KIRTLAND AIR FORCE BASE
INSTALLATION FACILITIES STANDARDS (IFS)
Kirtland 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. Requests to deviate from any installation facilities standards, that are Unified Facilities Criteria (UFC) requirements, will follow the process outlined in the AFCFS for UFC waivers and exemptions.

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

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

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

6. Joint Bases shall implement IFS under their Joint-Base designation with volume numbers for individual installations following the IFS Development Tool template. For example, for Joint Base Langley-Eustis, provide: Vol. 1 Langley AFB and Vol. 2 Fort Eustis.
A.01. FACILITY HIERARCHY
Comply with AF Corporate Standards for Facility Hierarchy (and subsections):
http://afcfs.wbdg.org/facility-hierarchy/index.html

A.02. FACILITY QUALITY
Comply with AF Corporate Standards for Facility Quality (and subsections):
http://afcfs.wbdg.org/facility-quality/index.html

A.03. FACILITY DISTRICTS
Comply with AF Corporate Standards for Facility Districts (and subsections):
http://afcfs.wbdg.org/facility-districts/index.html
Note: Apply the base-wide standards in this IFS for Installation Elements, Site Development, Facilities Exteriors and Facilities Interiors (products, materials, color, etc.). Following application of the base-wide standards, refer to the Appendix and apply any additional requirements specifically related to the Facility District.
B. INSTALLATION ELEMENTS
Comply with Air Force Corporate Standards for Installation Elements:
http://afcfs.wbdg.org/installation-elements/index.html

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

B01.1. Installation Development Plan (IDP)

Application of DoD and Air Force Facilities Criteria

<table>
<thead>
<tr>
<th>DoD Criteria</th>
<th>Air Force Criteria</th>
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<tbody>
<tr>
<td>UFCs, Memoranda, UFGS</td>
<td>AFIs, ETLs, AFCFS, Memoranda</td>
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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

The Architectural Compatibility Review Board (ACRB) is charged with reviewing projects to ensure compliance with the IFS. The board has authority to approve projects that deviate from the standards given in the IFS. It is also responsible for ensuring that the IFS is reviewed and revised at least annually.

The board is chaired by an appointee of the Base Civil Engineer (BCE), and its members are represented by architects and planners from the Base Maintenance Contractor and the Government.

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

Kirtland Air Force Base's beginnings stem from three private airfields of 1928-1939 and are similar to that of other installations choosing to adapt existing runways and hangars for military use. In 1928, Frank G. Speakman and William L. Franklin, two Santa Fe railroad employees, had inaugurated a private venture for an airport. Working with the town of Albuquerque, they graded two runways on East Mesa with one approximately 5,300 feet long and the other just under 4,000 feet. Albuquerque Airport was wholly a private venture, irrespective of the town's involvement. Immediately following construction of the airport, other individuals and promoters became interested in Albuquerque as a crossroads location for southwestern air traffic. James G. Oxnard, a New York entrepreneur, bought Franklin's interest in Albuquerque Airport, expanding the facility toward the end of 1928.

As the decade closed, two airlines initiated competitive passenger, mail and cargo service between the Midwest and California, positioning Albuquerque as an important transcontinental airfield. Shortly after beginning activities, one of the companies,
As of late 1939, Army and Navy pilots began using Oxnard Field for refueling and maintenance for a variety of military flights. Later that same year, the Army Air Corps leased 2,000 acres neighboring Albuquerque Airport, four miles west of Oxnard Field. The Army eventually condemned the Oxnard Field property for military use, with subsequent transfer to the federal government. Construction of Albuquerque Army Air Base began in January 1941 and was completed in August 1941. Albuquerque Army Air Bases’ first commander, Colonel Frank D. Hackett, arrived in March 1941 and the following month the base received its first military aircraft. On April 1, 1941, a lone B-18 bomber, piloted by Lieutenant Sid Young, landed on the north-south runway. With the assignment of five pilots to the aircraft, the day marked the official opening of Albuquerque Army Air Base.

