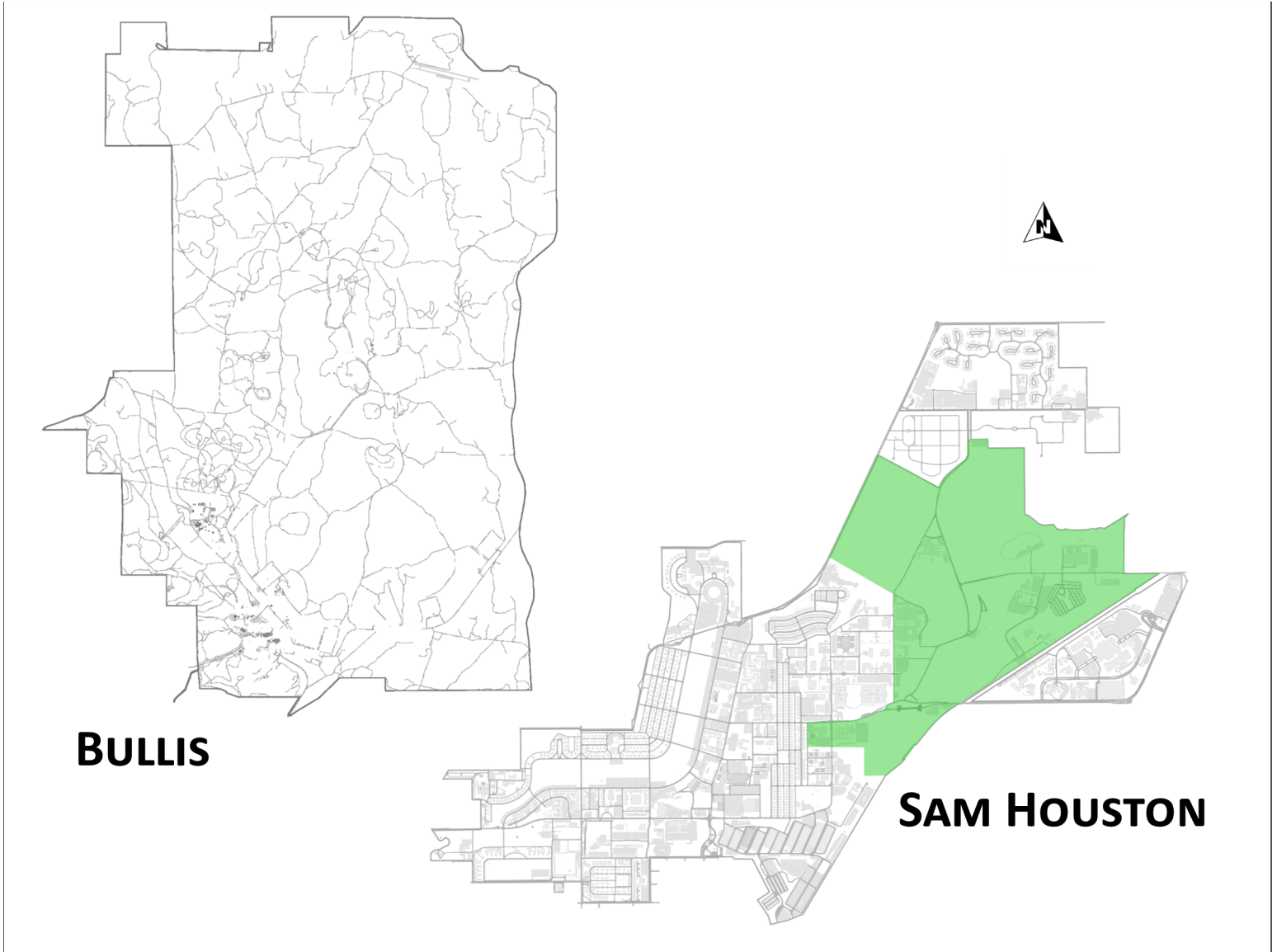
Image Sizing and Cropping Tool (small)

- Group 1 Applicable N/A
- Group 2 Applicable N/A
- Group 3 Applicable N/A
- Group 4 Applicable N/A
- Other Applicable N/A

Newer warehouses were all built in one area at the southeast edge of Sam Houston in 1941 as part of the mobilization buildup prior to WWII.

