

VANDENBERG AIR FORCE BASE INSTALLATION FACILITIES STANDARDS (IFS)



Installation Elements



Site Development



Facilities Exteriors



Facilities Interiors

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Signature Field

Vandenberg Air Force Base IFS

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A. OVERVIEW

Comply with Air Force Corporate Standards for Overview:

<http://afcfs.wbdg.org/index.html>

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

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

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

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

1. Conformance to Air Force Corporate Facilities Standards (AFCFS) and Installation Facilities Standards (IFS) are required by Air Force Instruction (AFI) 32-1023 and Air Force Memorandum. Please refer to the AFCFS website for links to documentation on current policy.
2. The IFS is a component plan of the Installation Development Plan (IDP) per Air Force Instruction (AFI) 32-7062 (replacing the Architectural Compatibility Plan). All military construction projects and Non-Appropriated Funds (NAF) facilities are required to comply with the IDP and its IFS component plan by AFI 32-1023. The Base Civil Engineer (BCE) maintains and implements the IDP and its component plans, to include the IFS.
3. Please refer to the AFCFS website as a portal to reference materials and requirements documents for design and construction projects (via links). Specific references to current DoD memoranda and Air Force criteria are updated periodically to provide the most current guidance and requirements. Programming, design and contract documents should list "current edition" for all reference and requirements documents. The documents in force at the date of execution of the design and/or construction contract shall be the governing version.
4. *Advanced Modeling Requirements:*
For all Air Force projects requiring advanced modeling, to include 3D visualization, Building Information Modeling (BIM), facility data, quantity take-off, geospatial, etc., follow the Army standards. Refer to USACE Minimum Model Matrix (M3) and Project Execution Plan (PxP) which outline required model uses. Refer to [CAD BIM Technology Center \(Contract Requirements\)](#) for more information on M3 and PxP.
5. Joint Bases shall implement IFS under their Joint-Base designation with volume numbers for individual installations following the IFS Development Tool template. For example, for Joint Base Langley-Eustis, provide: Vol. 1 Langley AFB and Vol. 2 Fort Eustis.

A.01. FACILITY HIERARCHY

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

<http://afcfs.wbdg.org/facility-hierarchy/index.html>

A.02. FACILITY QUALITY

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

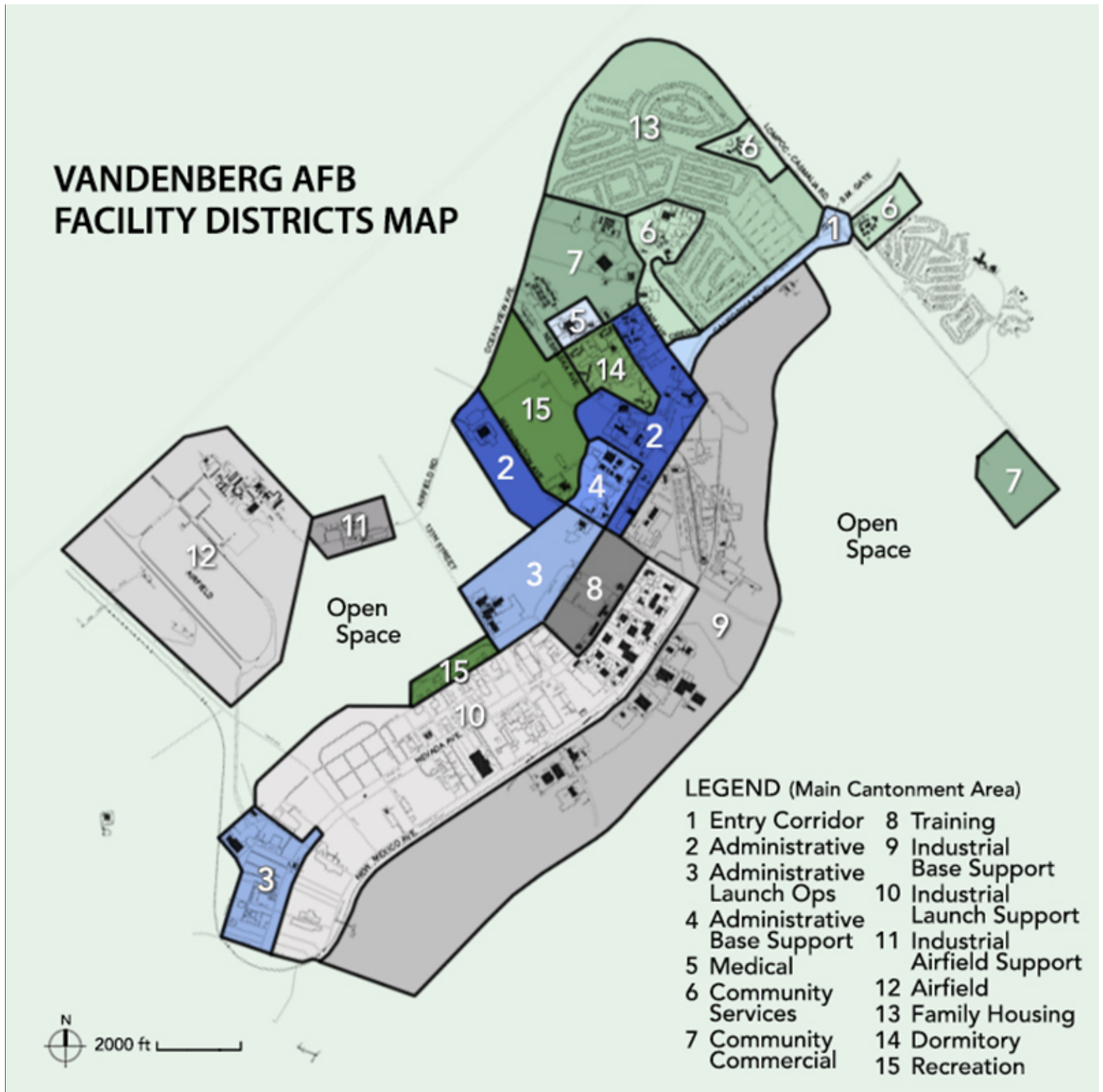
<http://afcfs.wbdg.org/facility-quality/index.html>

A.03. FACILITY DISTRICTS

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

<http://afcfs.wbdg.org/facility-districts/index.html>

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

B. INSTALLATION ELEMENTS

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

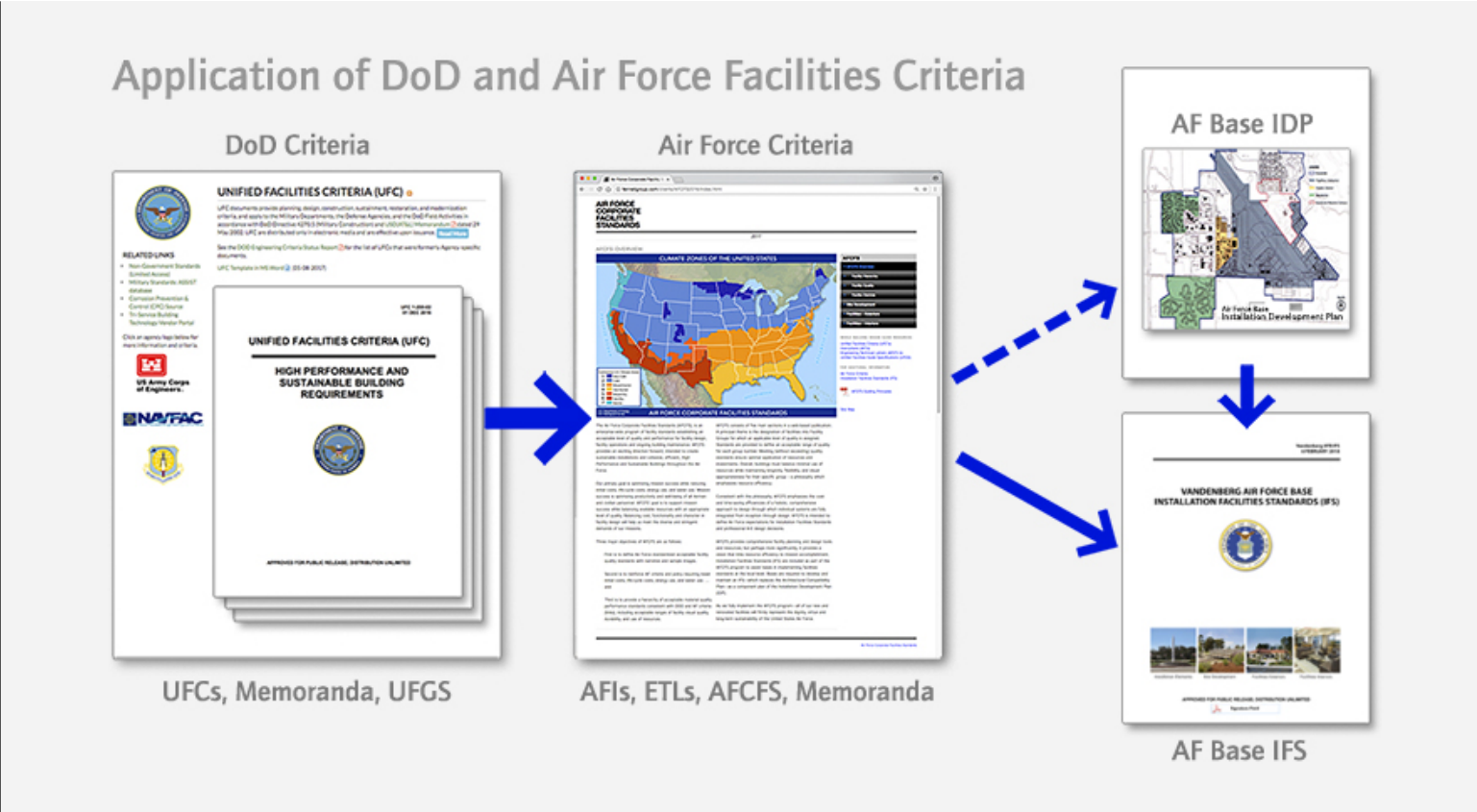
B.01. COMPREHENSIVE PLANNING

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

B01.1. Installation Development Plan (IDP)

- ☒ Applicable ☐ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1
- ☐ Applicable ☒ N/A Small graphics do not apply

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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 Large graphics do not apply

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

Image Tool 250 x 188



Family Housing Development Plan



Cocheo Park Site Plan



Cocheo Park Playground Plan

1. The BCE is required to provide and maintain Installation Facilities Standards (IFS) as a Component Plan of the bases IDP per AFI 32-1076, Comprehensive Planning.

B01.1.2. Brief History of Base

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Point Conception Lighthouse



1959 Main Gate Monument Sign



Rocket Launch from Vandenberg AFB

Vandenberg Air Force Base's heritage dates back to October 1941 when the Army established Camp Cooke, named after Civil War General Philip St. George Cooke. The Army trained armored and infantry troops preparing to enter World War II (WWII). After the war Camp Cooke was closed but then reactivated during the Korean War.

In 1957, the Air Force took possession of Camp Cooke, renamed the base Cooke Air Force Base and began establishing the installation for use as a missile launch and training installation. The remote location and proximity to the coast offered the perfect setting for safely launching intermediate range ballistic missiles and intercontinental ballistic missiles to targets located in the Pacific Ocean. These same geographic features proved ideal for launching satellites into polar orbit without overflight of populated areas during launch liftoff. Cooke AFB was placed under the Air Research and Development Command (ARDC), tasked with the development of the Air Force missile program.

On 1 January 1958, Cooke AFB was transferred to the Strategic Air Command (SAC) tasked with the responsibility for attaining the initial operational capability of the US missile force as well as training missile launch crews. ARDC retained responsibility for

facility construction and the research and development of launch vehicles, establishing a field office at Cooke AFB in July 1958. On 4 October 1958, Cooke AFB was renamed Vandenberg AFB in honor of General Hoyt S. Vandenberg, the Air Force's second Chief of Staff.

On 16 December 1958, the first missile launch at Vandenberg AFB was a Thor Intermediate-Range Ballistic Missile (IRBM). Two months later on February 28, 1959, the world's first polar orbiting satellite, Discoverer I (also known as Corona, America's first photo-reconnaissance satellite program), lifted into space from a Thor/Agena booster combination. The Atlas rocket made its debut West Coast flight on September 9, 1959. The following month, equipped with a nuclear warhead, Vandenberg AFB became the site of the first ICBM to be placed on alert in the United States.

On 15 May 1964, Headquarters Air Force activated the Western Test Range (AFWTR) at Vandenberg AFB. Two months later, the Navy's 20,000 acre Point Arguello Launch Facility, located just south of Vandenberg AFB, was transferred to the Air Force adding to Vandenberg's acreage. A network of instrumentation sites were quickly constructed along the California coast and downrange on islands in the Pacific to support the ballistic, space and aeronautical operations conduct on the AFWTR.

With the mission at Vandenberg playing an ever increasing role in national defense, additional land was required to safely operate new variants of launch vehicles. Two years later, an additional 15,000 acres of land was acquired, increasing the total acreage to the base to 98,400 acres.

Mission growth led to an organizational expansion as well. In 1961, ARDC was designated Air Force Systems Command (AFSC). Eighteen years and several reorganizations later, in October 1979, the launch mission of the ARDC field office at Vandenberg had evolved into the Western Space and Missile Center (WSMC).

In addition, Vandenberg AFB was the site of the Air Force's Manned Orbiting Laboratory (MOL) and the Space Shuttle programs. Construction work for MOL began at Space Launch Complex 6 (SLC-6) in March 1966. Three years later, in June 1969, the project was canceled, the victim of cost overruns, completion delays and emerging new technologies. After nearly a decade of abandonment, SLC-6 was reactivated and underwent an estimated \$4 billion modification program in preparation for the Space Shuttle, beginning in January 1979. However, persistent site technical problems and a joint decision by the Air Force and the National Aeronautics and Space Administration (NASA) to consolidate Shuttle operations at Cape Canaveral in Florida following the Challenger tragedy in 1986, resulted in the official termination of the Shuttle program at Vandenberg AFB on December 26, 1989.

Over the years, other launch vehicles were established at Vandenberg including the Peacekeeper (MX) ICBM beginning in June 1983, the Titan IV space booster in March 1991, the air-launched Pegasus booster in April 1995, the Delta II commercial space booster in February 1996, and the Atlas IIAS in December 1999.

Beginning in 1990 and continuing throughout the next three years, a series of major realignments and organizational activations occurred at Vandenberg. On 1 October 1990, WSMC and virtually all of its elements moved from AFSC to Air Force Space Command (AFSPC). On 15 January 1991, the management and operation of Vandenberg was transferred from SAC to AFSPC. As a result of the shift, most of the format SAC organizations at Vandenberg were realigned under WSMC.

On 19 November 1991, WSMC was redesignated the 30th Space Wing. In actuality the Operations Group assumed the lineage and honors of the 30th Bombardment Group (BG) (Heavy) and shared the number designated with the wing. The 30th BG originally activated in January 1941 and flew combat missions in the Pacific during World War II before being inactivated in June 1946. At the same time, the Western Test Range was reassigned from HQ AFSPC to the newly activated HQ 14th Air Force collocated at Vandenberg.

In the fall of 1997, the Fourteenth Air Force opened its permanent Aerospace Operations Center for the 24-hour command and control of all space operations resources. On October 18, 2003, Vandenberg AFB launched the Air Force's thirteenth and final Titan II rocket from SLC-4 West. The West Coast's last Atlas IIAS rocket launched from SLC-3 East on December 2, 2003. In all, the Atlas program at Vandenberg AFB lasted from September 1959 to December 2003, and the Titan program lasted from May 1961 to October 2005.

Vandenberg AFB is also one of two installations, along with Cape Canaveral, for the Air Force's Evolved Expendable Launch Vehicle (EELV) program. A joint venture between Boeing Company and Lockheed Martin Corporation United Launch Alliance (ULA) the program has developed a new family of medium- and heavy-lift expendable launch vehicles evolved from existing technologies, the Atlas V and the Delta IV, each using common components and common infrastructure. The EELV program at Vandenberg AFB uses SLC-6 (Delta IV) and SLC-3E (Atlas V). The first West Coast (Vandenberg AFB) Delta IV EELV launch took place on June 27, 2006.

Vandenberg AFB now currently operates several launch facilities under private contractor control, working with both SpaceX at SLC-4 and United Launch Alliance at SLC-3, supporting both private and government missile launches.

Today Vandenberg AFB is operated by the 30th Space Wing with a mission to “provide indispensable launch, landing and range capabilities to the nation” and remains the only military installation in the United States from which unmanned government and commercial satellites are launched into polar orbit. It also remains the only land based site in the United States from which intercontinental ballistic missiles are test fired and flown to target areas in the Pacifica Ocean. Vandenberg remains the only site capable of receiving and processing the Boeing X-37 Orbital Test Vehicle.

B01.1.3. Future Development

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Scenic Coastline along Beach Road



SpaceX Rocket Launch from Vandenberg AFB

1. Follow requirements outlined in AFI 32-7062, Comprehensive Planning, to include the Comprehensive Planning Process, Comprehensive Planning Requirements and Geospatial Mapping.
2. Address all future development with 30 CES/CENMP and as outlined in 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:

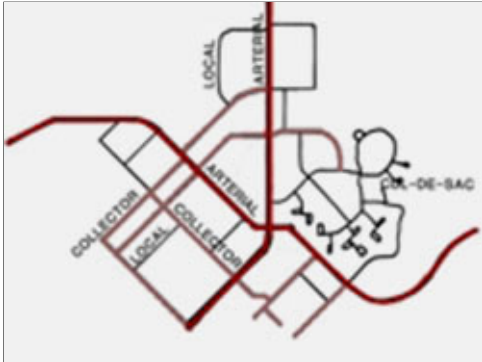
<http://afcs.wbdg.org/installation-elements/street-envelope-standards/index.html>

B02.1. Hierarchy of Streets

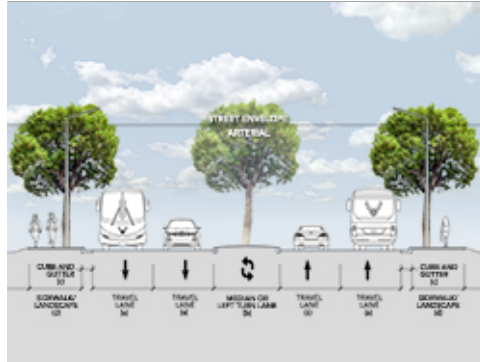
☐ Applicable ☒ N/A Large graphics do not apply

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Hierarchy of Streets



Street Envelope Section



Group 1 Arterial: California Boulevard



Utah Avenue Landscaped Median Island



Pines Trees at Alaska / Washington Avenues



Local Street

1. Develop, maintain and evolve a hierarchical transportation network of arterial, collector and local streets following UFC 3-201-01, Civil Engineering, and its industry references.
2. Provide consistent functionality throughout the installation and a level of visual quality relating to the adjacent Facility Group number as well as designated special routes.
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. This may include landscape features, lighting/light fixtures and other visual features.
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 bicycle traffic routes in the Installation Development Plan or its applicable component plans. Bicycle traffic may be routed to adjacent pedestrian paths if the path is of adequate width to support both functions.
12. Patrol Roads: Patrol roads are remote roads used for security patrols and monitoring of launch sites. Patrol roads shall be 16 feet wide. Shoulders should be stabilized and turnouts provided every quarter mile. Patrol roads may be paved with a stone/clay mix suitable for traffic. Patrol roads area to be used only by authorized GOV's
13. Service Drives: Service drives are used to access service areas of facilities in the cantonment area. Service drives shall be combined with parking drives to serve multiple facilities and provide with access control point meeting minimum antiterrorism setback standards and signage that clearly identifies the service drive and restricted access. Service drives shall be shall have a clear width of 20 feet, set back from facilities by 10 feet.
14. Fire Access Lanes: All ground level portions of structures must be within 150 feet of a drivable surface. Fire access lanes shall have a clear width of 20 feet, set back from facilities by 10 feet with a minimum vertical clearance of 13.5 feet and set 15 feet from fire hydrants and standpipe connections.