The summer of 1941 saw the arrival of the first troop train, loaded with 500 base support personnel, as well as arrival of the 19th Bombardment Group under the command of Lt. Col. Eugene L. Eubank. Business on the new airfield really began to boom with the arrival of 2,195 pilot, bombardier and navigator trainees for the new B-17 “Flying Fortress.” The 19th BG was moved out shortly thereafter for duty in the Philippines and South Pacific, where many crew members were decorated for bravery. Even in the absence of the 19th BG, activity at the base increased. Just a week after the attack on Pearl Harbor, the first class for bombardiers began with the establishment of the Army’s first wartime advanced flying school.

In February of 1942, Albuquerque Army Air Base was renamed Kirtland Army Air Field in honor of Col. Roy C. Kirtland, one of the Army’s earliest aviation pioneers. In 1911, Lt. Kirtland set up and supervised the building of the first Army Aviation School in College Park Maryland. Kirtland was a staunch advocate of safer and better aircraft for military aviation. He later became the first Commandant of Langley Field Virginia.

Meanwhile, in 1942, the U.S. Army Air Forces established a training depot for aircraft support and logistics to the east of Kirtland Field, near the original private airport, Oxnard Field. The depot later became known as Sandia Base. With the completion of the ground crew training program in 1943, Sandia Base was used as a convalescent center for wounded aircrew members, and then as a storage and dismantling facility for war-weary and surplus aircraft as the war ended. Over 2,000 such planes were stripped and melted down, reclaiming some 10 million pounds of aluminum alone.

The war years at Kirtland continued to be filled with distinguished records of training entire flight crews for the B-17 and B-24 bombers and the base’s three schools — advanced flying, bombardier training and the multi-engine school — operated at full capacity. In February 1945, Kirtland Field was also engaged in training combat crews for the B-29. This was the “Super Fortress” which eventually brought an end to the hostilities with Japan by dropping the first atomic bombs on Hiroshima and Nagasaki. The need for extensive flight support and test facilities became apparent and during September 1945, the development, engineering and assembly branches of the Z Division of Los Alamos Laboratory were moved to Sandia Base. The unit was the predecessor of Sandia Corporation, which was organized in 1949. It became and remains (as Sandia National Laboratories) the largest associate unit at Kirtland AFB. It has consistently been involved with development and testing of special weapons and more recently, with research and development of energy sources and systems.

In February 1946, Kirtland was placed under the Air Materiel Command and its flying training activities ceased. Its new job entailed flight test activities for the Manhattan Engineering District, the wartime organization that produced the atomic bomb. The new role for Kirtland was to develop proper aircraft modifications for weapons delivery and to determine ballistic characteristics for these weapons of the future — nuclear weapons.

Kirtland’s role in the testing and evaluation of these special weapons increased in 1947, as the Army Air Corps became the U.S. Air Force. At that time, Kirtland Army Air Field, with a population of 972 military and civilian personnel, became Kirtland Air Force Base. Most of the weapon proving was conducted on a 46,000-acre tract in the Manzano Mountains, on the southern part of Kirtland AFB, including Forest Service lands withdrawn for testing purposes. Artillery emplacements were set up; observation stations were built; fragmentation areas were prepared; and two 248’ foot oak towers were erected near the Starfire Optical Range. The establishment of such activities at Kirtland was considered ideal because of its proximity to Los Alamos Scientific Laboratory and to Sandia Base, where the Department of Defense had established the Armed Forces Special Weapons Command to direct military employment of the new weapons to be built.

Other nuclear-related units were formed at Sandia Base and Kirtland AFB as the west side was redesignated in 1948. The Armed Forces Special Weapons Project operated Sandia Base and provided support to the Secretary of Defense, the Joint Chiefs of Staff, and military (“top of section) departments in matters concerning nuclear weapons, nuclear effects and testing. In December 1949, Kirtland AFB became headquarters for the newly created Special Weapons Command. The nucleus of this organization was composed of the pioneering Air Force agencies, which had located here to determine future employment of nuclear weapons. The command became the Air Force Special Weapons Center on April 1, 1952, and was a unit of the Air Research and Development Command.