Name of District: F06. Recreation

Map of District



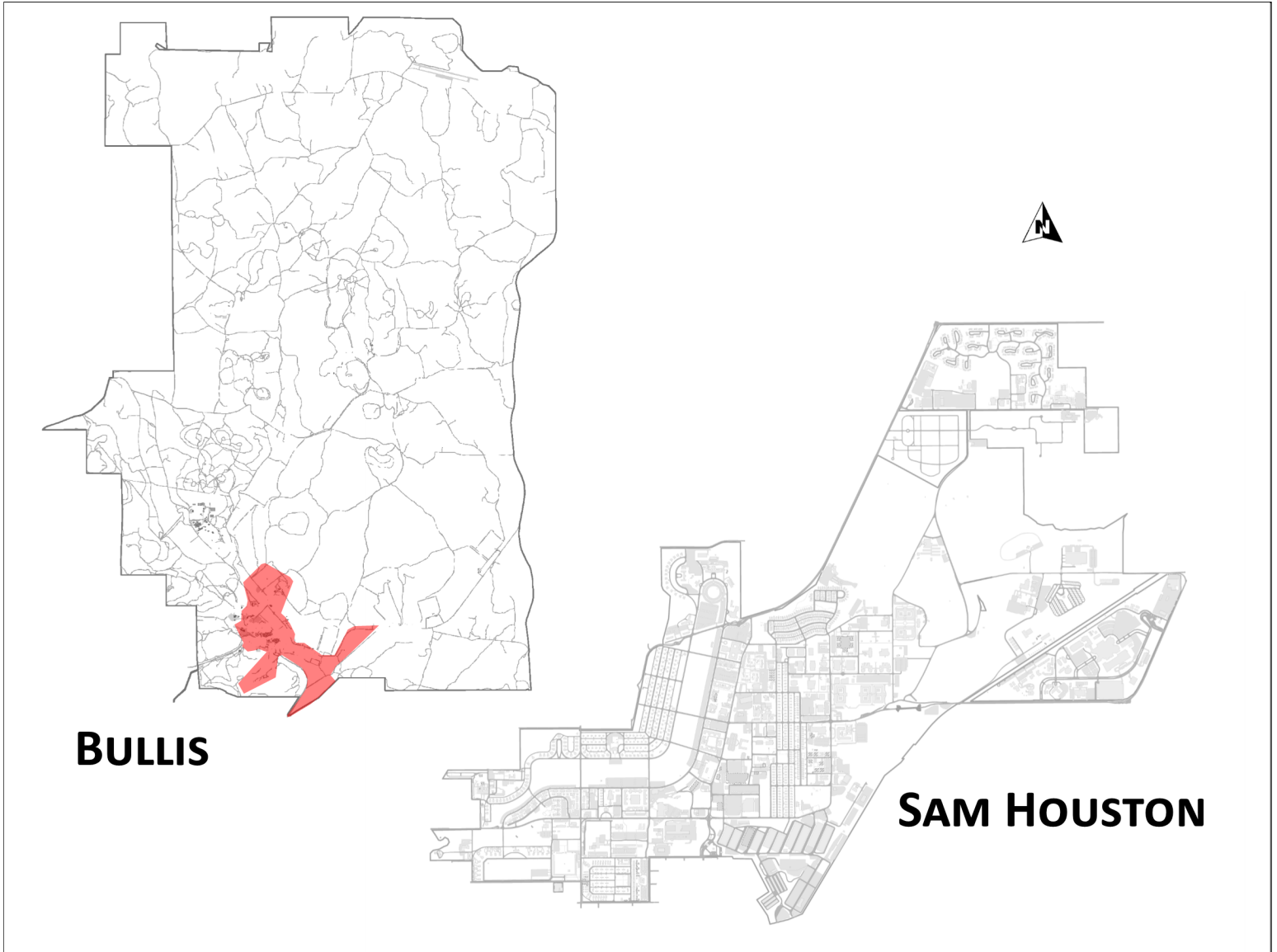
Insert 3 photos for each facility group within the Facility District as applicable.

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

The Recreation district is a land use designation and shall follow the base-wide facility standards of this IFS.