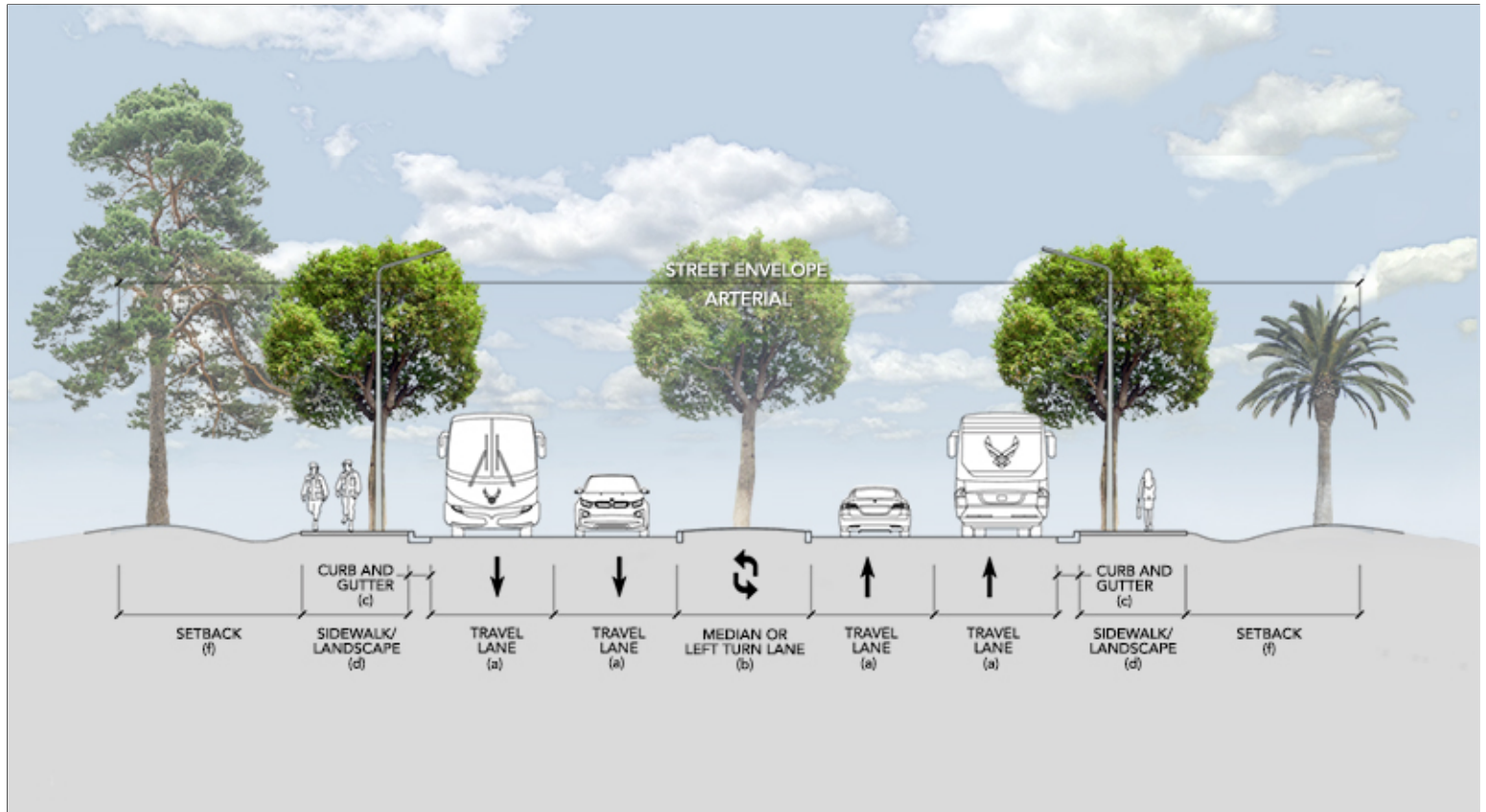
B02.1.1. Arterial Streets

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

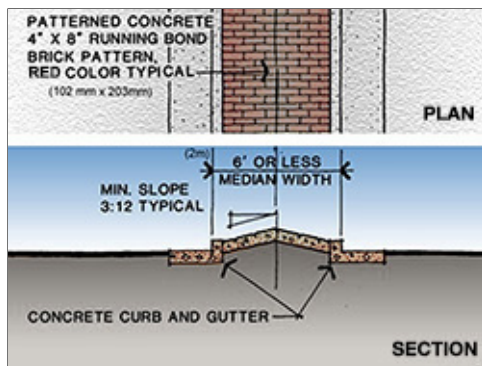
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☒ Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 1

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Travel Lane (a): 12' Median (b): 12' (if used) Curb and Gutter (c): 2' Sidewalk / Landscape (d): 12' Setback (f): Min. 30' or per ATFP



Paved Median

1. Minimum arterial street dimensions shall be as follows:

- a. Travel Lane. 12'
- b. Median (if used). 12'
- c. Curb and Gutter. 2'
- d. Sidewalk. 6'
- e. Parking. 12' setback
- f. Buildings. 30' setback
- g. Obstructions. 6' setback

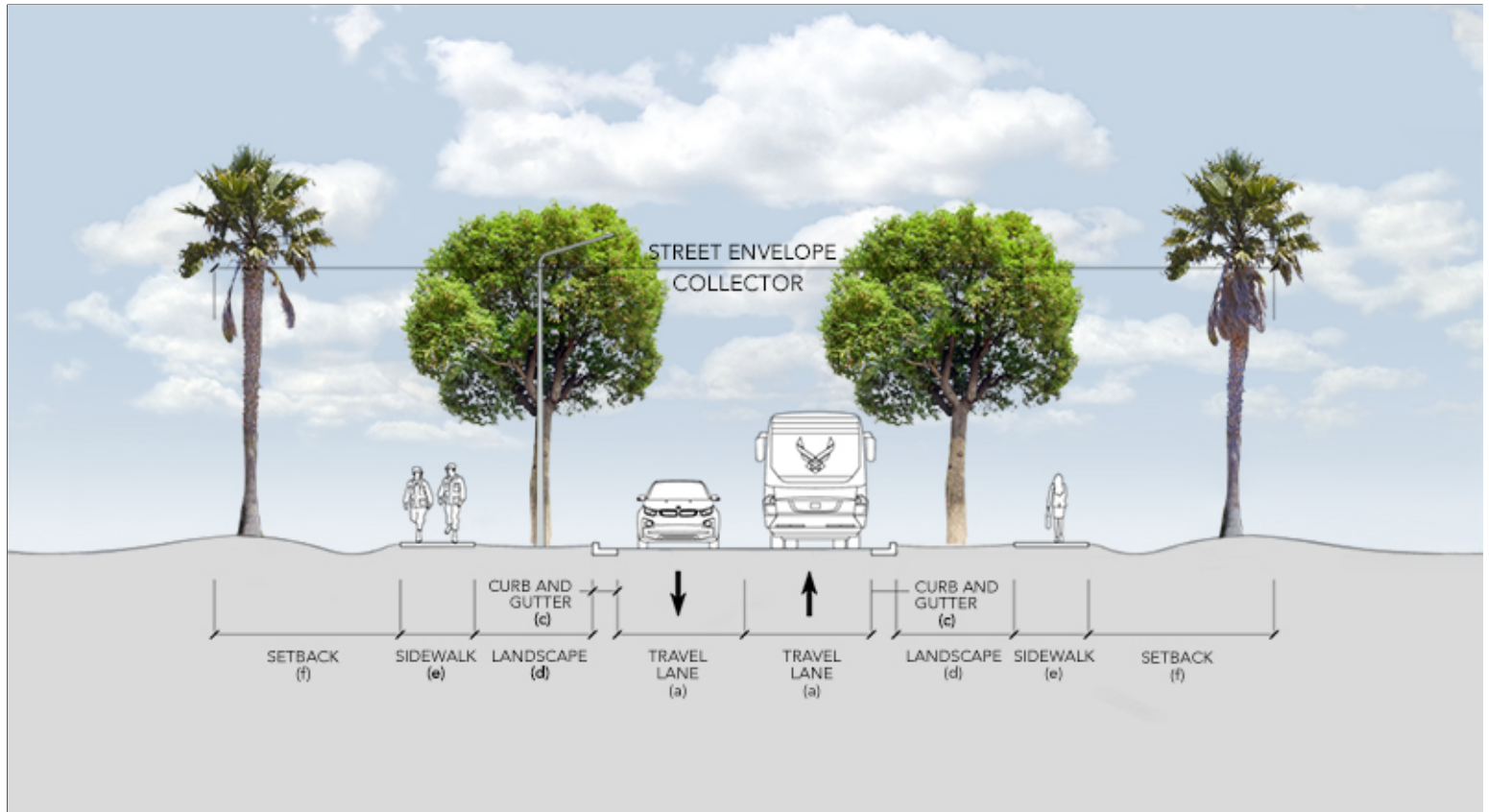
2. Stops and turns should be minimized and on-street parking shall not be allowed at any point along arterial streets.
3. Provide sidewalks on at least one side of arterial streets and both sides of arterial streets in developed areas. Provide a 6 foot buffer between the road and sidewalk where space allows.
4. Limit curb cuts on arterial streets to entries into major facilities, building groups and major parking areas.
5. Signs, plantings and street lighting should be added to reinforce the importance of arterial streets.

B02.1.2. Collector Streets

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

Image Tool 800 x 440

☐ Applicable ☒ N/A Small graphics do not apply



Travel Lane (a): 12' Median (b): 12' (if used) Curb and Gutter (c): 2' Landscape (d): 10' Sidewalk (e): 6' Setback (f): (Listed below)

1. Minimum arterial street dimensions shall be as follows:

- a. Travel Lane. 12'
- b. Median (if used). 12'
- c. Curb and Gutter. 2'
- d. Sidewalk. 6'
- e. Parking. 12' setback
- f. Buildings. 15' setback
- g. Obstructions. 3' setback

2. Traffic stops are frequent and speeds are low on collector streets.

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

4. On street parking may be allowed on one side where secondary roads are over 28 feet wide but not less than 34 feet wide. Parking shall not interfere with intersections or traffic flow.

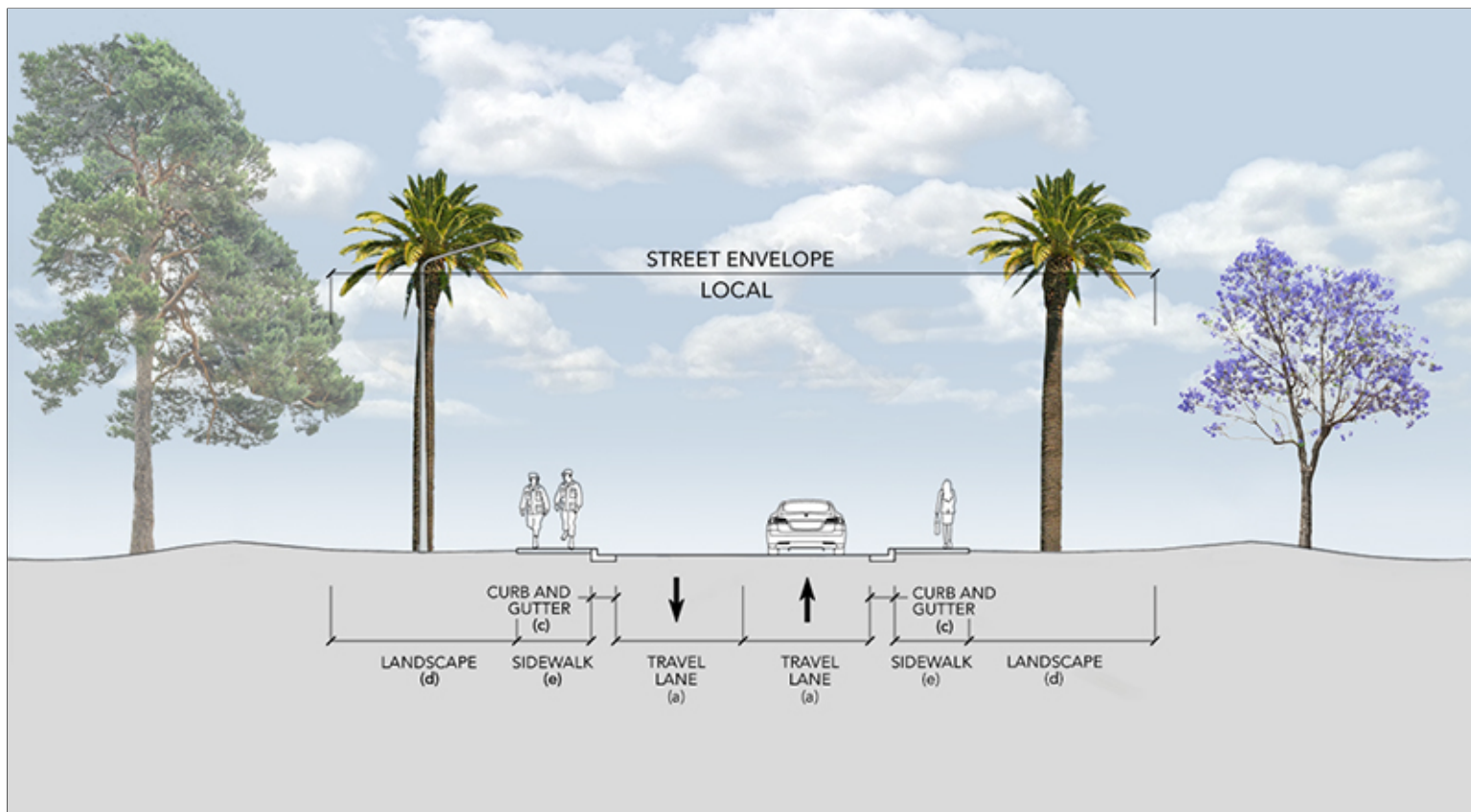
5. Signs, plantings and street lighting should be added to reinforce the importance of arterial streets.

B02.1.3. Local Streets

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

Image Tool 800 x 440

☐ Applicable ☒ N/A Small graphics do not apply



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

1. Minimum arterial street dimensions shall be as follows:

- a. Travel Lane. 11'
- b. Curb and Gutter. 1.5'
- c. Sidewalk. 6'
- d. Landscape. 15' setback
- e. Buildings. 15' setback
- f. Obstructions. 3' setback

2. Traffic stops are frequent and speeds are low on collector streets.

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

4. On street parking may be allowed on one side where secondary roads are over 28 feet wide but not less than 34 feet wide. Parking shall not interfere with intersections or traffic flow.

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

6. Cul-de-sacs are to only be used in the military housing area. The minimum radius for cul-de-sacs shall be 50'.

B02.1.4. Special Routes

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Santa Maria Gate



California Boulevard



Crosswalk at Site Entrance Feature

1. Develop all special routes consistently with those adjacent to Group 1 facilities. Special routes, as described below, include areas that are high visibility and frequented by distinguished visitors.

2. Special routes shall include the following streets:

- a. California Blvd, from the Santa Maria Main Gate to 13th Street
- b. Utah Ave, from California Blvd to Ocean View Blvd
- c. Nebraska Ave, from California Blvd to Ocean View Blvd
- d. Washington Ave, from Utah Ave to Ocean View Blvd
- e. 13th Street, from Utah Ave to Ocean View Blvd/Airfield Rd
- f. Airfield Rd in its entirety

B02.2. Hierarchy of Intersections

☐ Applicable ☒ N/A Large graphics do not apply

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

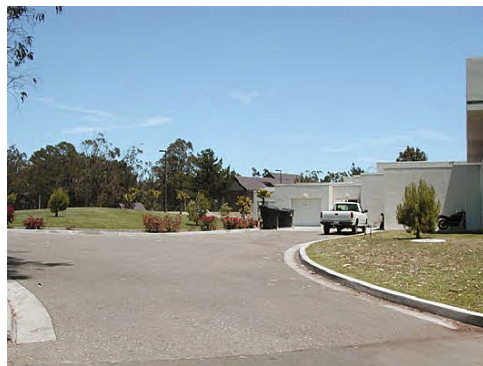
Image Tool 250 x 188



Crosswalk at Plaza



Intersection at Local Streets



Intersection at Service Drive

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

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

B02.2.1. Arterials

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Provide an informal grouping of low lying native ground cover and shrubs with trees as a backdrop at all four corners. Accent boulders and rock mulch may be appropriate. Monument walls with signage are appropriate adjacent to Group 1 facilities. Maintain appropriate sight lines at all intersections.

B02.2.2. Arterial/Collector

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Provide an informal grouping of low lying native ground cover and shrubs with trees as a backdrop at all four corners. Accent boulders and rock mulch may be appropriate. Maintain appropriate sight lines at all intersections.

B02.2.3. Collectors

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Provide an informal grouping of low lying native ground cover and shrubs with trees as a backdrop at all four corners. Maintain appropriate sight lines at all intersections.

B02.2.4. Special Intersections

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Develop all special intersections consistently with those adjacent to Group 1 facilities or along designated special routes. Development may include accent landscaping to include non-native trees such as palm trees, flowering bushes and ground cover, accent boulders with or without rock mulch, monument walls and high levels of landscape quality.

2. The following intersections are designated as special intersections that are located on special routes:

- a. Highway 1 and California Blvd
- b. California Blvd and Juniper St
- c. California Blvd and Utah Ave
- d. California Blvd and Nebraska Ave
- e. California Blvd and Washington Ave
- f. California Blvd and 10th St
- g. California Blvd and 13th St
- h. Airfield Rd/Ocean View Blvd and 13th St
- i. Ocean View Blvd and Juniper St
- j. Utah Ave and Korina Ave

B02.2.5. Street Frontage Requirements

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

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

B02.2.6. Sight Lines

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

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. Maintain a 45 foot clear zone free of visual barriers over 18 inches in height at uncontrolled intersections. Maintain a 15 foot clear zone free of visual barriers over 18 inches in height at controlled intersections with vehicle speeds of 30 mph or less.

B02.3. Street Elements

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

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 storm water to bio swales and rain gardens as source water for vegetation. Minimize painted concrete curbing to the maximum extent possible.
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, Sign Standards. All street name signage and directional signage shall be white lettering on brown background per UFC 3-120-01, Sign Standards.
6. Follow UFC 3-120-01, Sign Standards, 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, DoD Minimum Antiterrorism Standards for Buildings. Ensure the quality and quantities of lighting and fixtures are appropriate for the adjacent Facility Group number.

B02.3.1. Paving

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Typical Bituminous Paving

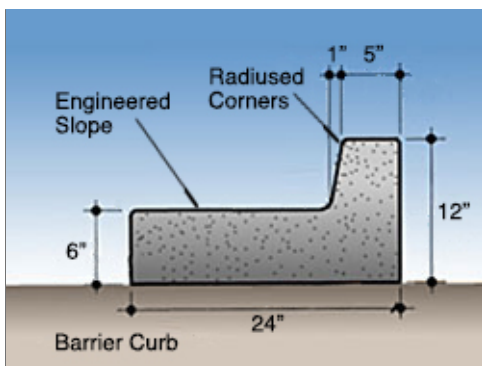
1. Pavement design shall comply with UFC 3-250-01, Pavement Design for Roads and Parking Areas. Ensure appropriate analysis and design of subgrade conditions to support low maintenance high performance pavements.
2. Materials for pavements shall be specified in accordance with UFC 3-250-01 and shall conform to requirements defined in the Unified Facility Guide Specifications for concrete and asphaltic concrete.

B02.3.2. Curb and Gutter

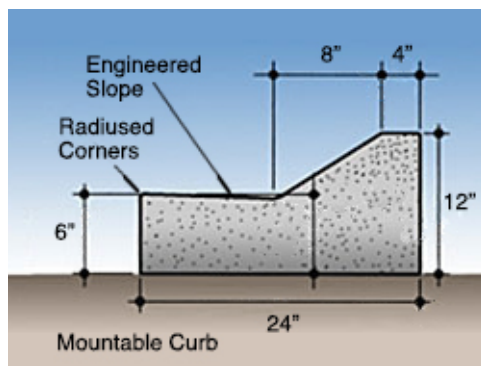
☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Preferred Integral Curb and Gutter



Residential Curb and Gutter

1. Continuous concrete curbs shall be provided at paved roads and parking areas adjacent to Group 1, Group 2 and Group 4 facilities. Asphalt curbs may be used at roads and parking areas adjacent to Group 3 facilities where needed but are not required.
2. Integral concrete curb and gutter shall be used at areas with drainage (asphalt sloped towards curb). A header curb without gutter shall be allowed in areas if adjacent asphalt is sloped away.
3. A minimum standard curb height of 6 inches shall be consistently maintained. "Rolled" mountable curbs are not allowed.

B02.3.3. Utility Service Elements

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Provide all utility service lines below grade when streets are adjacent to Facility Group 1.
2. When mounting elements such as utility cabinets, communications equipment and water valves above grade is unavoidable, paint these items consistently in standard base colors and provide visual screening following Site Development, Landscaping.
3. Overhead service lines along streets adjacent to Facility Groups 2, 3 and 4 are discouraged.

B02.3.4. Traffic Signs

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

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

B02.3.5. Street Lighting

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

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

B02.3.6. Other

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Not applicable.