The late 1940s and 1950s were expansion years as both Kirtland AFB and Sandia played increasing roles in the nation’s defense efforts. New buildings, hangars and the east-west runway (now owned by the city of Albuquerque) resulted.

During that period, air defense, weather and atomic test squadrons operated from Kirtland AFB, and people from both bases took part in the 12 nuclear test series conducted in Nevada and the Pacific. Special Weapons Center pilots flew through nuclear clouds.
to determine radiation hazards, and its engineers launched sounding rockets to study the effects of high altitude nuclear explosions and to investigate the upper atmosphere in preparation for future space missions.

In 1958, efforts were underway between the United States and Soviet Union to agree on a moratorium for atmospheric nuclear testing. The anticipated limitations on determining weapons effects inspired efforts by the Special Weapons Center and Sandia Corporation to develop methods of simulating nuclear effects with non-nuclear techniques. In 1962, Kirtland AFB and Sandia personnel participated in Operation DOMINIC, a series of atmospheric and subsurface tests in the Pacific. They were the last such tests conducted before the existing Limited Nuclear Test Ban Treaty was signed with the Soviet Union in late 1962, prohibiting testing in the atmosphere, in space and under water.

In the wake of the full-scale tests and signing of the test ban treaty, the Air Force Weapons Laboratory was created from elements of the Special Weapons Center. The Weapons Laboratory built facilities during the 1960s to simulate nuclear effects such as transient radiation, x-rays and electromagnetic pulse. To study the latter, the Trestle, the largest simulation facility ever built, was completed on the east side of Kirtland AFB during the late 1970s.

Kirtland AFB is really the story of three bases, since the merger in 1971 of Kirtland, Manzano and Sandia Bases, which brought the three installations together under one command. Sandia Base was originally created in 1942 as an Air Corps training site for aircraft maintenance people. By late 1943, however, Sandia was in a caretaker status. A year and a half later, the Manhattan Engineering District created the Armed Forces Special Weapons Project at Sandia Base to coordinate military nuclear activities. Armed Forces Special Weapons Command also constructed two operational sites. One of these sites was known as Site Able, located in the foothills of the Manzano Mountains, just east of Sandia Base. On February 22, 1952, Site Able was renamed Manzano Base, and operated by the Air Force.

The Special Weapons Center took over management of Air Force Systems Command's test and evaluation facilities at Holloman AFB near Alamogordo, New Mexico, during the summer of 1970. Just one year later on July 1, 1971, Kirtland merged with Manzano and Sandia Base, its neighbors to the east, creating a sprawling military complex known as Kirtland Air Force Base.

Twelve months after the merger, Kirtland AFB became home to one of the country's most important industrial management units when the Air Force Contract Management Division (a component of Air Force Systems Command) moved to the base from Los Angeles.

Early in 1974, the Air Force Test and Evaluation Center was organized at Kirtland AFB to direct and oversee operational testing of emerging aircraft and systems. Due to budget restrictions and reorganization, the Special Weapons Center was disestablished during 1976. Its responsibilities as Kirtland AFB's 'landlord' were transferred to Contract Management Division, and a new support organization, the 4900th Air Base Wing, was created to discharge those responsibilities.

In 1976, as these organizational changes were being made, the Aerospace Rescue and Recovery Service moved its 1550th Aircrew Training and Test Wing (later becoming the 1550th Combat Crew Training Wing) to Kirtland AFB from Hill AFB, Utah. That unit's helicopter and fixed wing training brought regular flight operations to Kirtland AFB in addition to the usual support provided for transient military aircraft.

On July 1, 1977, the base once again changed hands as the 1606th Air Base Wing was created when Military Airlift Command took over responsibility for operating Kirtland AFB from Air Force Systems Command.