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

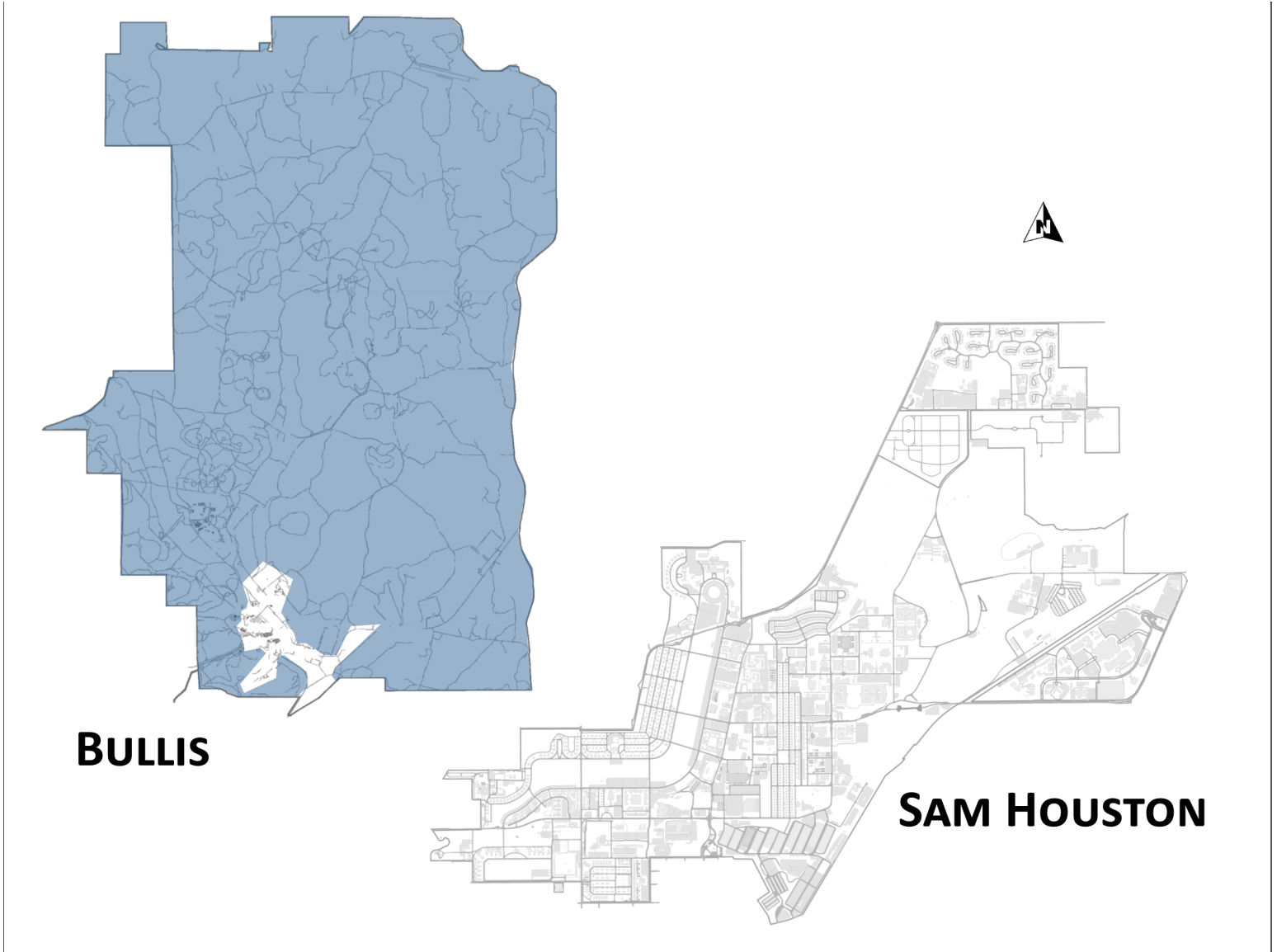
Group 3 Applicable N/A

Group 4 Applicable N/A

Other Applicable N/A

The Cantonment area contains structures of historic, architectural and cultural significance. In addition to the prehistoric (archeological) sites, nine historical sites were encountered from the European occupation period (1850-1930). The cultural background seems to be that of generally Anglo-American middle class farmers and ranchers.

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

The Training district is a land use designation and shall follow the base-wide facility standards of this IFS.