B03. OPEN SPACE / PUBLIC SPACE

Comply with Air Force Corporate Standards for Installation Elements:

<http://afcfs.wbdg.org/installation-elements/index.html>

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

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

B03.1. Plazas, Monuments and Static Displays

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



WROCC Pavilion



Monuments and Flag Display



Missile Park Monument

1. Natural features and culturally or historically significant features or events may be recognized and acknowledged with physical elements such as plazas, monuments and static displays. However, limit these elements on the base to ensure judicious use of resources and to reduce ongoing maintenance requirements.
2. Design highly durable plazas, monuments and static displays with a level of quality comparable to Facility Group 1.
3. Link plazas, monuments and static displays to the pedestrian circulation system. Install landscaping, site furnishings and lighting appropriate for the application and local climate following Installation Facilities Standards (IFS).
4. Select systems, products and materials for paving, walls, and structures following IFS.

B03.1.1. Paved Plazas

☐ Applicable ☒ N/A Large graphics do not apply

☒ Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 6

Image Tool 250 x 188



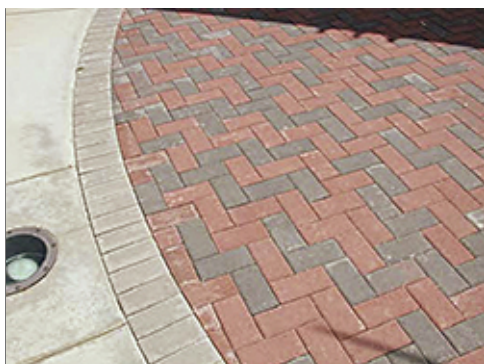
Chapel Park Rotunda



Interlocking Concrete Pavers



WROCC Pavilion



Interlocking Two-color Concrete Pavers



WROCC Plaza



Chapel Park Plaza

1. Pervious pavers shall be used on all plazas and courtyards in Group 1 and 2 facilities. Use pervious concrete in Group 3 facilities, traffic rated as appropriate. Group 4 facilities may use impervious concrete or pervious pavers as appropriate.
2. Plazas using impervious pavers shall be paved with CMU pavers set on a sand bed. If needed, provide traffic rated pavers and sub-grade structure required to support anticipated vehicle traffic.
3. Pavers shall use a mixtures of the base standard range of beiges, tans, browns or terra cotta in a standard regular pattern. The use of a basket weave pattern is encouraged.

B03.1.2. Sculptures, Markers and Statuary

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Limit the use of sculpture, markers and statuary to frequently used locations adjacent to Group 1 facilities and heavily used community pedestrian spaces.
2. All proposed memorials shall follow AFI 36-3108, Memorialization Program and Ceremonies, and be limited to highly deserving individuals or groups as deemed appropriate by the installation leadership.

3. Materials used shall be match the materials to include color palette of adjacent structures/spaces, be of a permanent nature, be durable and require very little maintenance.
4. Use LED direct/indirect lighting to accentuate features or enhance an intended effect.
5. Ensure that all sculpture, markers and statuary are honorable and inspiring, provide a sense of place, positively contribute to the base's visual quality and encourage pride for the installation community and the Air Force.

B03.1.3. Static Display of Aircraft

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



P-40 Plaza

1. Follow IFS base-wide standards for all elements of the display area with specific attention to traffic sight lines, pedestrian circulation, site furnishings, signs and lighting. Address requirements for the Facility District and Facility Group.
2. Locate concrete base/foundation structures for static displays below grade. Aircraft displays shall be presented in a dynamic fashion.
3. Rocket and missile displays shall be of a scale appropriate to its location (adjacent spaces and structures), and shall be installed as a vertical display.
4. Where pedestrian paths are provided, a minimum of one bench shall be provided although, if appropriate, more than one bench shall be provided. Bench design and layout shall conform to IFS requirements.

B03.2. Grounds and Perimeters

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Pine Tree Rows along Washington Avenue



Chapel Park Bridge



Local Landscape

1. Provide recreational areas and parks following the IDP and IFS. Identify and describe base-wide utility corridors in the IDP.
2. Comply with UFC 4-101-01, DoD Minimum Antiterrorism Standards for Buildings, and UFC 4-022-03, Security Fences and Gates, for all elements associated with installation gates and perimeter fence.
3. Reduce visual clutter and visual impact of the following items through a combination of careful placement, screen and security walls, landscaping and painting:
 - a. Electrical substations and switch stations
 - b. Sewage lift stations
 - c. Water well pumps, storage tanks, backflow preventers and all related structures
 - d. Gas piping, meters and other incidental items
 - e. Above ground fuel storage tanks
 - f. Any ground mounted freestanding utility item exposed to view
4. Larger structures such as electrical substations, 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 matching design elements present at adjacent buildings. Screen walls shall be constructed on durable materials such as CMU block, i.e. split face with accent block.
5. Paint above grade equipment and associated components such as electrical duct or exposed water/fire sprinkler lines with base standard colors, matching adjacent structures. Verify color selection with 30 CES/CENM.
6. Follow the requirements of the IFS regarding all utility structures and service lines located above grade that visually impact the installation. Where screening is provided, allow adequate and proper clearance for safety and maintenance. Comply with UFC 4-101-01, DoD Minimum Antiterrorism Standards for Buildings as needed.

B03.2.1. Parade Grounds

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Provide formal spaces for parade and review functions following the IDP. Follow UFC 3-201-02, Landscape Architecture, 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 and facility Group following IFS.

3. Bleachers shall not be installed. Provide space for temporary bleachers to be used only during specific ceremonies and gatherings. Nonferrous metals that do not require painting or going maintenance are preferred. The Base Civil Engineer shall determine quantities, sizes, and products on a case by case basis.

B03.2.2. Parks

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Chapel Park



Cocheo Park Ship Hull



Indigenous Materials

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. Picnic pavilions shall be constructed of durable materials such as concrete or CMU block, generally matching the quality and style of finish of the adjacent facility Group.

B03.2.3. Preserves

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Tree Row Near the Pacific Coast Club



Preserved Native Xeric Plant Species

1. Maintain preservation areas following the IDP and the IFS.

2. Open areas and preserves identified in the IDP shall remain natural in state with minimal maintenance except for clearing brush and grass from the road side and/or removing trees, brush and grass under existing overhead utility lines.

B03.2.4. Perimeter Fence

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Control Point at the Lompoc Gate

1. Design, install and maintain the base's perimeter fence following UFC 4-022-03, Security Fences and Gates.
2. Stringently comply with AT / FP requirements following UFC 04-010-01, DoD Minimum Antiterrorism Standards for Buildings, 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>

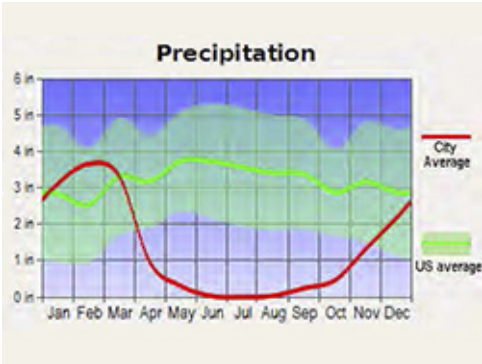
Comply with AF Corporate Standards for Site Design / NEPA:
<http://afcs.wbdg.org/site-development/site-design-nepa/index.html>

C01.1. Site Design Considerations

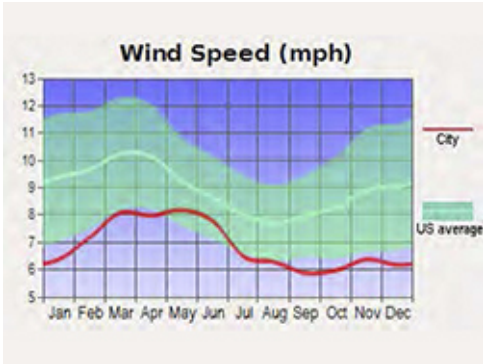
☐ Applicable ☒ N/A Large graphics do not apply

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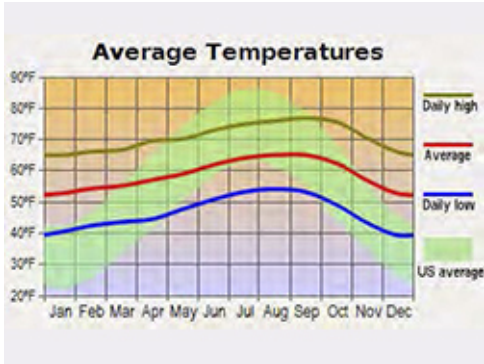
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Selected Local Precipitation Data



Average Local Wind Data



Average Local Temperature Data



Chapel Park Creek



Entrance Plaza at Visitor Center



Native Xeric Plant Species

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. Design all storm water 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 provides aesthetic appeal.
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. Mechanical systems and equipment shall be placed outside of the identified open space or protected as required by UFC 4-101-01, DoD Minimum Antiterrorism Standards for Buildings.
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 storm water management.
15. Designated Tobacco Areas shall be sited and approved by 30 CES/CENME in compliance with AFI40-102, Tobacco Free Living.
16. Temporary facilities are not allowed in the cantonment area and their use is discouraged elsewhere. Temporary facilities are defined as structures that are erected without permanently attached foundations and include modular or relocatable buildings, storage sheds and trailers. Temporary trailers that are brought in to support construction efforts by outside contractors may remain on site until construction is complete.
17. Temporary facilities needed for immediate mission critical needs may be approved up to one year using the AF Form 332, Base Civil Engineer Work Request. The work request shall identify the mission critical need and how the facility shall be used, proposed siting and a tentative date for removal.
18. A minimum 30-foot buffer zone/setback is required for new land disturbances near riparian areas and wetlands as determined by 30 CES/CEI. This area is a zone of no land disturbance.

C01.2. Building Orientation

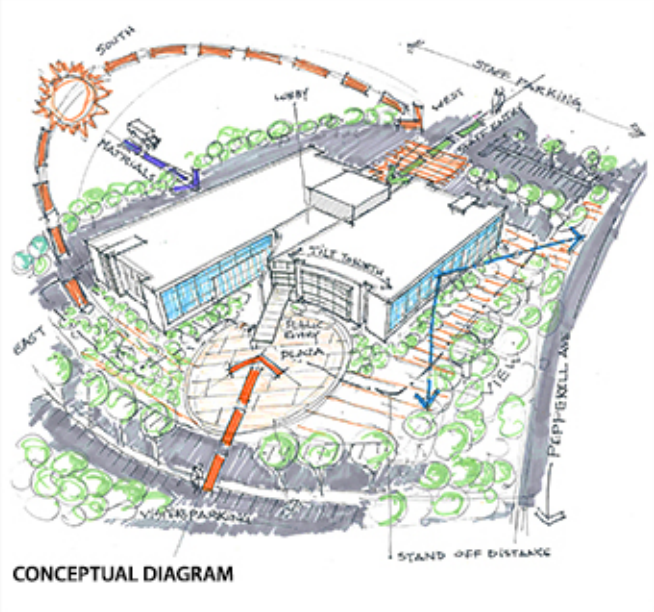
- ☒ Applicable ☐ N/A
- Select number of graphics / images (large: 800 px x 440 px) to insert
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- ☒ Applicable ☐ N/A
- Select number of graphics / images (small: 250 px x 188 px) to insert
- 6

Image Tool 800 x 440

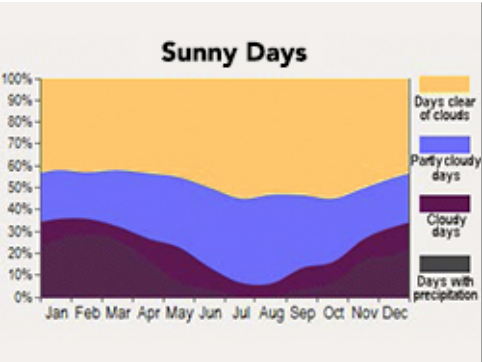
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DRIVING FACTORS

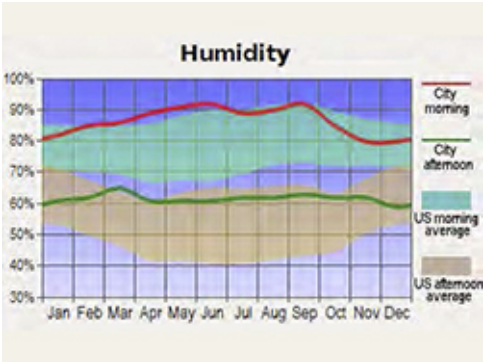
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|--|--|--|---|
| • Optimal solar orientation of the building. | • Maximize the daylight & desirable views. | • Meet the required AT/FP standoff distance | • Create a unified campus |
| • Main entrance from Pepperrell street. | • Saving existing vegetation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



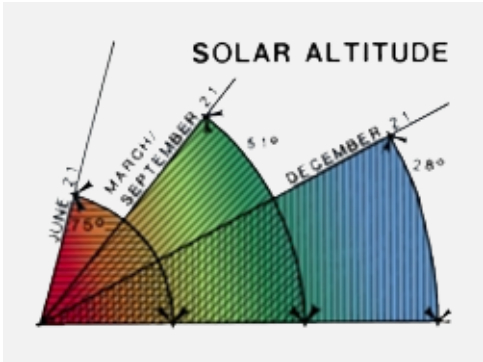
Conceptual Site Analysis and Site Design Diagram



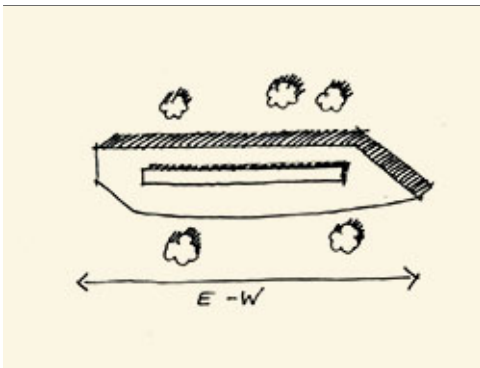
Local Solar Data



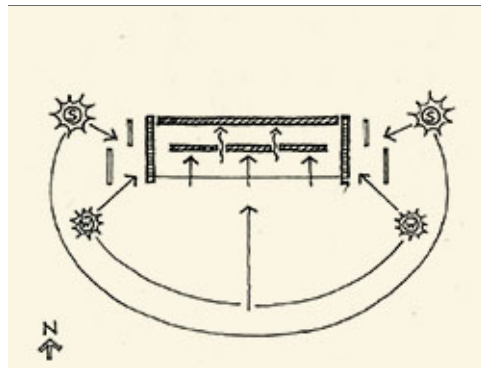
Local Climate Data



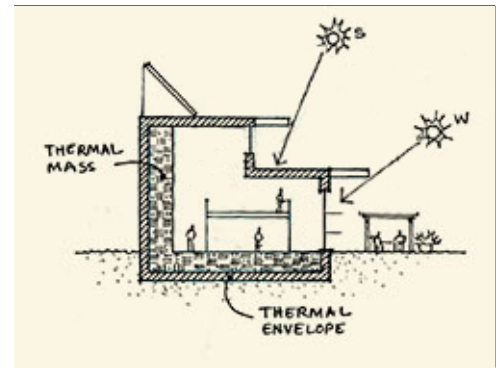
Local Solar Altitude Data



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 gain, solar shading, natural ventilation, rainwater harvesting, wind buffering and other beneficial passive systems. Consider natural ventilation during the design of HVAC systems.
4. Consider relationships to adjacent sites and their facilities and infrastructure, and cost effectively integrate building systems to harvest heat, grey water or other beneficial byproducts.
5. Consider the "public side" of the building, its views and the location of the main entrance.

C02. UTILITIES

Comply with AF Corporate Standards for Site Development:

<http://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 Large graphics do not apply

☒ Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 6

Image Tool 250 x 188



Coordinated Utility Cabinets



Group 3 Utility Enclosure



Landscape Screening



Group 3 Screening



Group 3 Security Fencing



Group 3 Weather Protection and Shading

1. Vandenberg AFB is a highly corrosive environment due to regular incursion of the marine fog layer. In order to minimize maintenance and provide the best value, it is recommended that most outside electrical fixtures (crossarm braces, brackets, insulator supports, anchors, brackets, supports, bolts, anchors and other miscellaneous equipment) shall be stainless steel. There are also preferred materials to be used for fuses, cutouts, surge arrestors, insulators, transformers, connectors, and overhead/underground conductors. See 30 CES/CEO Vandenberg AFB High Voltage Construction Standard Material Specifications for approved/preferred materials.

Vandenberg AFB High Voltage Construction Standard Material Specifications

http://www.wbdg.org/FFC/AF/AFIFS/Vandenberg_AFB_Electrical_Material_Specifications.pdf

2. 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 using base standard colors and provide visual screening following Installation Facilities Standards (IFS).

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

3. Define all service entry points into the building and route distribution below grade into an interior space within the facility; exposed conduits, cables and wires on exterior walls are not permitted for Facility Group 1 or Group 2.
4. Include consideration of appropriate placement of meters in support of Automated Revenue Management Services (ARMS).
5. Limit exterior mechanical distribution systems such as exterior steam, chilled water, and hot water distribution to Group 3 facilities; when required for Group 1 and 2 facilities integrate with the architecture and provide visual screens following IFS.

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:

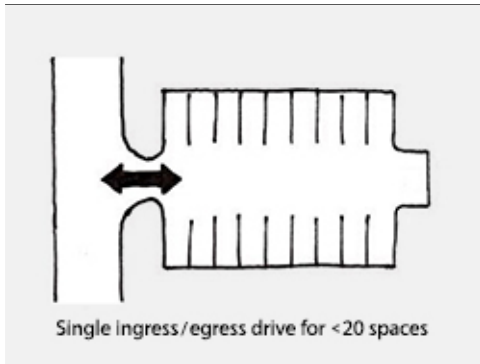
<http://afcs.wbdg.org/site-development/parking-areas/index.html>

C03.1. Configurations and Design

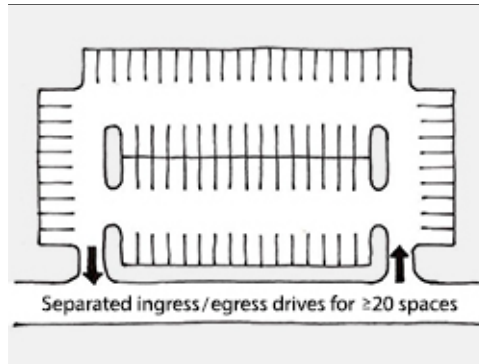
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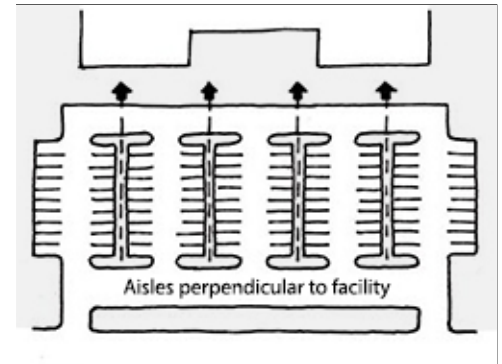
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Small Lot Configuration



Large Lot Configuration



Facility Group 1 Configuration

Refer to UFC 3-201-01 (Civil Engineering) for current guidance for Site Development: Parking Areas. Design configurations for parking areas, including stall sizes and geometries, in accordance with SDDCTEA Pamphlet 55-17 Better Military Traffic Engineering, Chapter 17.

https://www.sddc.army.mil/sites/TEA/Functions/SpecialAssistant/TrafficEngineeringBranch/Pamphlets/SDDCTEA_Pamphlet_55-17.pdf

1. Evaluate adjacent sites and cost-effectively consolidate parking areas to maximize efficient use; ensure that all areas meet accessibility guidelines.
2. Generally envision on-site parking as a series of small connected singular areas selectively placed around the facility served, rather than a single large area; buffer parking areas from the facility main entrance with a transition space and provide drop-offs to decrease close-in parking. Comply with IFS standards while meeting AT/FP requirements to include required setbacks.
3. Parking lots shall be designed to minimize the visual impact of parking areas by creating smaller, well-screened, landscape parking areas located behind the facilities they serve. Reduce the visual impact of oversized parking areas with landscaped medians and islands.
4. Parking areas shall be located within 400 feet of the facilities they serve but no closer than the minimum allowed by AT/FP standard or as directed by the AT office or its representatives.
5. Integrate at-grade and raised-profile curbing, permeable paved areas, and parking islands with the stormwater system and direct storm water to bio swales and rain gardens as source water for regionally appropriate native vegetation.
6. Define pedestrian access with approved hardscape and provide shading along the primary path from the parking area to the main entrance of the building.
7. Coordinate suitable landscape, bollards or barriers integrated with walls and fences to ensure adequate force protection.