Kirtland AFB became the hub of Air Force space technology when the Air Force Space Technology Center was activated October 1, 1982.

In June 1990, the Air Force Contract Management Division was deactivated as a result of the Defense Management review. And, in December 1990, the Air Force Space Technology Center and Weapons Laboratory consolidated to become Phillips Laboratory, and later, the Air Force Research Laboratory.

On October 1, 1991, the 1606th Air Base Wing and 1550th Combat Crew Training Wing merged into one "super" wing called the 542nd Crew Training Wing.

On January 1, 1993, the base again changed hands as the newly formed Air Force Materiel Command acquired Kirtland AFB from Air Mobility Command. The 377th Air Base Wing was reactivated to become the base's host organization.

On March 31, 2006, the Nuclear Weapons Center was created and became the parent organization at Kirtland AFB. The 498th Armament Systems Wing was also created to be the maintenance arm of the NWC, while the 377th ABW remained the host support unit on base.

Kirtland AFB is the third largest installation in Air Force Materiel Command and sixth largest in the Air Force. The base occupies 51,558 acres and employs over 23,000 people, including more than 4,200 active duty and 1,000 Guard, plus 3,200 part-time Reserve personnel. Kirtland AFB's economic impact for 2000 on the City of Albuquerque was over $2.7 billion.

The missions of Kirtland AFB fall into four major categories: world-class munitions maintenance; readiness and training; research, development and testing; and base operating support to more than 100 federal government and private sector associates.
B01.1.3. Future Development

☐ Applicable  ☐ N/A  Large graphics do not apply

☐ Applicable  ☐ N/A  Small graphics do not apply


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

B02. STREET ENVELOPE STANDARDS

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

Comply with AF Corporate Standards for Street Envelope Standards:

B02.1. Hierarchy of Streets

☐ Applicable  ☐ N/A  Large graphics do not apply

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

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

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

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

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

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.

Hierarchy of Streets

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

9. Minimize and consolidate curb cuts along streets.

10. Ensure access for emergency and service vehicles.

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

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

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

B02.1.1. Arterial Streets

Travel Lane (a): 12’  Median (b): 12’  Curb and Gutter (c): 2’  Sidewalk / Landscape (d): 12’  Setback (f): Min. 35’ or per ATFP
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  2

- Applicable  N/A  Small graphics do not apply

Travel Lane (a): 12’  Median (b): N/A  Curb and Gutter (c): 2’  Landscape (d): 10’  Sidewalk (e): 6’  Setback (f): Min. 35’ or per ATFP
1. Minimum 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 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.
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. 5’
   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 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’.
B02.4. Special Routes

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

B02.2. Hierarchy of Intersections

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

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

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

B02.2.1. Arterials

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

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

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.

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

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

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

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

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

6. Crosswalk markings shall follow the MUTCD for Streets and Highways, current edition. Provide white markings that define the edges of the crosswalk or a tone of lines defining the area of the crosswalk consistent with common practices found in the adjacent municipality.

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

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

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

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

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

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

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

6. Crosswalk markings shall follow the MUTCD for Streets and Highways, current edition. Provide white markings that define the edges of the crosswalk or a tone of lines defining the area of the crosswalk consistent with common practices found in the adjacent municipality.

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

8. Reduce energy consumption and reduce maintenance requirements by providing street lighting only when functionally required to ensure safety and to address antiterrorism following UFC 4-010-01. Ensure the quality and quantities of lighting and fixtures are appropriate for the adjacent Facility Group number.
B02.3.1. Paving

- Applicable  N/A  Large graphics do not apply

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

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

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

B02.3.2. Curb and Gutter

- Applicable  N/A  Large graphics do not apply

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

1. Continuous concrete curbs shall be provided where required for 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.

2. 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

B03. OPEN SPACE / PUBLIC SPACE


Comply with AF Corporate Standards for Open Space / Public Space: http://afcfs.wbdg.org/installation-elements/open-space-public-space/index.html
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.
1. Mitigate heat island by providing high-albedo, shaded plazas. Pervious pavers shall be used on all plazas and courtyards in Facility Groups 1 and 2; use pervious concrete in Groups 3 and 4. The designer shall incorporate appropriate expansion and construction joints.

2. Pavers shall match the color of pavers used on adjacent sidewalks using base standard range of earth tones colors. Bricks used on plazas shall typically be 4" x 8" size.

**B03.1.2. Sculptures, Markers and Statuary**

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

2. Consider entry gates as possible sites for new displays.
3. All proposed memorials shall follow AFI 36-3108 and be limited to highly deserving individuals or groups as deemed appropriate by the installation leadership. Living memorials (tree plantings / etc.) are discouraged due to added maintenance requirements.

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

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

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

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

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

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

3. At static displays where pedestrian paths are provided, a minimum of one trash receptacle and one bench shall be provided. Receptacle and bench design must conform to IFS requirements.
B03.2. Grounds and Perimeters

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

2. Maintain preservation areas following the IDP and IFS.

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

4. Identify and describe base-wide utility corridors in the IDP.

5. Base-wide utility infrastructure shall be inconspicuous. Bury utility service lines below grade when adjacent to Facility Group 1 and when economically feasible for Facility Groups 2, 3 and 4. When service lines are located above grade, create an ordered, coordinated appearance.

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

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

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

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

10. Paint above-ground equipment and associated components such as electrical piping or exposed plumbing lines dark bronze.

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

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

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

**B03.2.1. Parade Grounds**

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

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

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

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

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

2. Picnic pavilions may be provided in parks where there is a documented need.

3. Recommend adding shade shelters if economically feasible.

B03.2.3. Preserves

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

2. Provide minimal maintenance with mowing as needed for controlling bird behavior for airfield safety, or eliminating fire hazards.
1. Design, install and maintain the base's perimeter fence following UFC 4-022-03.

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

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

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

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

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

C01.1. Site Design Considerations

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

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

Monsoon Rain Storms and Flash Flooding
1. Collect documentation to validate approvals and completion of the NEPA process.

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

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

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

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

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

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

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

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

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

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

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

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

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

15. Consider the location of “Designated Tobacco Areas.”
C01.2. Building Orientation

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

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

Conceptual Site Analysis and Site Design Diagram

Local Solar Data

Local Climate Data

Site Data
1. Ensure the site will accommodate optimum requirements for building orientation, which is with the long axis 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://afcfs.wbdg.org/site-development/index.html
Comply with AF Corporate Standards for Utilities: http://afcfs.wbdg.org/site-development/utilities/index.html

C02.1. Utility Components

☐ Applicable  ☐ N/A  Large graphics do not apply

☐ Applicable  ☐ N/A  Small graphics do not apply

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

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

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

4. Include consideration of appropriate placement of meters in support of Automated Revenue Management Services (ARMS).
5. Limit exterior mechanical distribution systems such as exterior steam, chilled water, and hot water distribution to Group 3 facilities; when required for Group 1 and 2 facilities integrate with the architecture and provide visual screens following IFS.

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

**C03. PARKING AREAS**
Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

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

**C03.1. Configurations and Design**
- Applicable  N/A  Large graphics do not apply
- Applicable  N/A  Select number of graphics / images (small: 250 px x 188 px) to insert  

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.

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

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

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

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

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

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

9. Consider cost-effectively integrating solar photovoltaic arrays into covered parking structures.
10. Reserved parking is discouraged except for Facility Group 1.

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

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

**C03.1.1. Paving and Striping**

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

1. Typical Paving/Striping
**Facility Group 1** paving materials shall be as follows.

Primary: Asphaltic concrete  
Secondary: Concrete  
Accent: Permeable pavers  

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

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

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

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

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

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

1. All new parking lots in Groups 1 and 2 shall be constructed of bituminous pavement or concrete pavement following UFC 3-250-01.