8. Accessible parking spaces shall be provided per ABAAS requirements and marked according to UFC 3-120-01 and its references in ABAAS and the MUTCD.
9. Consider locations and requirements of near term and future electric vehicle charging stations.
10. Designate preferred parking spaces for electric vehicles and carpools near the main entrance.
11. Consider cost-effectively integrating solar photovoltaic arrays into covered parking structures.
12. Reserved parking is discouraged except for Facility Group 1. Reserved parking shall be authorized and compliant as outlined in the 30 SWI 31-218 Installation Motor Vehicle Code. The list of authorized reserved parking shall be managed by the facility manager. Facility managers and senior leadership requesting reserved parking shall be responsible for managing valid use of approved reserved parking at their facilities.
13. If possible, entire rows of parking areas shall be assigned to Government Operated Vehicles (GOV) with group signage at both ends of the area instead of assigning and applying signage to individual spaces.
14. On-street parking is discouraged except in multi-use areas. When used, provide approved on-street parking configurations following UFC 3-201-01.
15. Access and service drives should accommodate the largest vehicle serving the facility.
16. The use of wheel stops is discouraged and will only be approved on a case by case basis. The use of wheel stops shall be limited to parking lots without curbing to prevent damage to adjacent structures, landscaping or fencing.
17. Provide a setback of 20' between the parking lot and adjacent streets.
18. Parking lots shall be organized into sub-lots of approximately 50 spaces or less using landscaped medians and islands. Parking lots of 50 or more cars shall have more than one access drive.
19. Parking space dimensions:
 - a. 90 degree: 9' x 20'
 - b. 45 degree: 9' x 20'-6"
 - c. 60 degree: 9' x 23'
 - d. Parallel: 11' x 21'
 - e. First/last stall of each row: add 1' to standard width
20. Driveway aisles and other dimensions:
 - a. Two-way aisles: 24' wide
 - b. One-way 45 degree aisle: 13' wide
 - c. One-way 60 degree aisle: 18' wide
 - d. Landscaped medians: 12' wide preferred, 6' wide minimum
 - e. Landscaped islands: 9' wide
21. Provide islands at the ends of parking stalls and at the intersections of parking aisles. Islands shall be 9' wide. Medians shall be provided to create sub-lots of 50 spaces or more with a preferred width of 12' wide, 6' wide minimum.
22. Motorcycle parking spaces shall be provided at the end of the parking row with signage, 4'-6" by 12' long minimum. All motorcycle parking shall be located on a concrete pad.
23. Reserved parking is discouraged except for Facility Group 1 and as deemed appropriate by the Installation Motor Vehicle Code. Approval for all reserved parking shall follow procedures as outlined in the Installation Motor Vehicle Code.

C03.1.1. Paving and Striping

☐ Applicable ☒ N/A Large graphics do not apply

☒ Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 6

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Bituminous Paving



Paving Transitions



Typical Striping



Group 2 Paving



Group 3 with Wheel Stops



Group 2 Striping

Facility Group 1 paving materials shall be as follows.

- Primary: Bituminous paving
- Secondary: Concrete
- Accent: Permeable pavers

Facility Group 2 paving materials shall be as follows.

- Primary: Bituminous paving
- Secondary: N/A
- Accent: N/A

Facility Group 3 paving materials shall be as follows.

- Primary: Concrete where operationally required
- Secondary: Bituminous paving
- Accent: N/A

Facility Group 4 paving materials shall be as follows.

- Primary: Bituminous paving
- Secondary: N/A
- Accent: N/A

1. All new parking lots in Groups 1 and 2 shall be constructed of asphaltic concrete paving.
2. Porous paving or pavers may be considered on a case by 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.

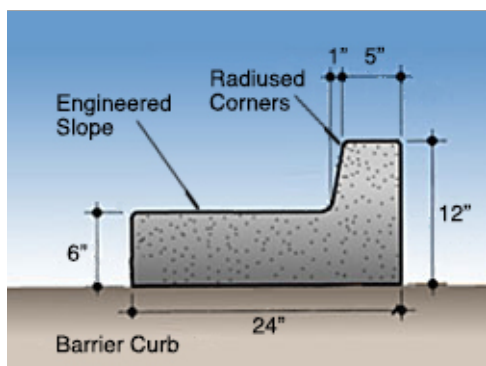
4. All parking shall be marked with white stripes of reflective traffic rated paint. Red or yellow markings shall only be used for safety purposes and must be kept to a minimum. Blue markings shall only be used for accessible parking and pedestrian paths. All lines shall be four inches (4") wide.

C03.1.2. Curbing

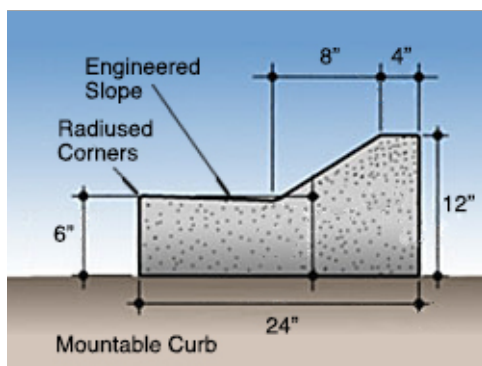
☐ Applicable ☒ N/A Large graphics do not apply

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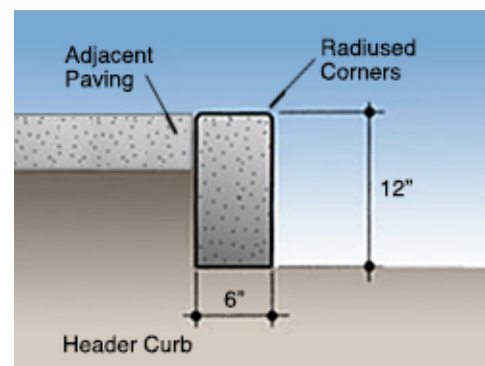
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"Barrier" Curb



"Mountable" Curb



Header Curb

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

Primary: Concrete, formed, 6" high minimum

Secondary: N/A

Accent: N/A

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

Primary: Concrete, formed, 6" high minimum

Secondary: N/A

Accent: N/A

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

Primary: Concrete, formed, 6" high minimum

Secondary: Asphaltic concrete, formed, 6" high minimum

Accent: N/A

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

Primary: Concrete, formed, 6" high minimum

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. Group 3 parking areas and service yards are not required to have edge curbing but dirt areas directly adjacent to parking areas and driveways shall be compacted base course or decomposed granite, extended 6' to 8' from the paved areas.

2. Integrate curbing to direct storm water as source water for regionally appropriate native vegetation.

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

C03.1.3. Internal Islands and Medians

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Lighting within Median



Visual Break



Landscape Island

1. Install landscape islands and medians as visual breaks, to reduce heat island effects and to accommodate bio swales and rain gardens. 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

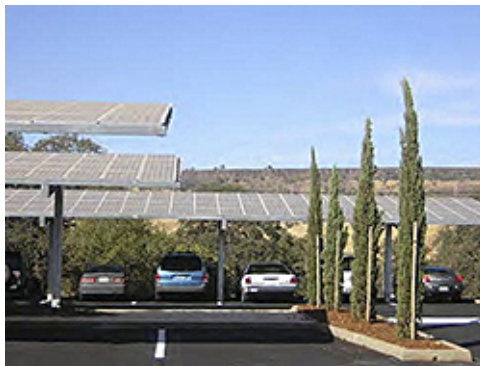
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☒ Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 2

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Center Pole-mounted Solar Array Sunshade



Solar Array Sunshades

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 ATRP guidelines are fully addressed.

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

C03.3. Connectivity

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Parking Linked to Entrance



Disabled Parking



At-Grade Disabled Access

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, bus stops, sheltered bike racks and benches to encourage and facilitate use of public transportation.
3. Evaluate the IDP for the current and planned network of roads and optimally develop vehicular access to and from the site.
4. Define pedestrian access with approved hardscape, provide shading and provide safe, efficient travel from vehicles along the primary path from the parking area to the main entrance of the building. Emphasize building main entrances in the alignment of landscape median and pedestrian paths.

C04. STORMWATER MANAGEMENT

Comply with AF Corporate Standards for Site Development:

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

Comply with AF Corporate Standards for Stormwater Management:

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

C04.1. Stormwater Requirements

☐ Applicable ☒ N/A Large graphics do not apply

☒ Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 6

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Chapel Park Creek



Swaled Vegetated Drainage



Rain Garden Adjacent to Paving



Curb and Gutter Flow Line



Storm Drain Inlets



Permeable Paving System

1. Sustainable site design shall include the application of storm water management strategies consistent with the Vandenberg AFB Post-Construction Storm Water Standard (http://www.wbdg.org/FFC/AF/AFIFS/VAFB_PC_Storm_Water_Standard_MS4.pdf).
2. Design all storm water 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 provides aesthetic appeal.
3. Permeable paving may be used in areas that are not subjected to severe freeze-thaw cycles.
4. When underground drainage systems are required, establish a maintenance program to include removal of sediments and debris; inspect joints seasonally for alignment to prevent leakage and the development of voids and surface failures.
5. Cost-effectively integrate stormwater systems with AT/FP 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

Large graphics do not apply

☒ Applicable ☐ N/A

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

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Paved Entrance Plaza



Paver at Entrance Plaza



Paved Seating Area



Sidewalk to Main Entrance



Shade Shelter Paving



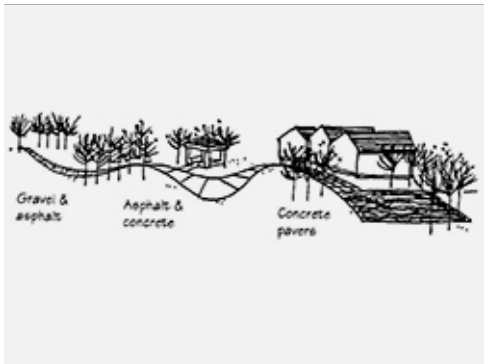
Housing Area Paved Trail



Park Trail Paving



Playground Trail Paving



Hierarchy of Paving Diagram

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

Primary: Pervious Pavers

Secondary: Concrete Edging

Accent: N/A

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

Primary: Pervious Pavers

Secondary: Concrete Edging

Accent: N/A

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

Primary: Permeable concrete

Secondary: N/A

Accent: N/A

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

Primary: Permeable concrete

Secondary: N/A

Accent: N/A

1. Maintain efficient geometry and accessibility to connect building entrances to adjacent parking areas and activity areas and to the base transportation system following AT/FP. Efficiently use materials to optimize life-cycle costs and to minimize maintenance.
2. Generally conform horizontal layouts of sidewalks to the geometric configuration of adjacent buildings, streets, parking lots, and other adjacent related site amenities. Occasional meanders and/or jogs may be included to capture views, to coordinate with landscaping or accommodate site constraints.
3. Walks in parking areas shall provide a direct path using "safe islands" and "peninsulas" to encourage safety. Walks parallel to streets shall follow streetscape guidelines. Clearly mark pedestrian crossings at vehicular routes.
4. Mitigate heat island by providing high-albedo, shaded sidewalks. Pervious pavers shall be used on all sidewalks, plazas and courtyards in Facility Groups 1 and 2; use pervious concrete in Groups 3 and 4. The designer shall incorporate appropriate expansion and construction joints.
5. Only experienced contractors will install pervious pavements.
6. Consider an integrated approach that could include stormwater management (permeable surfaces) and complement the design of the storm drainage system when appropriate.
7. Pedestrian paths should be at least 5' in width to allow for comfortable side-by-side walking; 6' in width is preferred. If bicycle use is anticipated on the same path, a minimum width of 8' shall be used, 10' preferred.
8. Sidewalks leading to a building main entrance and at the interior of parking lots shall be a minimum width of 6'. Walks greater than 10' wide may be used at high-density pedestrian areas where volumes of traffic justify added material.
9. Where cars park adjacent and head-in to the sidewalk and wheel stops are not used, such perimeter walks shall be increased to a minimum width of 8' to accommodate overhangs of the parked vehicles.
10. All sidewalks shall have positive drainage to prevent ponding of water 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 2.0%.
11. Pavers shall conform to the following range of color: tan, beige, brown, terra cotta. Pavers used on walks shall typically be 4" x 8" in size; other sizes and shapes may be approved 30 CES/CENM on a case by case basis.
12. Connect to the bicycle circulation system and provide bicycle parking with a suitable means for securing bicycles following IFS. Consider changing/shower facilities for use by cyclists.

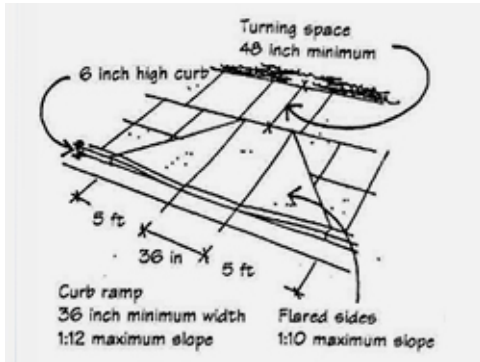
13. Refer to the Installation Development Plan for future trails, bicycle paths, and sidewalks.

C05.1.1. Ramps and Stairs

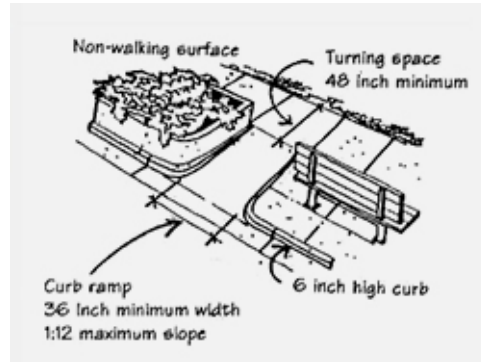
☐ Applicable ☒ N/A Large graphics do not apply

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

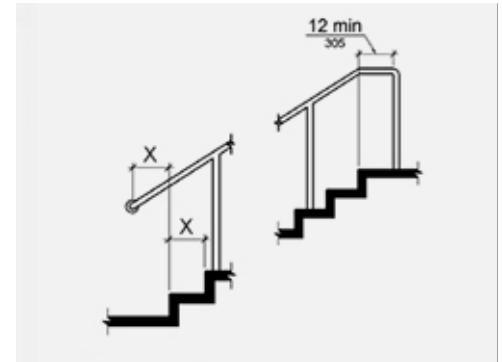
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Flared Curb Ramp



Orthogonal Curb Ramp



Stair References to Building Code

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, DoD Building Code, and its references to the International Building Code.

2. All exterior steps shall be a minimum of 4' wide with 14" deep treads, 6" high risers. Each tread should have a slight pitch to allow for drainage and shall be finished with a non-slip surface. Exterior steps are sized based on the following formula; $2 \times \text{riser} + \text{tread depth} = 26"$.

3. Nosing shall not be abrupt and the radius of the leading edge of the tread shall be no greater than 1/2". Nosing shall not project more than 1 1/2" from the riser.

C05.1.2. Lighting

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

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

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

C06. LANDSCAPE

Comply with AF Corporate Standards for Site Development:

<http://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 Large graphics do not apply

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

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Native Landscaping



Groundcover



Planting Bed at Visitor Center

1. In most areas, use native, naturally occurring, drought tolerant indigenous plant species (including grasses) appropriate for the locale to promote energy efficiency and water conservation, preserve drainage patterns, inhibit erosion, improve air quality, lower maintenance, and add beauty. In high-visibility areas, the use of non-natives may be used as approved by 30 CES/CEN. See 30 CES/CEN plant lists for approved high-visibility area plants.

Tree Palette

http://www.wbdg.org/FFC/AF/AFIFS/Table-1_Tree_Palette.pdf

Shrub Palette

http://www.wbdg.org/FFC/AF/AFIFS/Table-2_Shrub_Palette.pdf

Groundcover Palette

http://www.wbdg.org/FFC/AF/AFIFS/Table-3_GC_Palette.pdf

2. Follow details and specifications of the American Standard for Nursery Stock, current edition.

C06.1.1. Landscape Design Concept

☐ Applicable ☒ N/A Large graphics do not apply

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

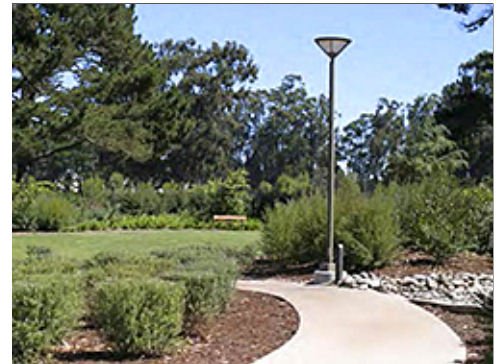
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Xeric Planting and Rock Mulch



Chapel Park Planting



Native Plant Materials

1. Develop, maintain and implement a climate-based plant list with landscape features using a regionally appropriate palette of materials to promote energy efficiency, preserve drainage patterns, inhibit erosion, improve air quality, lower maintenance and add beauty. Follow UFC 3-201-02 Landscape Architecture. In high-visibility areas, the use of non-natives may be used as approved by 30 CES/CEN. See 30 CES/CEN plant list for approved high-visibility area plants.
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 storm water management plan. Refer to B02. 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 and other high visibility areas such as the Main Gate and high visibility boulevards identified in B02. Streetscape Envelope Standards. Landscape public spaces near the main entrances of Group 1 facilities.
5. Facility Group 2 and 3 sites may have a native undisturbed landscape except at the main entrances of Group 2, which should be newly landscaped.
6. Facility plantings shall follow the Installation Facilities Standards (IFS) plant list, which is based on the specific microclimates created by the adjacent building: shadow areas, protected areas, zones adjacent to thermal mass, and availability of rainwater and/or grey water.
7. Provide open spaces as transitions between developed and native areas that promote quality of life and provide visual relief and allow walkable connections to the transportation system.
8. Return suitable areas to a natural state to minimize and, whenever possible, eliminate ground maintenance requirements; expand open areas where appropriate with native plants to eliminate mowing and maintenance requirements.
9. In tree clusters, replace grass with naturalized shrub beds and leaf litter mulch to eliminate mowing requirements.
10. Use plantings in open spaces to reinforce the space as a visual asset.
11. Consider landscape windbreaks when suitable for the local climate.
12. Integrate security requirements into the landscape design. Coordinate the heights of trees and shrubs and note restrictions for plantings following UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings.
13. Berms may be used as an integral part of the overall landscape strategy for screening, security and/or visual interest.

14. Provide 6" wide concrete mow strip between lawn areas and planters. Mow strips of brick, stone or wood are not allowed due maintenance and longevity concerns.

15. All accent plantings at high visibility areas (Group 1 facilities, entry gates and identified high visibility intersections) shall be reviewed and approved by 30 CES/CEN.

16. Palm trees are a non-native, drought tolerant accent trees which shall be used in limited numbers at highly visible entrances and important gathering spaces. Palm tree selection shall be based on height, availability and irrigation requirements.

C06.1.2. Xeriscape Design Principles

☐ Applicable ☒ N/A Large graphics do not apply

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

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Cocheo Park Groundcover



Wood Mulch



Xeric Shrub Species

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

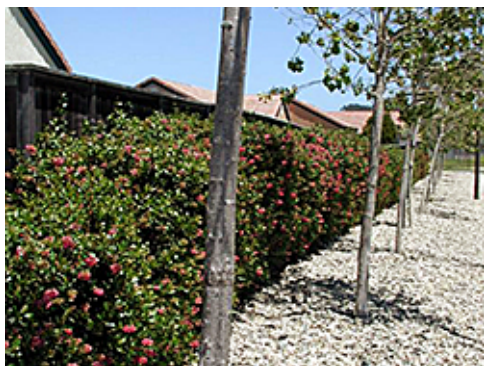
2. Facility plantings are encouraged to use native plant species and to consider specific microclimates created by the adjacent building: shadow areas, protected areas, zones adjacent to thermal mass, and availability of rainwater and/or grey water.

C06.1.3. Minimizing Water Requirements

☐ Applicable ☒ N/A Large graphics do not apply

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

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Reduced Evaporation from Soil



Dry Creek Planting



Isolated Irrigation Area

1. Reasonably reduce demand on potable water while seeking opportunities to increase alternative water sources for irrigation. Reduce or eliminate the use of potable/domestic water for purposes of landscape architecture maintenance, consistent with

existing legal or contractual obligations, and prohibit potable-water irrigation in new construction beyond establishment following current DoD and Air Force policy.

C06.1.4. Plant Material Selection

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Open Space with Trees Providing Shade



Shrubs with Different Colors and Textures



Organic Mulches to Retain Moisture

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 plant lists provided by the Base Civil Engineer.
3. Trees should be the focus of landscape plantings and, where possible, should be a mix of deciduous and evergreen species for variety; provide tree grates when appropriate and use tree guards on smaller trees.
4. Ground covers are only recommended when minimal maintenance is required.
5. Turf areas should be limited to high visibility areas and those that can be sustained by natural rainfall or grey water (non-potable) irrigation systems; turf may be defined by at-grade concrete mow strips to lessen maintenance.
6. Analyze soils and provide organic amendments as needed to improve plant growth and conserve water.
7. All plant material shall have one-year warranty and is subject to approval by the Base Civil Engineer.