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

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

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

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

**C03.1.2. Curbing**

- **C03.1.2. Curbing**
  - Applicable  
  - N/A

[Insert Curbing graphic]

1. **Barrier Curb**
2. **Mountable Curb**
3. **Header Curb**
**Facility Group 1** curbing / edging materials shall be as follows.
- Primary: Concrete
- Secondary: N/A
- Accent: N/A

**Facility Group 2** curbing / edging materials shall be as follows.
- Primary: Concrete
- Secondary: N/A
- Accent: N/A

**Facility Group 3** curbing / edging materials shall be as follows.
- Primary: Concrete
- Secondary: N/A
- Accent: N/A

**Facility Group 4** curbing / edging materials shall be as follows.
- Primary: Concrete
- Secondary: N/A
- Accent: N/A

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

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

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

### C03.1.3. Internal Islands and Medians

- **Applicable**: Yes
- **N/A**: No

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

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

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

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

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

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

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

C03.3. Connectivity

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

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

2. Provide amenities such as rain and shade shelters, trees, and benches to encourage and facilitate use of public transportation.
3. Evaluate the IDP for the current and planned network of roads and optimally develop vehicular access to and from the site.

**C04. STORMWATER MANAGEMENT**

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

Comply with AF Corporate Standards for Stormwater Management:

**C04.1. Stormwater Requirements**

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

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

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

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

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

4. Provide rainwater harvesting and storage that is attached to the building's roof drain systems to support grey water irrigation; consider winter temperatures in the design.

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


**C05. SIDEWALKS, BIKEWAYS AND TRAILS**

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

Comply with AF Corporate Standards for Sidewalks, Bikeways and Trails:
**C05.1. Circulation and Paving**

- **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.

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 2.1%.

11. Pavers shall conform to the following range of color: gray concrete. Pavers used on walks shall typically be 4"x8" in size. Other sizes and shapes may be approved by Contracting Officer.

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 2

1. Use ramps instead of stairs for sidewalks, bikeways and trails and at all buildings where possible. Where steps are unavoidable, follow UFC 1-200-01 and its references to the International Building Code.
C05.1.2. Lighting

☐ Applicable ☐ N/A  Large graphics do not apply

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

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

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

C06. LANDSCAPE

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

Comply with AF Corporate Standards for Landscape:
http://afcfs.wbdg.org/site-development/landscape/index.html
1. Use only native, naturally occurring, drought tolerant indigenous plant species (including grasses) appropriate for the locale to promote energy efficiency and water conservation, preserve drainage patterns, inhibit erosion, improve air quality, lower maintenance, and add beauty.

C06.1.1. Landscape Design Concept

☐ Applicable  ☑ N/A  Large graphics do not apply

☐ Applicable  ☑ N/A  Small graphics do not apply

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

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

3. Concentrate landscaping in Facility Group 1 and along major thoroughfares and integrate these landscaped areas into the base's stormwater management plan. Refer to the Streetscape Envelope Standards in this IFS.

4. All Facility Group 1 and 4 sites shall be landscaped at their entire perimeter; limit formal planting arrangements to formal spaces typically associated with Group 1. Landscape public spaces near the main entrances of Group 1 facilities.

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

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

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

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

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

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

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

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

13. Berms may be used as an integral part of the overall landscape strategy for screening, security and/or visual interest.
C06.1.2. Xeriscape Design Principles

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

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

C06.1.3. Minimizing Water Requirements

1. Reasonably reduce demand on potable water while seeking opportunities to increase alternative water sources for irrigation. Reduce or eliminate the use of potable/domestic water for purposes of landscape architecture maintenance, consistent with existing legal or contractual obligations, and prohibit potable-water irrigation in new construction beyond establishment following current DoD and Air Force policy.
C06.1.4. Plant Material Selection

☐ Applicable ☐ N/A Large graphics do not apply

☐ Applicable ☐ N/A Small graphics do not apply

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 available from the Base Civil Engineer.

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

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

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

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

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

C06.1.5. Water Budgeting (Hydrozones)

☐ Applicable ☐ N/A Large graphics do not apply

☐ Applicable ☐ N/A Small graphics do not apply

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 Small graphics do not apply

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

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

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.
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

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 stormwater 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

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

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.

C07. SITE FURNISHINGS
Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

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

C07.1. Furnishings and Elements

☐ Applicable ☐ N/A Large graphics do not apply

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

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 furnishings shall be concrete, recycled plastic, or metal with factory applied earth tone colors. Accent colors may be appropriate in select areas as approved by 377MSG/CENE. Group 3 and 4 site furnishings shall be constructed of concrete or 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 match facility architecture.

5. Benches in Groups 1, 2 and 3 shall be metal with factory applied earth tone colors. Accent colors may be appropriate in select areas as approved by 377MSG/CENE. Provide benches constructed of concrete or metal with factory applied earth tone colors in Group 4 and parks. Place seating along walkways, building entries, courtyards and plazas. Place benches on concrete pads or paved surface.

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

7. Limit the use of bollards, but when necessary for force protection use a 6-inch diameter, steel round top bollard as the standard. For force protection use 8-inch diameter, concrete filled, steel pipe. Paint dark brown and apply 3-inch wide yellow and black striped reflective tape around the bollard 6 inches from the top. Feature/accent bollards should be precast concrete with integral beige color to match surrounding facilities. Bollards at the flight line and industrial areas shall be painted safety yellow with reflective beads for high visibility. Illuminated bollards may be used as approved on a case basis.

8. Locate architecturally coordinated containers for recycling, litter, ash, vending, etc., to minimize visual clutter and not visible from the building's main entrance. Minimize the use of freestanding planters.
9. Generally limit picnic tables, barbeque grills and drinking fountains to lodging, dormitories, housing areas, parks and recreation areas following IFS.

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

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

12. Bus shelters shall be provided only where there is a documented need and when approved on a case basis. Generally emulate the designs of adjacent shelters using dark bronze aluminum 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. Use landscaping to soften walls and dumpster enclosures. Split-faced is the standard texture for CMU screens or enclosures. Perforated metal screening with a factory applied finish to be used for utility and equipment areas. Ensure screens are high enough to conceal equipment, vending machines and utilities. Comply with applicable ATFP requirements.

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 constructed with Split face or ribbed CMU. to match adjacent facilities. Height shall be 76” above finish grade. Walls shall have a pointed and integrally colored block top matching block color. Locate dumpster enclosures to minimize visual impact. In high-visibility areas provide factory finished metal gates to screen dumpsters. Concrete slab within the enclosure shall have positive drainage to exterior.

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

20. Group 1, 2 and 3 picnic tables and seating shall be metal with factory applied earth tone colors. Accent colors may be appropriate in select areas as approved by 377MSG/CENE. Group 4 and recreational areas shall have concrete or metal with factory applied earth tone colors picnic tables and seating. Generally limit picnic tables, barbeque grills and drinking fountains to lodging, dormitories, housing areas, parks and recreation areas.

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

22. Provide kiosks only where there is a documented need for visual communication of posted messages. When used, match adjacent facilities in materials and detailing and consolidate kiosks with other site furnishings within 30 feet of major pedestrian paths. Limit kiosks to facility Groups 1 and 2 and parks.

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

C07.2. Site Furnishings Products, Materials and Color
**Note:** Apply the below base-wide standards for Site Furnishings (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.