C06.1.5. Water Budgeting (Hydrozones)

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Recreation Area Turf Zone

- 1. Comply with DoD and Air Force policy on potable-water irrigation systems.
- 2. Provide irrigation systems in new construction to establish plant materials following “Water for Landscaping” in UFC 1-200-02. Note the climate zone and annual rainfall for the locale.
- 3. New buildings shall cost-effectively integrate a grey-water reclamation system following UFC 1-200-02, which provides source water for an automatic drip irrigation system; connect adaptive plantings adjacent to facilities to a grey-water irrigation system when available and discontinue the use of potable water for irrigation after the establishment period.
- 4. Provide irrigation design following UFC 3-201-02. Install drip irrigation products and components following UFGS Section 32 84 24 Irrigation Sprinkler Systems. Match the color of valve box lids to the adjacent ground treatment (i.e. green at turf & native seed areas, brown at wood mulch & rock areas).
- 5. Life cycle cost-effectively equip irrigation systems to sense soil moisture, rainfall and wind to minimize unnecessary watering; incorporate drip irrigation systems as the primary source.

C06.1.6. Base Entrance Landscaping

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Group 1 Landscape

1. At the main gate, reinforce a sense of arrival through a well-designed concentration of landscape elements consistent in visual quality with Facility Group 1.
2. Ensure landscaping has seasonal features with spring and fall color and a combination of evergreen and deciduous trees and shrubs for winter interest.
3. Integrate base signs and street and pedestrian lighting whenever feasible.

C06.1.7. Streetscape Landscaping

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Tree-lined California Boulevard



Decorative Median Island at Utah Avenue



Groundcover Planting

1. Provide landscape designs with plant materials appropriately representing the level of quality of the adjacent Facility Group number. Refer to the Installation Elements section.
2. Select a variety of regionally appropriate streetscape plantings and grading to create a visual interest.

C06.1.8. Pedestrian Circulation Landscaping

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Sidewalk Planting



Site Entrance Landscaping



Recreation Path Landscaping

1. Define walkways with landscaping where appropriate.
2. Provide rest areas along the pedestrian circulation network with human-scaled deciduous shade trees. Supplement tree plantings with finely textured shrubs when appropriate for the climate.

3. Provide wind breaks where required.

C06.1.9. Parking Lot Landscaping

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Island Planting



Median Planting



Trees and Shrubs at Parking Area

1. Integrate appropriate landscaping elements into parking areas to visually soften the appearance at a minimum rate of 10-15 percent of the total area.
2. Avoid trees that drop sap, fruit, or seeds, and use long-lived species. Keep trees trimmed, removing dead and dying trees or branches.
3. Provide planting in islands within parking lots for shade and appeal following IFS and the base storm water management plan.
4. Rain garden islands shall be landscaped to receive rainwater runoff from adjacent impervious parking areas to be absorbed into the ground/planting bed. Native plants and groundcovers are recommended within the rain garden areas, which can survive without supplemental irrigation once established.

C06.1.10. Screen/Accent Landscaping

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Accents: Washingtonia Filifera Palm Trees

1. Provide complimentary accent landscaping at monuments and static displays.
2. At Facility Group 1, provide landscaping adjacent to all freestanding signs without distracting from the written communication.

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

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

C06.1.11. Other

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Not applicable.

C07. SITE FURNISHINGS

Comply with AF Corporate Standards for Site Development:

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

Comply with AF Corporate Standards for Site Furnishings:

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

C07.1. Furnishings and Elements

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Provide a coordinated consistent inventory of site furnishings to positively contribute to the visual environment, image, and identity of the base; ensure durability, low maintenance, reduced visual clutter, and compatibility with the adjacent architecture.
2. Remove poorly located or redundant litter / ash receptacles, newspaper and bicycle racks, telephone booths, vending machines, walls and fences to reduce visual clutter and to lessen the requirements for maintenance.
3. Group 1 and 2 site furnishing shall be constructed of concrete, wood or metal with factory applied earth tone colors or natural finishes (i.e. brushed aluminum). Accent colors may be appropriate in select areas as approved by 30 CES/CEN. Group 3 and 4 site furnishings shall be constructed of concrete or coated metal with factory applied earth tone colors. Generally match the site furniture of adjacent facilities and the facility district.
4. Install needed outdoor seating (benches and low walls) in public gathering spaces near main and secondary building entrances. Low walls shall be 18" high, match facility architecture, provided with 12" wide precast concrete wall caps and be slightly pitched to allow water runoff preferably into a planting bed.
5. Benches in Groups 1 and 2 shall be constructed of concrete, wood or metal with factory applied earth tone colors or natural finishes (i.e. brushed aluminum). Accent colors may be appropriate in select areas as approved by 30 CES/CEN. Group 3, 4 and park site furnishings shall be constructed of concrete or coated metal with factory applied earth tone colors. Generally match the site furniture of adjacent facilities and the facility districts.
6. Integrate functional bike racks with the design of the building's main entrance grounds in Facility Groups 1 and 2 while meeting AFTP requirements. Bike racks shall be placed no closer than 82' (25m) to any occupied building or portion thereof. Bike racks shall be provided for 5% of the building users. Covered bike storage is required for dormitory areas. A ribbon shaped metal rack is preferred for all high visibility sites. Provide coated metal finish with factory applied earth tone colors. Accent colors may be appropriate in select areas as approved by 30 CES/CEN.
7. Limit the use of bollards, but when necessary for force protection use stainless steel, schedule 40, with integral internal locking system in Groups 1 and 2; stainless steel or powder coated steel, schedule 40, with integral internal locking system bollards in Group 3; and stainless steel or powder coated steel, schedule 40, with integral internal locking system bollards in Group 4 and parks and trails. Illuminated bollards may be used as approved on a case by case basis.
8. Locate architecturally coordinated containers for recycling, litter, ash, vending, etc., to minimize visual clutter and not visible from the building's main entrance. Minimize the use of freestanding planters. Containers shall be constructed of concrete or metal with factory applied earth tone colors. Accent colors may be appropriate in select areas as approved by 30 CES/CEN. Group 3, 4 and park site furnishings shall be constructed of concrete or coated metal with factory applied earth tone colors. Trash and recycling containers shall have a properly fitted lid or cover that can be securely fastened and keeps rain water out of the container. Generally match the site furniture of adjacent facilities and the facility districts
9. Generally limit picnic tables, barbeque grills and drinking fountains to lodging, dormitories, housing areas, parks and recreation areas following IFS. These items shall be constructed of concrete or coated metal with factory applied earth tone colors. Generally match the site furniture of adjacent facilities and the facility districts.
10. Flagpoles using approved materials may be installed at locations designated by IFS, and in accordance with AFI 34-1201. Flagpole material and finish shall be approved by 30 CES/CENM.

11. Refer to the Overview Section “Facility Hierarchy” topic of this AFCFS for guidelines regarding ancillary structures such as pavilions and shade shelters.
12. Bus shelters shall be provided only where there is a documented need and shall be approved on a case by case basis. Generally emulate the designs of adjacent facilities and outdoor furniture using dark bronze aluminum powder coat anodized finish.
13. Monuments and static displays shall be limited. New elements are generally discouraged unless these are fully vetted through the base’s approval process and designed following IFS.
14. When visual screening is necessary, consider landscaping as the first option for high visibility areas. Screen walls are required around above ground utility structure and shall be constructed of split face CMU block with fluted split face and smooth face accents as appropriate. Bench height walls shall have 12” wide precast concrete wall caps and be slightly pitched to allow water runoff preferably into a planting bed. Higher walls may have a rounded and integrally colored grout top matching block color. CMU color shall be approved tan color matching adjacent finishes and as approved by 30 CES/CENM. Use screen walls around two sides of utility structures providing maximum screening to the street and adjacent facilities as screening of more than two sides may trigger full enclosure per AT standards.
15. For fencing, apply the standards for “Products, Materials and Color” in the following section. Limit those with the highest visual quality to Facility Group 1 where there is sustained maintenance. Define all levels of security and visual quality.
16. Do not use chain-link fencing at Group 1, 2 or 4 facilities. Limit the use of barbed-wire outriggers on chain-link fencing at industrial sites unless required for additional security or protection of assets.
17. Wood fencing may be used in Facility Group 4 and in recreation areas following IFS for material and finish when there is sustained periodic maintenance.
18. Provide trash dumpster enclosures shall be constructed of split face CMU block with fluted split face and smooth face accents as appropriate; height shall be 76” above finish grade. Walls shall have a rounded and integrally colored grout top matching block color. CMU color shall be approved tan color matching adjacent finishes and as approved by 30 CES/CENM; all gates shall be shall be constructed of galvanized metal steel tubing with integral synthetic wood planks, dark brown, color to be approve by 30 CES/CENM. Interior of trash enclosure shall have a sloped, rebar reinforced, concrete slab sloped to drain out of the enclosure.
19. 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. Ensure tables are provided that are accessible (ADA/ABAA compliant).
20. Limit the use of freestanding planters to areas with ongoing maintenance.
21. 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, 3 and park/recreational areas.
22. Centralized built-in barbecues are only allowed in areas where large gathering may occur such as dormitories and recreation areas and shall be approved by 30 CES/CENM. The main recreational facility at Cocheo Park is equipped with two large barbecue areas and is to be used for most large gatherings. The WROCC Pavilion adjacent to B7025 is also available for smaller gatherings. Built-in barbecues, where allowed, shall reflect the characteristics of the surrounding architecture. The size of the grill may vary depending on the location and anticipated use. Style and materials shall remain constant; concrete block with a split faced finish is recommended. Barbecue areas shall be located where the prevailing winds will not blow smoke into building windows or entrances. Barbecue areas shall be places outside of the unobstructed zone of a building.

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 3

Image Tool 250 x 188



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



Type: **Santa Maria Style**

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

Mfr: Custom

Color: Biege / Terracotta

Finish: Smooth

Model #: Recessed fire pit

Other: Red Oak wood storage

UFGS:

C07.2.2. Benches

☒ Applicable ☐ N/A Number of base standards 1 [Image Tool 250 x 188](#)



Type:

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

Mfr: TBD

Color: Tan

Finish: Standard Finish (Smooth)

Model #: Rectangular / arch design

Other: N/A

UFGS: N/A

C07.2.3. Bike Racks

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Brandir International Inc.

Color: Dark Bronze

Finish: Factory galvanized with powder coat color

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 4

Image Tool 250 x 188



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: **Force Protection**

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

Mfr: MaxiForce Traffic Control Bollards

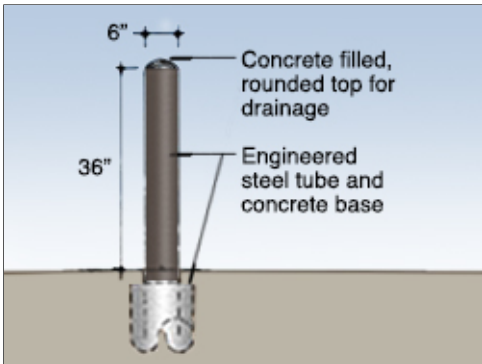
Color: Natural stainless steel

Finish: Mill

Model #: HDH Removable Bollard

Other: Stainless steel Sched40, 5" dia min, RS2 Head (dome), internal locking system with like keying for fire dept access, stainless steel lift handles, stainless steel hinge lid top at sleeve; provide stainless steel hinge lid

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; may require installation of reflective tape at top as needed

UFGS: N/A



Type: **Force Protection Decorative**

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

Mfr: Reliance Foundry Company, Ltd.

Color: Black

Finish: Gloss

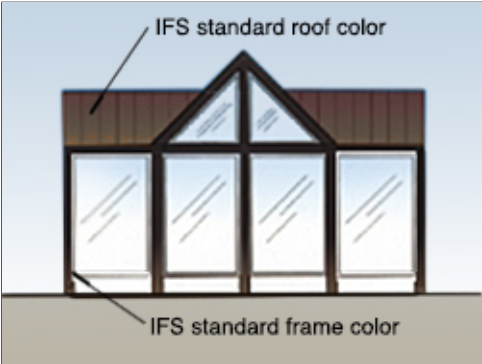
Model #: Cast iron posts with draped chain

Other: Provide chain accessories

UFGS:

C07.2.6. Bus Shelters

☒ Applicable ☐ N/A Number of base standards 1 **Image Tool 250 x 188**



Type: **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

C07.2.7. Drinking Fountains

☒ Applicable ☐ N/A Number of base standards 1



Type: **Pedestal**

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

Mfr: Most Dependable Fountains, Inc.

Color: Natural

Finish: Stainless Steel

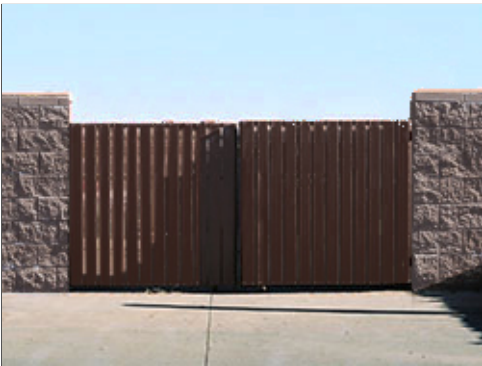
Model #: MDF 440 SMSS

Other: Accessible

UFGS: N/A

C07.2.8. Dumpster Enclosures / Gates

☒ Applicable ☐ N/A Number of base standards 1



Type: **1: Brick and Steel**

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

Mfr: Custom

Color: Dark buff CMU, dark brown doors

Finish: Split-face CMU, powder coated doors

Model #: Match adjacent building

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

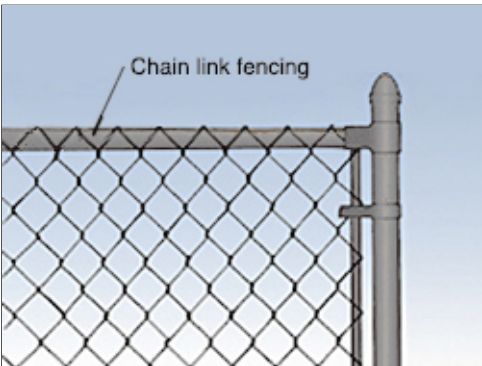
UFGS: Section 04 20 00 Unit Masonry

C07.2.9. Fencing

☒ Applicable ☐ N/A

Number of base standards 2

Image Tool 250 x 188



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

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

Mfr: General Wire Co.

Color: Galvanized

Finish: Galvanized steel

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

Other: N/A

UFGS: Section 32 31 13 Chain Link Fences and Gates



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

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

Mfr: Custom, powder coated aluminum

Color: Dark brown

Finish: Factory powder coat

Model #: Steel posts, rails and pickets

Other: Posts, rails, and pickets in heights, lengths and gauges as required;
Close all ends of tubing

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

C07.2.10. Flagpoles

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



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 Tool 250 x 188



Type: **Style 1: Metal and Precast**

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

Mfr: Materials, Inc.

Color: Weatherstone Gray

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 and Wood**

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

Mfr: TBD

Color: Green / natural wood or as approved


Finish: Powder coat / aqueous sealer

Model #: Rectangular or cylidrical

Other: Solid top

UFGS: N/A

C07.2.13. Picnic Tables

☒ Applicable ☐ N/A Number of base standards 2 



Type: **Precast concrete**

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

Mfr: TBD

Color: Tan

Finish: Standard Finish (Smooth)

Model #: Round table and curved benches

Other:

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**

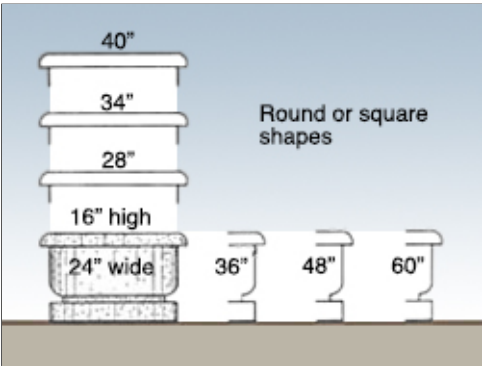
Model #: **Signature Series, 46" Square Pedestal Tables with 4 Seats**

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

UFGS: **N/A**

C07.2.14. Planters

☒ Applicable ☐ N/A Number of base standards 1 [Image Tool 250 x 188](#)



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 Tool 250 x 188



Type: **Steel**

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

Mfr: Little Tikes Commercial

Color: Varies

Finish: Powdercoated Steel

Model #: N-R-G Freestyle

Other: Coordinate with Base Architect

UFGS: N/A

C07.2.16. Screen Walls

☒ Applicable ☐ N/A

Number of base standards 3

Image Tool 250 x 188



Type: **CMU / Precast**

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

Mfr: Custom

Color: Buff split-faced CMU with light off-white precast

Finish: Factory

Model #: Split-faced CMU running bond, sloped precast coping

Other: Piers: 2'x2' (Height as required, equally spaced 8' to 40') with pyramidal caps

UFGS: Section 04 20 00 Unit Masonry



Type: **Stucco over Masonry**

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

Mfr: Custom

Color: Beige or tan

Finish: Sand

Model #: Cementitious stucco over masonry with precast coping

Other: Stepped walls to accommodate changes in grade

UFGS: Section 09 24 23 Cement Stucco



Type: **Metal Screen Wall**

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

Mfr: Custom

Color: Dark brown

Finish: Powder coat

Model #: Steel horizontal slats over steel framing

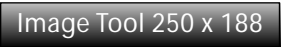
Other: Provide matching gates and compatible hardware

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

C07.2.17. Tree Grates

☒ Applicable ☐ N/A

Number of base standards 1



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

Comply with AF Corporate Standards for Exterior Signs:

<http://afcfb.wbdg.org/site-development/exterior-signs/index.html>

C08.1. Colors and Types

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Native Stone Monument Sign



Building Identification Sign



Building Number

1. Provide concise functional signs as a visually unifying element with consistent colors and types for all Installation and Gate Identification Signs; Building Identification Signs; Traffic Control Devices; Directional and Wayfinding Signs; and Informational and Motivational Signs.
2. Provide signs with the lowest overall life cycle costs considering initial cost, ongoing maintenance and lifespan while meeting quality standards. Follow IFS for specifications appropriate for the local climate to withstand weathering.
3. Reduce the number of signs, reduce visual clutter and provide only essential signs required for identification, directions, instructions, and customer service following UFC 3-120-01. Remove non-conforming signs during renovation projects.
4. Use clear concise terms for content consistent with UFC 3-120-01.
5. Display of emblems on building exterior walls or other permanent structures is prohibited by UFC. Super graphics are not allowed on any installation facilities.
6. Raised "standout" letters and numbers may be used for Group 1 with approval on a case basis.
7. Group 2 and 3 facilities shall have wall mounted facility signs with sizes and layouts following UFC 3-120-01. Signs are not permitted for Group 4 facilities.
8. Only one identification sign is permitted at each building entrance. Include a building address consistent with US Postal Service protocols following UFC 3-120-01.
9. Traffic Control Devices, which regulate vehicular traffic on the installation, shall conform to the standards in the Manual of Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Administration. Coordinate street signs with this IFS.
10. Provide Directional and Wayfinding Signs and address both pedestrian and vehicular traffic following UFC 3-120-01 for size, layout and content.

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

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

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

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

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

16. Changeable Force Protection signage may be applied to glass doors at primary building entrances. Signage shall be per typical detail below.

17. Refer to UFC 3-120-01, Sign Standard, for prohibited signs which include those with animated, blinking, chasing, flashing, or moving effects. Traffic regulation signage with hazard flashers (i.e. pedestrian crossings) are allowed. Other types of prohibited signs include rotating signs, windblown or inflated signs, neon signs and portable signs.

C08.1.1. Materials and Color Specifications

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Exterior Regulatory Signs: Fabricate sign panels from 0.080 inch high grade aluminum alloy, laminated with a high intensity diamond prismatic grade vinyl. Text will be electro-cut reflective engineer grade vinyl or ink jet factory printed (if purchased). Sign posts shall be 2" x 2" square hot dipped galvanized perforated steel post, preferably powdered coated duranodic bronze. In lieu of the powder coated duranodic bronze, a PVC plastic dark brown vinyl sleeve is acceptable. Sign posts shall be set in an 18" long by 2.5" galvanized perforated breakaway sleeve set in a 12" x 24" concrete footing, with 3" of the sleeve above grade (2" x 2" inside) with capped ends in a concrete base.

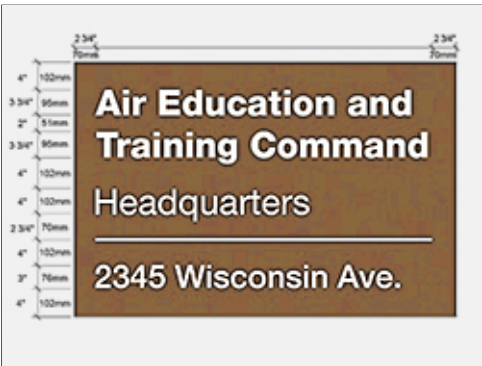
2. Fence mounted sign panels may be attached with exposed fasteners.

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

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

Materials and Color Specifications

☒ Applicable ☐ N/A Number of base standards 3



Type: **Typical Sign Fce**

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

Mfr: Custom

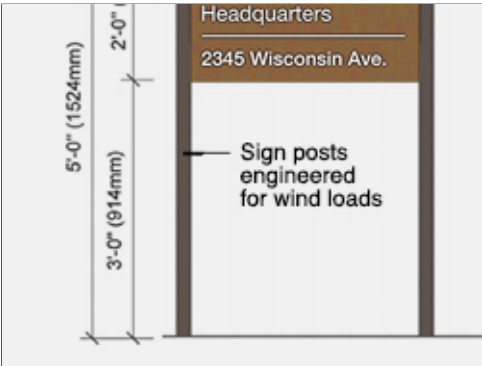
Color: Medium bronze

Finish: Matte vinyl

Model #: Aluminum flat sheet

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

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Typical Sign Post**

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

Mfr: Custom

Color: Dark bronze, powder coat finish

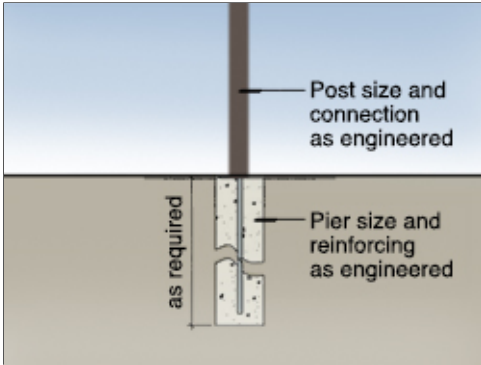
Finish: Matte

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 Tool 250 x 188



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

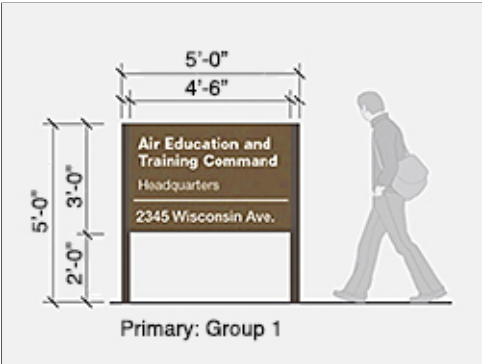
Other: White vinyl lettering. Provide dimensions per UFC. Secondary signs shall match primary sign's materials, but shall be smaller in size per UFC. Tertiary signs shall follow the UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

C08.1.3. Building Identification Signs

☒ Applicable ☐ N/A Number of base standards 5

Image Tool 250 x 188



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

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

Mfr: Custom

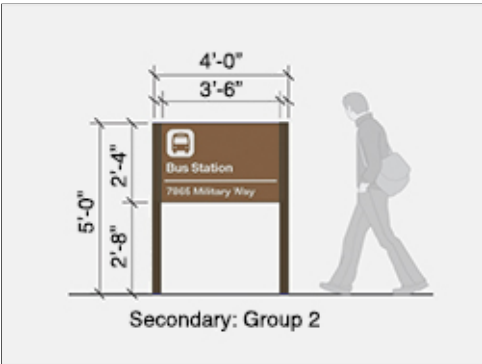
Color: Medium brown face, dark bronze posts, white vinyl lettering

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

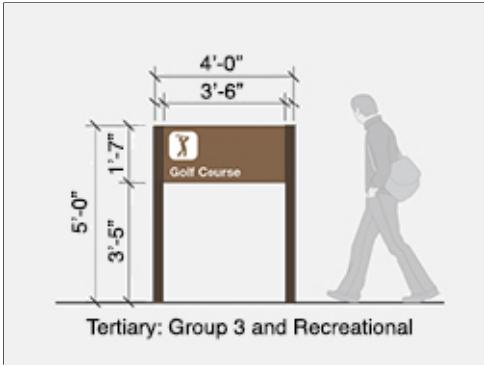
Color: Medium brown face, dark bronze posts, white vinyl lettering

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

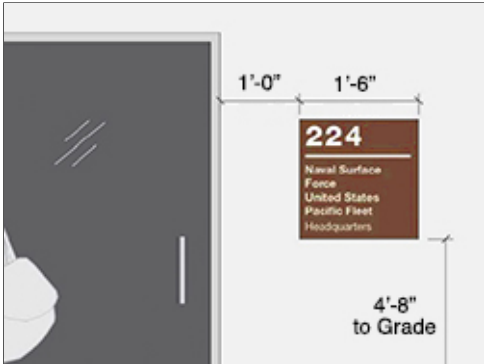
Color: Medium brown face, dark bronze posts, white vinyl lettering

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 Tool 250 x 188**



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

1. Maintain street signs as the most important directional signage on the base. Signage shall be maintained consistent in color and layout conformant to UFC 3-120-01, Signage.
2. Provide white reflective lettering on a standard brown background for street signs. Pictographs and organizational logos, governmental and private, are prohibited on street name signs.
3. The length of street signage shall be determined by the number of letters in the street name but shall be no shorter than 36". Always use a single line of text. Use capital lettering only. Letters shall be 7" high with a 1/2" white border around the edge of the sign. Street types may be abbreviated (i.e. BLVD, ST and AVE).
4. Street signs shall be mounted at each intersection on poles 15' from the intersection. The top of signs mounted on poles shall be 7' above finished grade, located away from trees or other obstructions.

C08.1.5. Directional and Wayfinding Signs

☒ Applicable ☐ N/A Number of base standards 2

Image Tool 250 x 188



Type: **Vehicular**

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

Mfr: Custom

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

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

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

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

Type: **Pedestrian**

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

Mfr: Custom

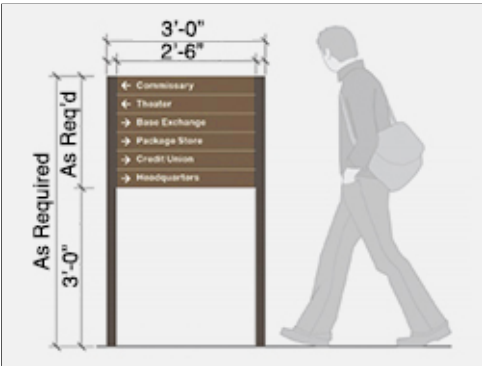
Color: Medium brown face, dark bronze posts

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

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

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



C08.1.6. Informational Signs

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Minimize informational signs such as static display signs, hours of operation, and project signs to reduce visual clutter.
2. Static display signs shall be designed suitable to the display. Solid cast metal signage is preferred with a suitable base, quality of finish suitable to the location.
3. Hours of operation signs shall have a level of quality equivalent to the Facility Group number.

4. Temporary / Project Signage shall be judiciously placed to avoid visual clutter. Schedule and arrange for the removal of these signs prior to installation.

C08.1.7. Motivational Signage

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

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

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

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

4. Mount marquee signs on reinforced concrete bases with a natural warm gray color or CMU base with standard tan color. Provide a split-face finish.

C08.1.8. Parking Lot Signs

☐ Applicable ☒ N/A

1. Follow guidelines and requirements in ABAAS and the MUTCD for accessible parking signage.

2. Limit number of parking signs by bracketing multiple reserved parking spaces when there are four or more contiguous reserved spaces.

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

1. Not applicable.

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 Large graphics do not apply

☒ Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 6

Image Tool 250 x 188



WROCC Pavilion Lighting



Gate Lighting



Visitor Center Lighting



Pedestrian-scaled Fixture



Double Fixture Mounting



Housing Roadway Light Fixtures

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 dark bronze finish 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. Minimum security lighting levels shall be as follows:
 - Access control points/approach zone: 3.0 fc
 - Guard shack: 20.0 fc
 - Pedestrian entry: 3.0 fc
 - Response zone: 3.0 fc
 - Under vehicle inspection: 5.0 fc - 10.0 fc
 - Controlled security perimeters (to 30'): 0.2 fc - 0.4 fc
 - Restricted area: 0.2 fc - 5.0 fc
 - Point of delivery storage: 10.0 fc

C09.2. Light Fixture Types

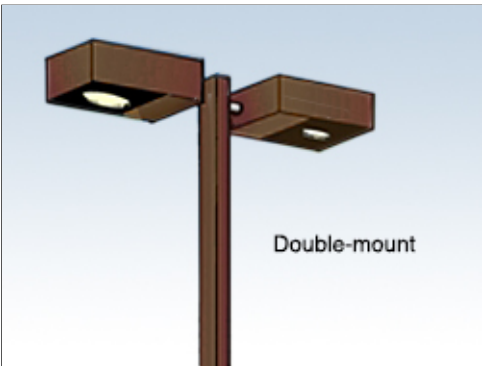
Note: *Apply the below base-wide standards for Light Fixtures (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.*

C09.2.1. Street Lighting

☒ Applicable ☐ N/A

Number of base standards 2

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Hubbell, Kim Lighting

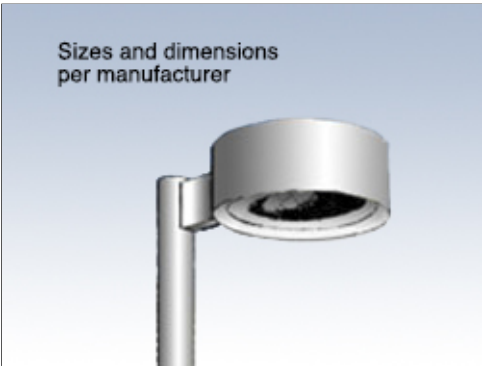
Color: Dark Bronze Anodized (or Clear Anodized as approved by BCE)

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

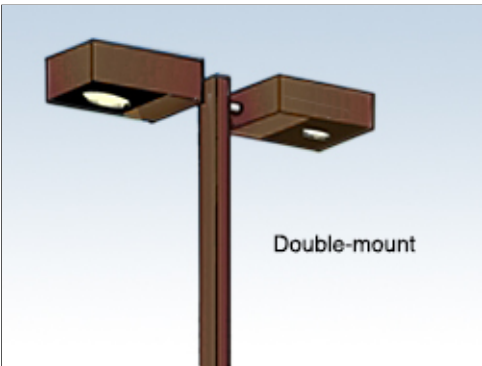
Other: Lamp: LED. Follow manufacturer’s recommendations for fixture base.

UFGS: N/A

C09.2.2. Parking Lot Lighting

☒ Applicable ☐ N/A Number of base standards 2

Image Tool 250 x 188



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 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

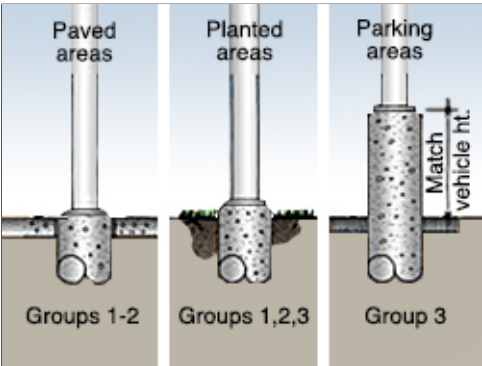
Color: Natural gray

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 1



Type: **Lighted Round**

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

Mfr: Landscape Forms

Color: Dark Bronze

Finish: Anodized aluminum

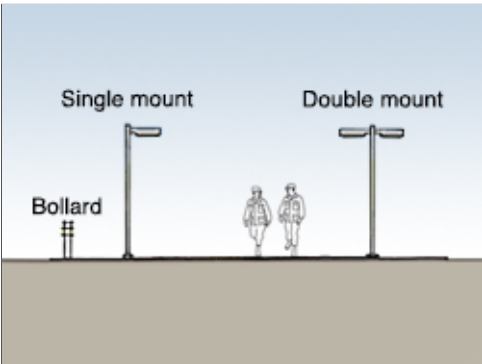
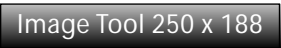
Model #: Round

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

UFGS: N/A

C09.2.4. Sidewalk Lighting

☒ Applicable ☐ N/A Number of base standards 1



Type: **Rectilinear Cutoff**

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

Mfr: 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

C09.2.5. Walls / Stairs Lighting

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



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 Wall and Step Light, 5230 round louvered

Other: Lamp: LED

UFGS: N/A

C09.2.6. Other

☐ Applicable ☒ N/A

D. FACILITIES EXTERIORS

Comply with Air Force Corporate Standards for Facilities Exteriors:

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

D01. SUPPORTING THE MISSION

Comply with AF Corporate Standards for Supporting the Mission:

<http://afcfs.wbdg.org/facilities-exteriors/supporting-the-mission/index.html>

D02. SUSTAINABILITY

Comply with Air Force Corporate Standards for Sustainability:

<http://afcfs.wbdg.org/facilities-exteriors/supporting-the-mission/index.html>

D03. ARCHITECTURAL FEATURES

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

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

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



D03.1. Orientation, Massing and Scale

1. Orient new buildings to maximize energy efficiency, passive solar and daylighting potential of the building; narrow buildings oriented along an east-west axis are preferred to minimize heat gain in the summer months and maximize heat gain in the winter months resulting in less overall energy usage.
2. Provide orthogonal geometry for principal building form; angular geometry may be used sparingly for Group 1 and used only for emphasis at specific areas such as building entrances and stairwells.
3. Maintain a human scale and reduce the visual scale of large buildings with sub-massing related to interior functional operations; create consistent form and scale in adjacent buildings with compatible profiles or silhouettes.
4. Building heights shall not be limited; however, building heights over 2 stories shall be considered on a case basis.
5. Combine functions where practical to avoid a proliferation of small, independent structures.
6. Use and coordinate shading devices with orientation and for function.
7. New facilities should include an "expansion zone" for possible additions. Maintain this area relatively free from development (i.e. no large tree planting or structures) and note the future expansion on construction drawings.

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.
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. The prevailing architectural character for VAFB shall be a loose interpretation of the California Mission Revival style, defined by thick walls with broad, unadorned surfaces with limited fenestration, wide projecting eaves and low pitched Spanish style clay tile roofs, arcaded galleries, decorative and colorful tile ornament at windows and doors, arched openings and curved decorative gable ends.
5. 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.
6. 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.

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 are preferred

Windows: Provide insulating glazing on north-facing windows / maximize shading for windows on south façades

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 following LCCA

Other: Internal thermal mass walls may be used for cooling following LCCA.

Other:

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



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

D03.3.4. Thermal Shading

☒ Applicable ☐ N/A Number of base standards 1



Type: **Style 1 Wall Devices**

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

Mfr: Kawneer (or equivalent) or custom

Color: Dark bronze

Finish: Factory, to match frames

Model #: Louver

Other: Shading devices may be attached to frames or structure

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

D03.3.5. Renewable Heating/Cooling

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



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

D04. BUILDING ENTRANCES

Comply with AF Corporate Standards for Facilities Exteriors:
<http://afcs.wbdg.org/facilities-exterior/index.html>

Comply with AF Corporate Standards for Building Entrances:
<http://afcs.wbdg.org/facilities-exterior/building-entrances/index.html>

Insert 3 photos for each facility group.

Image Tool 250 x 188

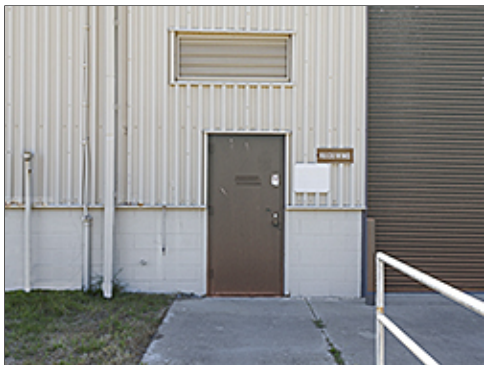
Group 1



Group 2



Group 3



Group 4



D04.1. Primary Entrances

1. Emphasize the primary entrance in the overall building design with a projecting or recessed covering for weather protection following Installation
2. Group 1 and Group 2 entrances shall be identified by the use of wall plane changes, vertical elements or similar manipulation of entrance design element and/or changes in materials.
3. Group 1 and Group 2 entrances may have adjacent pedestrian gathering spaces to enhance the sense of entrance to facilities.
4. Provide vestibules at entries in Groups 1, 2 and 3 unless used infrequently or serving unconditioned space following ASHRAE 90.1.
5. Fully integrate all elements including the design of handicap ramps in the overall design of the primary entrance in an organized uncluttered appearance.
6. Install paved transitional spaces sized for the building function and occupancy.
7. Install appropriate lighting and site furniture following AT/FP and IFS.
8. Protect entrances from driving rain and wind.
9. Provide porte cocheres or covered drop-offs when justified for lodging and medical facilities. Do not use for prestige or architectural accents.

D04.2. Secondary Entrances

1. Provide vestibules at entries in Groups 1, 2 and 3 unless used infrequently or serving unconditioned space following ASHRAE 90.1; use of stair towers as vestibules for multi-story buildings is encouraged when building and / or energy codes are satisfied.
2. Reflect the character of the primary entrance to a lesser extent with a smaller scale.
3. Include a recess or projection for weather protection and shading. Protect entrances from driving rain and wind.
4. Integrate service and egress doors and loading areas with the building design by matching the materials and detailing and reflect the overall quality of the facility.
5. Incorporate egress structures such as stair towers into the facility design.
6. Canopies may be used for service and loading areas; weather protection beyond weather stripping is not required at doors used only for life safety egress.
7. Develop building massing and orientation to minimize the appearance service and loading areas; physically and visually separate these from primary entrances.
8. Loading areas must be organized, orderly and have an uncluttered appearance.

D05. WALL SYSTEMS

Comply with AF Corporate Standards for Facilities Exteriors:

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

Comply with AF Corporate Standards for Doors and Windows:

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

Comply with AFCFS Recommended Materials:

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

Insert 3 photos for each facility group.

Image Tool 250 x 188

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 split faced CMU block and stucco with pre-finished metal panel accents; architectural precast concrete may also be used. Corrugated metal siding is acceptable for Group 3 facilities located further inland, in the cantonment areas and away from the coastline. Refer to the Appendix for special requirements of Facility Districts.
3. Group 4 accompanied housing shall be a stucco with stucco accents and pop-outs. Group 4 unaccompanied housing shall be stucco, split faced and smooth faced CMU block and architectural precast concrete.
4. Multi-story Group 1 facilities may include a transition in material, color or detailing to create a visual base.
5. Use high-performance building envelopes following UFC 1-200-02, High Performance and Sustainable Building Requirements.
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 split-face concrete block. Although not preferred, smooth face concrete block may be painted base standard colors.
8. Translucent wall panels may be used in Facility Group 1 and recreational uses in Group 2 when protected from direct solar gain. Provide insulating panels and shading appropriate for the orientation and exposure.
9. Base standard colors for painted materials and stucco/metal panel equivalents is as follows:
 - a. Benjamin Moore Classic Colors, White Sand 964
 - b. Benjamin Moore Classic Colors, Embassy Green 1523
 - c. Benjamin Moore Classic Colors, Kingsport Gray HC-86
 - d. Benjamin Moore Classic Colors, North Creek Brown 1001
 - e. Benjamin Moore Classic Colors, Brentwood 1223

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.
4. Freestanding equipment shelters or screen walls shall be construct with non-combustible materials and properly vented. Walls shall be split face concrete masonry units.

D05.4 Wall Systems Materials

Facility Group 1 wall materials shall be as follows.

Primary: Split-faced CMU block or stucco

Secondary: Cast-in-place Concrete or Architectural Precast

Accent: Prefinished Metal Panels

Facility Group 2 wall materials shall be as follows.

Primary: Split-faced CMU block or stucco

Secondary: Cast-in-place Concrete or Architectural Precast

Accent: Prefinished Metal Panels

Facility Group 3 wall materials shall be as follows.

Primary: Ribbed metal sheeting in standard base color

Secondary: Ribbed Metal Sheeting in alternate color

Accent: Optional: CMU (in high visibility areas)

Facility Group 4 wall materials shall be as follows.

Primary: Stucco in standard base colors

Secondary: Fiber Cement Siding, Trim Boards

Accent: Not applicable

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 Tool 250 x 188



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

D05.4.3. Architectural Precast

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



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: Used as coping over CMU

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 Tool 250 x 188



Type: **3-Coat Cement Stucco**

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

Mfr: La Habra or El Rey

Model #: Trowel applied

Color: Light beige or tan

Finish: Sand

Other: Coordinate locations of control joints with base architect

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

D05.4.6. Cast-In-Place Concrete

☐ Applicable ☒ N/A

D05.4.7. Tilt-Up Concrete

☐ Applicable ☒ N/A

D05.4.8. Ribbed Metal Sheeting

☒ Applicable ☐ N/A Number of base standards 2

Image Tool 250 x 188



Type: **Flush Seam**

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

Mfr: Berridge

Model #: Flush Seam Panel

Color: Beige

Finish: Embossed Texture, factory finished

Other: 24 Gauge Steel

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



Type: **Corrugated**

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

Mfr: Berridge

Model #: Corrugated lap seam panel

Color: Beige

Finish: Light 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

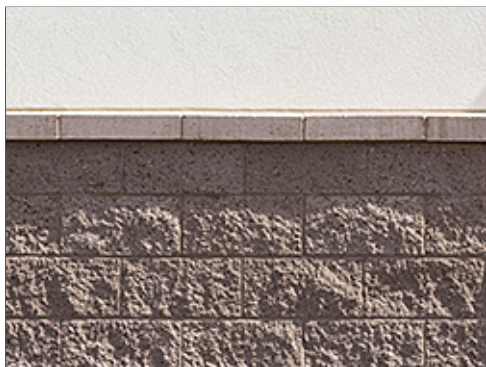
☐ Applicable ☒ N/A

D05.4.11. Concrete Block

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Split-face Block**

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

Mfr: Local TBD

Model #: 8x16 nominal size, running bond

Color: Medium Taupe

Finish: Heavy Texture

Other: N/A

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

D05.4.12. Fiber Cement Siding

☐ Applicable ☒ N/A

D05.4.13. Other

☐ Applicable ☒ N/A

D06. DOORS AND WINDOWS

Comply with AF Corporate Standards for Facilities Exteriors:
<http://afcfs.wbdg.org/facilities-exterior/index.html>
Comply with AF Corporate Standards for Doors and Windows:
<http://afcfs.wbdg.org/facilities-exterior/doors-and-windows/index.html>
Comply with AFCFS Recommended Materials:
<http://afcfs.wbdg.org/facilities-exterior/doors-and-windows/materials/index.html>

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



D06.1. Types

1. Dark bronze 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. Aluminum clad wood windows are preferred for Facility Group 4.
3. Standard-sized hinged doors are preferred. Use sliding, folding, overhead, sectional and other door configurations only to support mission operations.
4. Automatic doors are allowed only where functionally necessary.
5. Limit hollow metal doors and frames to security doors, utility rooms and mechanical rooms in Groups 1 and 2 and Group 3 facilities.
6. Utility and emergency egress doors shall match the wall color.
7. Passive thermal comfort methods of ventilation are encouraged where life cycle cost justified.
8. Windows must meet force protection requirements.
9. Adjacent joint sealants should be slightly darker than the frame color.

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. Openings shall augment interior lighting and space conditioning needs.
4. Protect against vandalism, intrusion and coordinate sound ratings.

D06.3. Glazing and Shading

1. Factory tinted, energy-efficient, low-e, double-pane glazing is encouraged.
2. Glazing color shall follow Installation Facilities Standards (IFS).
3. Translucent wall panels may be integrated into wall systems.
4. Do not use mirrored glazing.
5. Fully integrate applicable shading designs for overhangs, louvers, light shelves and grilles.
6. Where appropriate, install window screens to take advantage of natural ventilation.

D06.4. Hardware

1. Provide hardware appropriate for the Facility Group while considering activity and frequency of use and local climate; hardware may be of higher visual quality for Facility Group 1.
2. Ensure hardware will perform throughout the facility's lifespan without showing extreme wear.
3. Select finishes that will not degrade by intensity of operation or exposure to the elements.
4. Use consistent finishes and color on window and door systems throughout a facility. For renovation projects the color of new hardware may match the existing hardware.
5. Design building systems to eliminate the need for security screens whenever possible.

D06.5. Doors and Windows Materials

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

D06.5.1. Anodized Aluminum

☒ Applicable ☐ N/A Number of base standards 1

Image Tool 250 x 188



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

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

Mfr: Kawneer (or equivalent)

Color: Dark Bronze Anodized

Finish: Matte

Model #: 2x4

Other: Provide thermally broken frames

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

D06.5.2. Hollow Metal

☒ Applicable ☐ N/A Number of base standards 1

Image Tool 250 x 188



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 Tool 250 x 188



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

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

D06.5.4. Other

☐ Applicable ☒ N/A

D07. ROOF SYSTEMS

Comply with AF Corporate Standards for Facilities Exteriors:
<http://afcfs.wbdg.org/facilities-exterior/index.html>
Comply with AF Corporate Standards for Roof Systems:
<http://afcfs.wbdg.org/facilities-exterior/roof-systems/index.html>
Comply with AFCFS Recommended Materials:
<http://afcfs.wbdg.org/facilities-exterior/roof-systems/materials/index.html>

Insert 3 photos for each facility group.

Image Tool 250 x 188

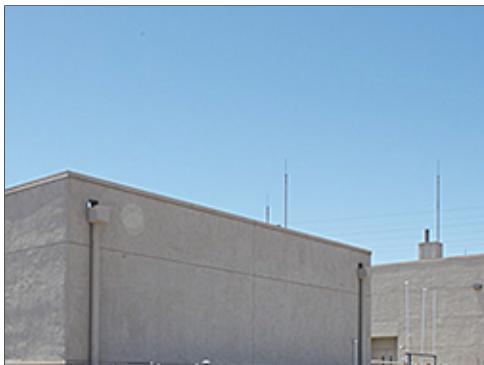
Group 1



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 match the roof type and form of existing adjacent facilities in new construction.
3. Group 1 and 2 buildings shall use flat bituminous built-up roofing systems with parapets as the predominant design element. Accents, entry roof coverage and adjacent enclosed ancillary and utility spaces may have concrete roof tiles on sloped roofs.
4. Provide screens for roof-mounted appendages and equipment of the same materials, which are used predominantly in the building's roof systems. Provide venting and utility access in screen walls of same color/finish of the screen wall.
5. Skylights are discouraged on new construction.
6. Group 2 and 3 facilities under 5,000 sf and narrow in plan geometry, may use low-sloped gabled or hipped concrete tile roofs. Larger facilities may use sloped-roof features in conjunction with predominantly minimal-sloped "flat" membrane roofs.
7. Group 4 facilities shall have gabled or hipped concrete tile roofs.
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.
9. South-facing eaves shall coordinate with adjacent wall-mounted shading devices.
10. The color, shape and slope of the eave and soffit shall be compatible with adjacent facilities.
11. Keep roofs uncluttered and minimize penetrations.
12. Diminish massive roofs into coordinated smaller 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, Roofing Maintenance and Repair, and AFI 32-1051, Roof Systems Management. A warranty is required on all new roofs.

D07.2. Roof Slope

1. Group 1 and 2 buildings shall use sloped roofs, min. 4:12.
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.
5. Provide roof slopes to accommodate solar photovoltaic, solar thermal, passive systems and daylighting when applicable following UFC 1-200-02, High Performance and Sustainable Building Requirements.
6. Provide underlayments as required for the roofing type as directed by the UFC.

D07.3. Parapets and Copings

1. Extend wall materials vertically above the roof line and provide metal copings to match the wall. Ensure copings are properly flashed and detailed to avoid roof leaks.
2. Roof mounted equipment shall be properly enclosed and/or screened from view with an appropriate screen wall. Screen wall shall match material/color of exterior of facility.

D07.4. Color and Reflectivity

1. Sloped concrete tile roofs in Groups 1 and 2 and smaller facilities in Group 3 shall be beige, tan, brown or terra cotta 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 earth tones.
4. Comply with UFC 3-110-03, Roofing, and ASHRAE 90.1 for Solar Reflectance Index (SRI) and thermal requirements.
5. All roof flashing shall match the color of the predominant background material.

D07.5. Gutters, Downspouts, Scuppers, Drains

1. All sloped roofs shall use gutters and downspouts. Gutters shall be outside the fascia.
2. Internal roof drainage systems are 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 be of the standard base colors.
4. Size the roof drainage system per IBC and SMACNA for the region.
5. Use scuppers as required in parapet walls. Arrange scuppers in an orderly manner consistent with other elements of the wall system.
6. When open scuppers are connected to downspouts, provide transitions consistent with adjacent facilities.
7. Integrate downspouts with the architectural details of the wall system and arrange in an orderly, non-prominent appearance. Generally blend downspouts with the color of the wall (not contrasting it).
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 possible.
12. Place downspouts away from building entries. Water discharged should not run across sidewalks. Provide splash blocks if downspouts are not tied into an underground drainage system.

D07.6. Roof Vents and Elements

1. Minimize and consolidate roof penetrations into a single, inconspicuous point whenever possible.
2. On sloped roofs clad pipe penetrations to match the roofing material.
3. Avoid the use of rooftop mechanical equipment. However for renovations and unavoidable configurations ensure units are screened.
4. Provide access points and service routes to equipment that protect the roof.
5. Screen all large vents.
6. Ensure attic spaces are properly vented at ridges and soffits.
7. Match roof color for all exposed equipment and vents.

8. Avoid roof-mounted antenna systems as possible.
9. Arrange Lightning Protection Systems (LPS) components in an ordered, uncluttered, inconspicuous appearance and integrated into the organization of the roof and wall systems.
10. Ensure that LPS roof mounting systems are approved by the roofing manufacturer.
11. Additions to a roof shall not interfere with LPS or other rooftop systems that may be required.
12. Permanent fall protection shall be included with any addition to a roof with a slope above 3:12 per UFC 3-110-03, Roofing.

D07.7. Clerestories and Skylights

1. Clerestories and skylights are discouraged in all facilities.
2. Clerestories are preferred to skylights to avoid roof penetrations. Skylights, if existing, must be maintained in a simple shape and integrated with the roof system to eliminate leakage.
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 4-010-01, DoD Minimum Antiterrorism Standoff for Buildings.

D07.8. Vegetated Roof

1. Not applicable.

D07.9. Roof Systems Materials

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

D07.9.1. Standing Seam Metal

☒ Applicable ☐ N/A Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Berridge

Color: Dark bronze

Finish: Matte

Model #: Tee-Panel

Other: Shed, gabled or hipped standing seam metal

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

D07.9.2. Membrane Single-ply

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



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 Tool 250 x 188



Type: **S-Tile or Barrel Tile**

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

Mfr: Ludowici

Color: Terra Cotta

Finish: Factory

Model #: S or Barrel

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

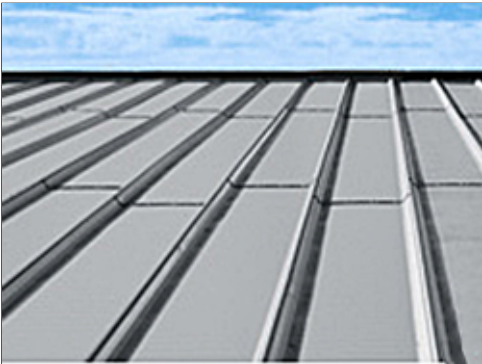
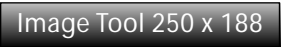
D07.9.7. Vegetated System

☐ Applicable ☒ N/A

D07.9.8. Ribbed Metal Sheetting

☒ Applicable ☐ N/A

Number of base standards 1



Type: **Style 1**

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

Mfr: Berridge

Color: Galvalume

Finish: Factory

Model #: High Seam Tee-Panel

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

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

D07.9.9. Composite Shingles

☐ Applicable ☒ N/A

D07.9.10. Other

☐ Applicable ☒ N/A

D08. STRUCTURAL SYSTEMS

Comply with AF Corporate Standards for Facilities Exteriors:

<http://afcfs.wbdg.org/facilities-exterior/index.html>

Comply with AF Corporate Standards for Structural Systems:

<http://afcfs.wbdg.org/facilities-exterior/structural-systems/index.html>

Comply with AFCFS Recommended Materials:

<http://afcfs.wbdg.org/facilities-exterior/structural-systems/materials/index.html>

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



D08.1. Systems and Layouts

1. Pre-engineered structural steel framing may be used for Groups 1, 2 and 3 facilities. Installation-appropriate thermal envelopes, materials and detailing are required.
2. Select economical structural systems that integrate roof and wall systems.
3. Narrow buildings 60' or less in width with column-free interiors are preferred for office, administrative and personnel spaces. When interior columns are required, optimize the structural grid layout for open-plan arrangements.
4. Fully coordinate structural grids with exterior window systems to align columns with window frames or wall systems.
5. When structure is exposed, provide an organized appearance and coordinate with mechanical, electrical, plumbing, fire protection, information technology, and communications systems.
6. Limit the use of specialty systems (such as space frames, vaults or domes) and structure as a visual feature. Specialty systems and structure used as a visual feature can be approved by 30 CES/CENM on a case by case basis.
7. Cost-effectively design interior bearing walls as thermal mass.

D08.2. Structural Systems Materials

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

D08.2.1. Concrete

☐ Applicable ☒ N/A

D08.2.2. Insulated Concrete Forming (ICF)

☐ Applicable ☒ N/A

D08.2.3. Steel

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



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 Tool 250 x 188



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. Ensure deflection values are consistent with IBC requirements for masonry veneer.

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 Tool 250 x 188



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:

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 Tool 250 x 188



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

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

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



D09.1. Passive and Active Systems

1. Fully integrate passive heating and cooling systems into facility designs whenever practical for the local climate prior to the design of active mechanical systems.
2. Provide optimized passive and active systems; design active mechanical systems to supplement thermal mass walls and floors.
3. Develop renewable energy systems including geo-exchange (ground source heat pumps) when life cycle cost effective.
4. Performance display screens, which report energy performance and utility savings, are encouraged; when provided, locate these in building lobbies or common areas.
5. Solar domestic hot water systems are required when life cycle cost effective for the climate.
6. Integrate shading into building exteriors to reduce solar heat gain during hot seasons.

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 maintenance 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 the 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; surface-mounted conduit and pipes are not allowed and are to be removed/replaced if a facility is renovated.
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://afcfb.wbdg.org/facilities-interiors/index.html>

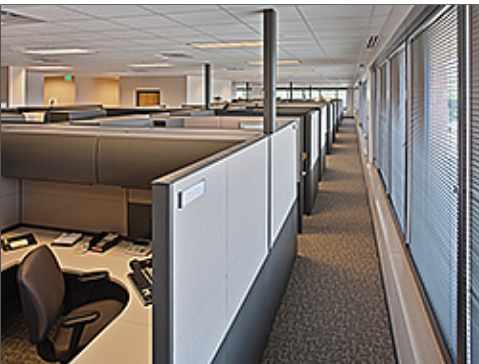
Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



E01. Building Configurations

Comply with Air Force Corporate Standards for Building Configurations:

<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 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, Facility Requirements, 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, High Performance and Sustainable Building Requirements. 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 with the State Historic Preservation Officer (SHPO) and base-level Historic Preservation offices regarding proposed changes to properties listed on or eligible for listing on the National Register of Historic Places. Follow requirements of The National Historic Preservation Act and Secretary of the Interior Standards for the Treatment of Historic Properties.
12. Maintain architectural compatibility following AFCFS and this Installation Facilities Standards (IFS) document to create continuity while avoiding monotony.

E01.1. Layout and Common Areas

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

<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. Provide distinct boundaries for waiting areas with a variety of comfortable and moveable furniture in small flexible groupings to accommodate the widest range of personnel.
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, Interior Design, 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, Facility Requirements. Identify special requirements if any, such as privacy separation, VIP areas, gathering spaces and storage. 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, Interior Design. Refer to Furnishings in this IFS also.
8. SID Format shall follow HQ AFCEC standards with the following detailed submittal requirements:
 - a. Information including floor plans, reference tables, color boards and samples, shall be submitted in separate binders, 8 1/2" x 11" format, white, D-ring binders, 3" maximum, with pockets on inside of covers.
 - b. Label the SID cover, spine and inside cover sheet with project number/title, location of project, percentage submittal, submittal date, AE or project firm and volume number (i.e. Vol 1 of 2).
 - c. Label each sheet/color board with project number/title, location of project, percentage submittal, submittal date, submittal type (i.e. Flooring), sheet number as applicable and AE or project firm.
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, DoD Building Code, for modifications to the International Building Code (IBC) to determine applicable sections of the IBC. Both the IBC Chapter 3 and UFC 3-600-01 govern "Use and Occupancy Classification" for example.
2. Fire code requirements shall be as defined in the International Building Code (IBC) and must be used where dictated by UFC 1-200-01 DoD Building Code (General Building Requirements) except where noted in UFC 3-600-01 (Fire Protection Engineering For Facilities).

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

E01.2. Quality and Comfort

Comply with Air Force Corporate Standards for Quality and Comfort:

<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, LVT
- 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. The use of carpets with fly ash in the backing as a filler qualifying for a "pre-consumer" recycled content is to be discouraged.
- 2. When carpet is to be replaced, it should be recycled at an approved recycling center that handles waste carpet. Documentation for recycling carpet should be provided to 30 CES/CEI for record.

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 Tool 250 x 188



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:

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 Tool 250 x 188



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 Tool 250 x 188



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 



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 Tool 250 x 188



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: Concrete with plaster finish
Secondary: Gypsum board (painted)
Tertiary: Ceramic tile (restrooms)

Facility Group 2 wall materials shall be as follows.

Primary: Concrete with plaster finish
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. Provide durable low-maintenance wall materials and finishes for a long life span with the possibility of one or more uses of space during that time. Apply wall finishes assuming a 10-year lifespan. Color shall be neutral, cohesive and of consistent quality throughout a facility.
2. Follow UFC 3-450-01 (Vibration and Noise Control) for acoustic design issues including speech privacy, sound isolation or sound masking.
3. Select and apply paint with sheens (gloss levels) appropriate for the application following UFGS Section 09 90 00 Paints and Coatings.
4. Provide ceramic tile on wet walls of kitchens, toilet rooms, locker rooms, etc., in all facility groups.
5. Neutral split-face or ground-face integrally colored block with a clear sealer may be used in Group 3. Do not paint block.
6. Provide rubber or carpet base on drywall partitions in Groups 1 and 2.
7. Hardwood base may only be used in Group 1 as approved on a case by case basis.
8. 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.
9. Decorative moldings may be used only in Group 1 when approved on a case basis.
10. Corner guards are permitted in high traffic spaces with wheeled or cart use such as private service areas in Groups 1 and 2 or high traffic corridors in Groups 1 and 2. Stainless steel corners guards with a brushed finish may be judiciously used in Group 3.
11. Group 4 may use painted composite wood base.
12. Drywall shall be typically brought to a Level 4 finish; a Level 5 finish may be used in Group 1 facilities only.

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

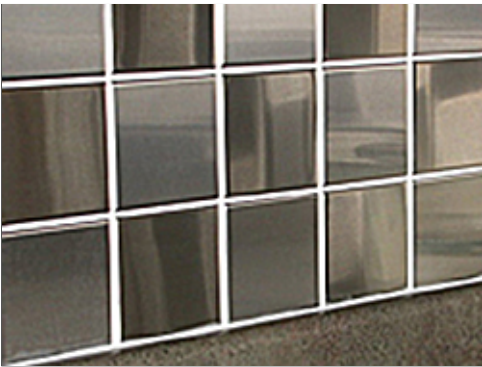
E03.1.2. Masonry

☐ Applicable ☒ N/A

E03.1.3. Ceramic Tile

☒ Applicable ☐ N/A

Number of base standards 1



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 Tool 250 x 188



Type: **Style 1**

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

Mfr: US Gypsum

Color: Solid Earth tone colors

Finish: Paint (Sheen per UFGS)

Model #: Tapered edge

Other: N/A

UFGS: Section 09 29 00 Gypsum Board
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 29 00.pdf>
Section 09 90 00 Paints and Coatings
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 90 00.pdf>

E03.1.5. Metal Panels

☐ Applicable ☒ N/A

E03.1.6. Wood Paneling

☐ Applicable ☒ N/A

E03.1.7. Rapidly-Renewable Products

☐ Applicable ☒ N/A

E03.1.8. Other

☐ Applicable ☒ N/A

E04. Ceilings

Comply with Air Force Corporate Standards for Ceilings:
<http://afcfs.wbdg.org/facilities-interiors/ceilings/index.html>

E04.1. Ceiling Materials

Facility Group 1 ceiling materials shall be as follows.

- Primary: Exposed Framing (Roof / Floor Structure Above)
- Secondary: Grid and Acoustical Tile
- Tertiary: Gypsum board (painted)

Facility Group 2 ceiling materials shall be as follows.

- Primary: Exposed Framing (Roof / Floor Structure Above)
- Secondary: Grid and Acoustical Tile
- Tertiary: Gypsum board (painted)

Facility Group 3 ceiling materials shall be as follows.

- Primary: Exposed Framing (Roof / Floor Structure Above)
- Secondary: Exposed Framing (Roof / Floor Structure Above)
- Tertiary: Gypsum board (painted)

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. Structural roof/floor decks and other components (mechanical, plumbing, electrical, communications) may be exposed when cost effective to eliminate or minimize secondary suspended ceilings. Exposed structure and building components shall be painted a consistent, flat, neutral paint color.
- 3. Follow UFC 3-450-01, Noise and Vibration Control, for acoustic design issues including speech privacy, sound isolation or sound masking.
- 4. All individual elements placed in ceiling or suspended from ceiling shall be coordinated throughout and have an ordered appearance. Light fixtures shall be symmetrical and balanced throughout a room. Suspended ceilings shall be centered in each room. Fixtures such as detectors, fire sprinklers, annunciators, etc. shall be centered in the ceiling tiles.
- 5. Limit the transmittance of sound through building components, the reflectance of sound within interior spaces and address acoustic design issues including speech privacy, sound isolation or sound masking as outlined in UFC 3-450-01, Noise and Vibration Control.
- 6. Accent ceiling materials such as metal, wood and rapidly renewable may be used in Group 1 as approved on a case by case basis.
- 7. Recessed office lighting in suspended ceilings shall be standard 2' x 2' volumetric light fixtures for even lighting. 2x4 light fixtures may be used in large areas where costs are a constrain and aesthetics are not a factor such as warehouses or large storage areas or used to match existing conditions. The use of 2x4 fixtures are not allowed in hallways or corridors.
- 8. All interior lighting fixtures, to include LED and fluorescent lights, shall be 3000K or less in light color for a warm appearance.

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 Tool 250 x 188



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 Tool 250 x 188



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 Tool 250 x 188



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://afcfb.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)

Tertiary: N/A

Facility Group 3

door (leaf) materials shall be as follows.

Primary: Hollow metal (galvanized, painted)

Secondary: Hollow metal (galvanized)

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 locking hardware shall be Schlage, 6-pin cylinders, and provided with "construction locks". All work shall be coordinated with the base lock shop.

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 Tool 250 x 188



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 Tool 250 x 188



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

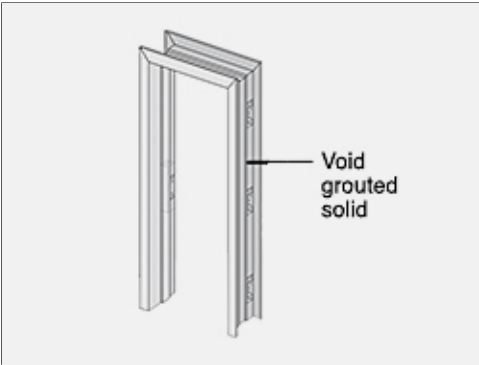
Mfr: Steelcraft

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 Tool 250 x 188

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 Life Cycle Cost Analysis (LCCA).
- 2. Cabinets, countertops and hardware shall be appropriate for the Facility Group and for the frequency of use. Materials should be durable and not susceptible to damage from regular use. Countertops shall be neutral in color, smooth or lightly textured and compatible with the adjacent cabinet surfaces and plumbing fixtures.
- 3. Materials shall convey a professional image without extravagance; comply with Architectural Woodwork Institute standards for custom cabinetry. Provide Premium Grade cabinetry in Group 1 facilities; provide Custom Grade cabinetry in Group 2 facilities.
- 4. Natural stone and cast stone countertops may only be used in Group 1 facilities with approval on a case by case basis.
- 5. Metal cabinets and countertops shall be provided in heavy-use operations and in Group 3.
- 6. Refer to Air Force Corporate Facility Standards (AFCFS) for approved materials.

E06.1.1. Plastic Laminate

☒ Applicable ☐ N/A Number of base standards 1 



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

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

Mfr: 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 Tool 250 x 188



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 Tool 250 x 188



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>

E06.1.4. Metal

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Steel Sentry

Color: Natural stainless steel or neural 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>

E06.1.5. Other

☐ Applicable ☒ N/A

E06.2. Countertop Materials

E06.2.1. Plastic Laminate

☒ Applicable ☐ N/A Number of base standards 1

Image Tool 250 x 188



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 Tool 250 x 188



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 Tool 250 x 188



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

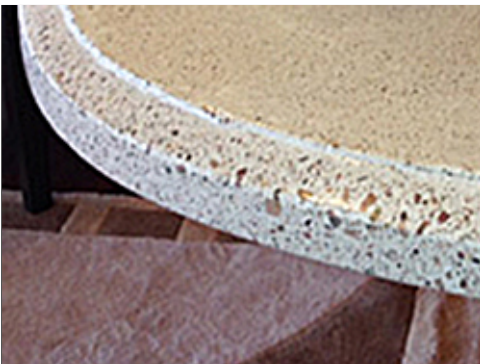
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 36 00.pdf>

E06.2.4. Cast Stone

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



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>

E06.2.5. Metal

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



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](http://www.wbdg.org/FFC/DOD/UFGS/UFGS%2012%2031%2000.pdf)

E06.2.6. Other

☐ Applicable ☒ N/A

E07. Furnishings

Comply with Air Force Corporate Standards for Furnishings:

<http://afcfs.wbdg.org/facilities-interiors/furnishings/index.html>

E07.1. Durability and Serviceability

Comply with AF Corporate Standards for Durability and Serviceability:

<http://afcfs.wbdg.org/facilities-interiors/furnishings/durability-and-serviceability/index.html>

E07.2. Accessories

Comply with AF Corporate Standards for Accessories:

<http://afcfs.wbdg.org/facilities-interiors/furnishings/accessories/index.html>

E08. Interior Signs

Comply with Air Force Corporate Standards for Interior Signs:

<http://afcfs.wbdg.org/facilities-interiors/interior-signs/index.html>

E08.1 Types and Color

Comply with Air Force Corporate Standards for Types and Color:

<http://afcfs.wbdg.org/facilities-interiors/interior-signs/types-and-color/index.html>

E08.2. Interior Signs Materials

1. Natural stone, masonry and cast stone signs may only be used in Group 1 with approval on a case basis.
2. Signage should be made to be as flexible as possible, allowing users to modify signage with removable inserts as needed to avoid costly changes to signage as needs and mission change.

E09. Lighting, Power and Communication

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

E09.1. Functionality and Efficiency

Comply with Air Force Corporate Standards for Functionality and Efficiency:

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

E09.2. Types and Color

1. Use LED lighting where appropriate.
2. All lighting fixtures should provide a warm color spectrum, 3000K or less.

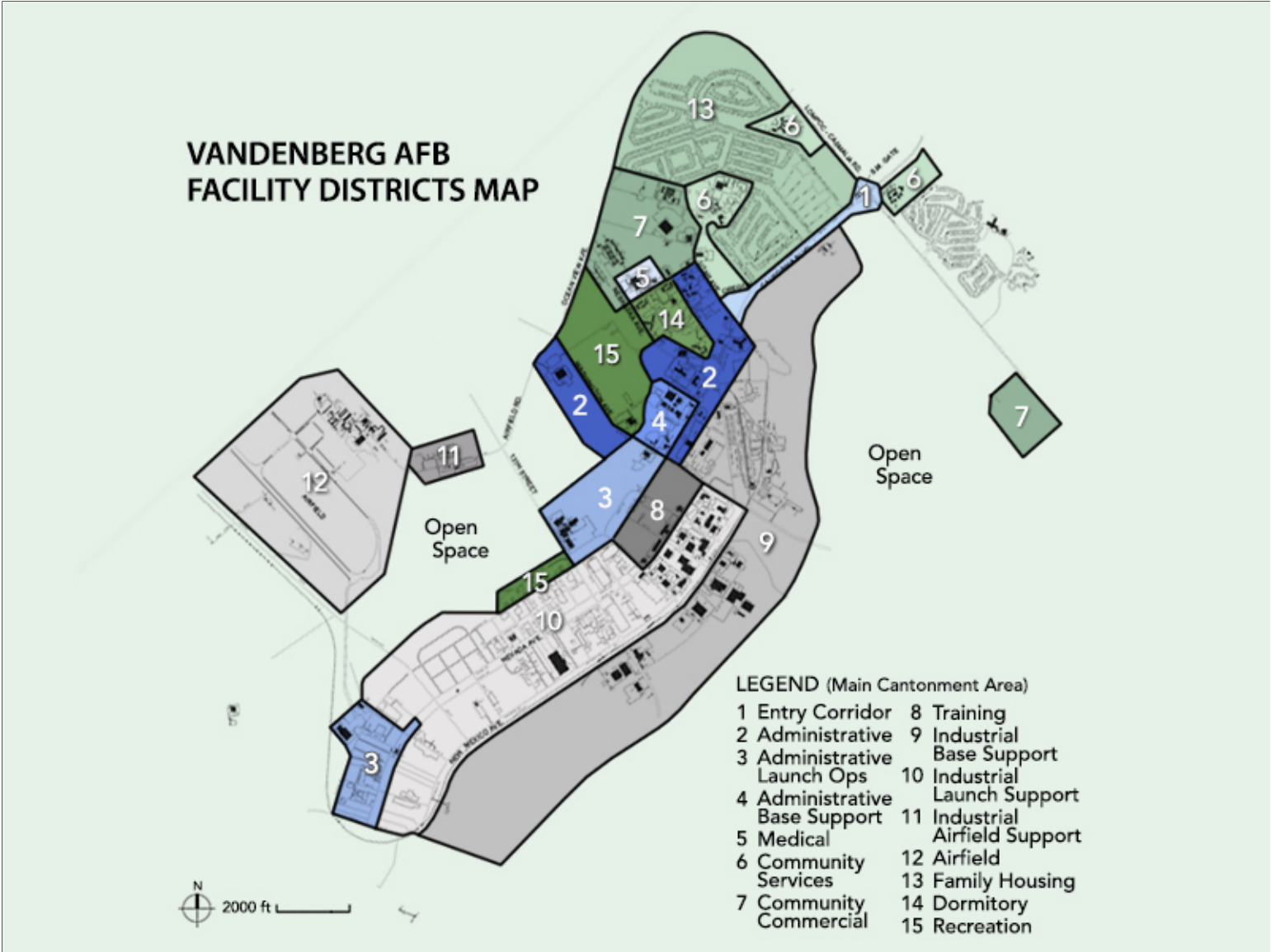
F. APPENDIX - Facility Districts

- ☒ Applicable
- ☐ N/A

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

Facilities Districts Overview Map:

Image Tool 800 x 600



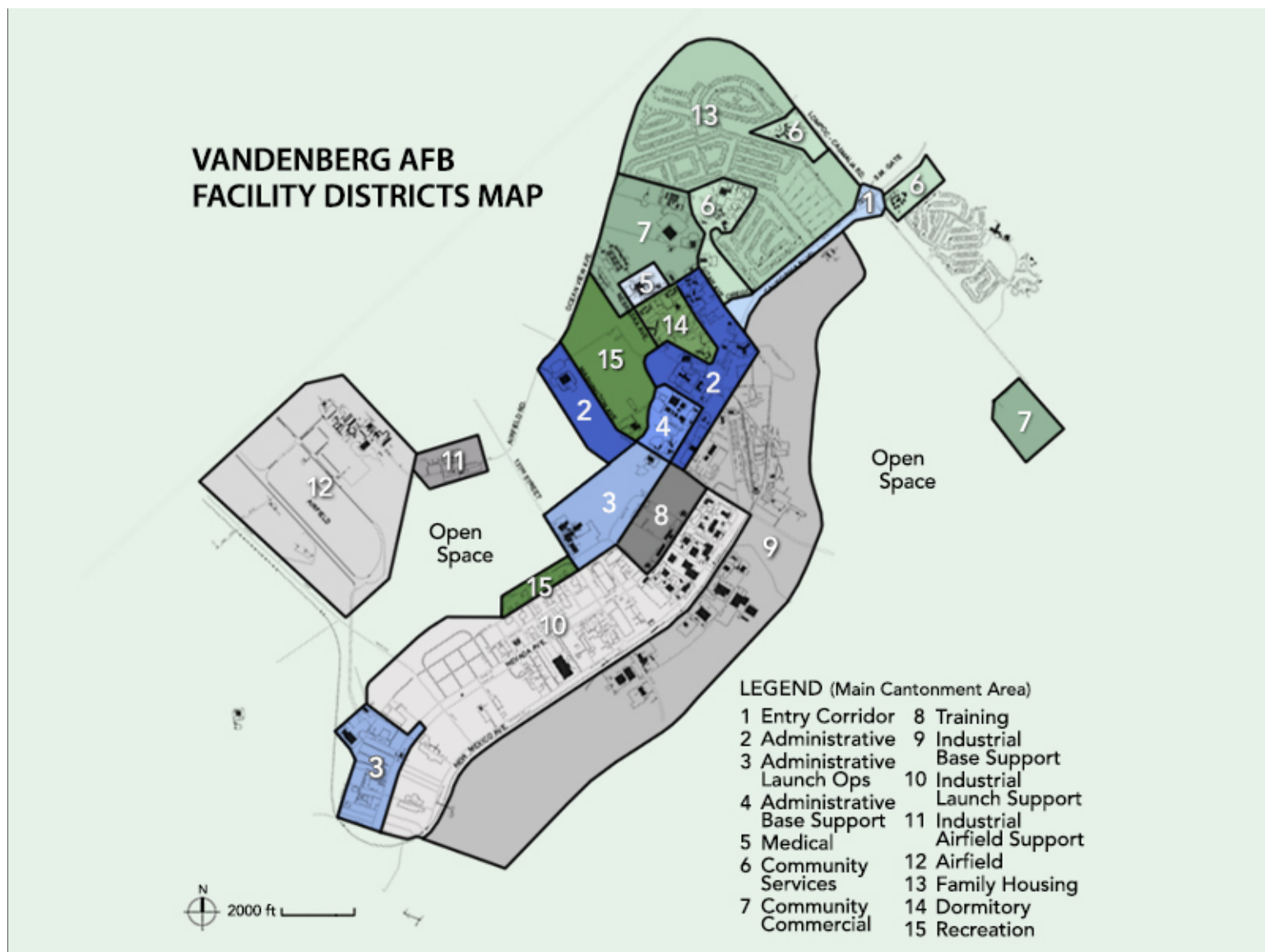
Note: Apply the base-wide standards in this IFS for Installation Elements, Site Development, Facilities Exteriors and Facilities Interiors (products, materials, color, etc.). Following application of the base-wide standards, refer to the Appendix and apply any additional requirements specifically related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

Enter No. of Facility Districts 1

The following Facility Districts list exceptions to the base standards that are unique to each district. Please refer to the Site Development, Facilities Exteriors, and Facilities Interiors sections of this IFS for base standards.

Image Tool 800 x 600

Map of District



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

Image Tool 250 x 188

Group 1 ☐ Applicable ☒ N/A

Group 2 ☐ Applicable ☒ N/A

Group 3 ☐ Applicable ☒ N/A

Group 4 ☐ Applicable ☒ N/A

Other ☐ Applicable ☒ N/A

FACILITY DISTRICTS

The main cantonment area is divided into districts that align with land use zones as defined by the Installation Development Plan. Each district has designated uses that help to define the architectural response. Generally match adjacent facilities in new construction to promote architectural compatibility throughout the installation. A brief description of each of the districts follows.

1. Entry Corridor

The Entry Corridor District includes California Boulevard from the Santa Maria Gate to Utah Avenue as well as the Missile Park. It is intended to act as a formal and distinguished entry to the base providing a good first impression to all visitors, base personnel, their families and military retirees. This area requires a high level of attention and care should be taken to maintain the dignity and formal nature of this entrance to the installation. All development in this district requires prior coordination and approval from the Comprehensive Planning office (30 CES/CENPP) and Facilities Excellence (30 CES/CENME).

2. Administrative

The Administrative District is occupied by the BX Exchange Complex, which according to the most current General Plan, is planned to be relocated to the Community Commercial District. Facilities in this district are, and should continue to be, pedestrian in scale. Application of the installation prevailing architectural style, California Mission Revival, should be implemented during major renovations or new construction as appropriate.

3. Administrative Launch Ops

The Administrative Launch Ops District should be pedestrian in scale. Application of the installation prevailing architectural style, California Mission Revival, should be implemented during major renovations or new construction as appropriate.

4. Administrative Base Support

The Administrative Base Support District typically includes the office complexes on the installation including wing/group headquarters, civilian personnel, and similar office functions.

5. Medical

The Medical District includes clinics and other health related services for day-to-day outpatient medical care, extended care, optometry, dental care and lab uses. These facilities are used by active duty military personnel, retired military and dependents living off-base. Facilities in this district are somewhat monumental in scale but have pedestrian scaled entries that are appropriate. Application of the installation prevailing architectural style, California Mission Revival, should be implemented during major renovations or new construction as appropriate.

6. Community Services

The Community Services District contains facilities that support family and personnel needs to include temporary lodging facilities (TLF), TLF support, schools (nursery, elementary and junior high), adult education facilities, child care centers, youth center, chapel and religious education facilities, security police operations control, including visitor management and military operations security. Facilities in this district are, and should continue to be, pedestrian in scale. Application of the installation prevailing architectural style, California Mission Revival, should be implemented during major renovations or new construction as appropriate.

7. Community Commercial

The Community Commercial District consists of the shopping, service, recreation, and day-to-day support needs of Base personnel, their families and military retirees within the area. The Community Center is the "town center" of the installation and includes the commissary, clubs, dining halls, personal services and many indoor recreational facilities. Indoor recreational uses, including the bowling alley, field house and gym, are included in or near the Community Center. As mentioned, the Base Exchange is presently sited in the Administrative Base Support District and future plans are to relocate it to the Community Commercial District. Facilities in this district are, and should continue to be, pedestrian in scale. Application of the installation prevailing architectural style, California Mission Revival, should be implemented during major renovations or new construction as appropriate.

8. Training

The Training District includes buildings specifically dedicated to training activities, specifically AETC, and may also include open space for outdoor training activities. Facilities in this district are formal in nature and arranged in a way to further emphasize formality and military discipline. Future development in this district should continue the formal nature of this district and application of the installation prevailing architectural style, California Mission Revival, should be implemented during major renovations or new construction as appropriate.

9. Industrial Base Support

The Industrial Base Support District includes warehouses for various base activities including maintenance, storage, utility functions, industrial services, transportation storage, communications, civil engineering, supply and equipment, fuel storage, vehicle maintenance/motor pool complex, open storage, emergency/disaster response facilities, ordnance and weapons storage areas, and other industrial uses. Most facilities in this district are industrial in nature and should remain so.

10. Industrial Launch Support

The Industrial Launch Support District includes facilities that are industrial in nature and should remain so.

11. Industrial Airfield Support

The Industrial Airfield Support District includes facilities that are industrial in nature and should remain so.

12. Airfield

The Airfield District includes the entire airfield pavement system (runway, taxiway and apron), related open space, navigational aids, and aircraft operations and maintenance facilities. Buildings in the airfield architectural district are mostly comprised of aircraft support facilities such as hangars, shops, and terminals and are industrial in nature and should remain so. The only exception is the Airfield Operations building (B1746) which serves as the gateway to the base for distinguished visitors who would arrive via the base runway.

13. Family Housing

The Family Housing District consists of detached single family residential units occupied by enlisted and officer families. This area is currently under a housing privatization contract.

14. Dormitory

The Dormitory District includes several types of related facilities including dormitories and visiting officer and airman's quarters as well as related support facilities to include dining halls, mailrooms, day rooms and small dormitory support facilities. Facilities in this district are, and should continue to be, pedestrian in scale. Continued improvement in pedestrian pathways connecting vital services as well as areas adjacent to this district should be continued. Application of the installation prevailing architectural style, California Mission Revival, should be implemented during major renovations or new construction as appropriate.

15. Recreation

The Recreation District includes outdoor areas that are very important to the quality of life at Vandenberg AFB. Uses included are parks, picnic areas, jogging paths, golf courses, swimming pools, athletic fields and baseball, basketball, and tennis courts. Facilities in this district are pedestrian in scale and, in many areas, are directly adjacent to open spaces further enhancing the aesthetic qualities of this district. Application of the installation prevailing architectural style, California Mission Revival, should be implemented during major renovations or new construction as appropriate.

Open Space and Preserves

Open space includes undeveloped land both inside and outside of the immediate cantonment area. It both separates and defines the various sections of the base and creates a natural setting for the cantonment area. Areas classified as open space may be undeveloped to act as a buffer space between incompatible uses or for safety or security clearances or there may be other constraints that are not readily visible. All development in this district requires prior coordination and approval from the Comprehensive Planning office (30 CES/CENPP).

G. APPENDIX - References

Comply with Air Force Corporate Standards:

<http://afcfs.wbdg.org/index.html>

30 CIVIL ENGINEER SQUADRON

Comply with VAFB Post-Construction Storm Water Standard:

http://www.wbdg.org/FFC/AF/AFIFS/VAFB_PC_Storm_Water_Standard_MS4.pdf

Comply with VAFB Plant Lists:

Tree Palette

http://www.wbdg.org/FFC/AF/AFIFS/Table-1_Tree_Palette.pdf

Shrub Palette

http://www.wbdg.org/FFC/AF/AFIFS/Table-2_Shrub_Palette.pdf

Groundcover Palette

http://www.wbdg.org/FFC/AF/AFIFS/Table-3_GC_Palette.pdf

Comply with VAFB High Voltage Construction Standard Material Specifications:

http://www.wbdg.org/FFC/AF/AFIFS/Vandenberg_AFB_Electrical_Material_Specifications.pdf