### C07.2.1. Barbeque Grills

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

**UFGS:** N/A

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

**UFGS:** N/A
### C07.2.2. Benches

<table>
<thead>
<tr>
<th>Type:</th>
<th>Slatted Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>Group 1</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Belson</td>
</tr>
<tr>
<td>Color:</td>
<td>Black</td>
</tr>
<tr>
<td>Finish:</td>
<td>Powder Coat</td>
</tr>
<tr>
<td>Model #:</td>
<td>CBPB-6SB-BK</td>
</tr>
<tr>
<td>Other:</td>
<td>Concrete/Paved Mount</td>
</tr>
</tbody>
</table>

| UFGS: | N/A |

### C07.2.3. Bike Racks

<table>
<thead>
<tr>
<th>Type:</th>
<th>Style 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>Group 1</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Brandir International Inc.</td>
</tr>
<tr>
<td>Color:</td>
<td>Black or Dark Brown</td>
</tr>
<tr>
<td>Finish:</td>
<td>Factory</td>
</tr>
<tr>
<td>Model #:</td>
<td>The Ribbon Bike Rack, RB-07</td>
</tr>
<tr>
<td>Other:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

| UFGS: | N/A |

### C07.2.4. Bike Lockers

<table>
<thead>
<tr>
<th>Type:</th>
<th>N/A</th>
</tr>
</thead>
</table>
### C07.2.5. Bollards

<table>
<thead>
<tr>
<th>Type:</th>
<th><strong>Lighted Round Dome Top</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>☐ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Lithonia Lighting Products</td>
</tr>
<tr>
<td>Color:</td>
<td>Dark bronze</td>
</tr>
<tr>
<td>Finish:</td>
<td>Anodized aluminum</td>
</tr>
<tr>
<td>Model #: KBA</td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td>Flared cone, 3000K LED Lamp</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type:</th>
<th><strong>Force Protection, Building Protection</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>☐ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Custom</td>
</tr>
<tr>
<td>Color:</td>
<td>Dark Bronze</td>
</tr>
<tr>
<td>Finish:</td>
<td>Powder coat</td>
</tr>
<tr>
<td>Model #: 6” steel, flat top</td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td>For Group 3, use only in high visibility areas</td>
</tr>
</tbody>
</table>

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

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

Mfr: (Bollard Cover) Reliance Foundry

Color: Brown cover may be field painted dark bronze

Finish: Factory

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

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

UFGS: N/A

---

**C07.2.6. Bus Shelters**

[ ] Applicable  [ ] N/A  Number of base standards 1

Type: 1

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

Mfr: Custom

Color: Dark Bronze

Finish: Powder coated

Model #: Flat roof

Other: Provide concrete slab and 2 pre-manufactured benches

UFGS: N/A
C07.2.7. Drinking Fountains

Applicable: Yes

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: Yes

Number of base standards: 1

Type: 1: Split Face CMU

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

Mfr: Custom

Color: Dark brown doors

Finish: Split face, 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
**2. Vinyl Fencing**

- **Type:** 2. Vinyl Fencing
- **Applies to:** Group 1, Group 2, Group 3, Group 4
- **Mfr:** Custom
- **Color:** White
- **Finish:** Factory finish
- **Model #:** N/A
- **Other:** For residential trash bins

**UFGS:**

---

**C07.2.9. Fencing**

- **Type:** Style A Barrier: High security, high visibility
- **Applies to:** Group 1, Group 2, Group 3, Group 4
- **Mfr:** Custom
- **Color:** Black or dark bronze
- **Finish:** Powder coated
- **Model #:** Steel posts, rails and pickets (vertical, bent outward at top)
- **Other:** Split Face, beige CMU piers may be used

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

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

Mfr: Custom

Color: Galvanized

Finish: Powder coated galvanized steel

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

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

UFGS: Section 32 31 13 Chain Link Fences and Gates

---

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

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

Mfr: James Hardie Building Products, Inc.

Color: Off white and Earth tones

Finish: Factory

Model #: Post and rail with vertical boards

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

UFGS: Not Available (SECTION 074646 Fiber Cement Siding)
C07.2.10. Flagpoles

Type: **Style 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

Type: **Style 1: Precast concrete**

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,  

UFGS: N/A
### Litter / Ash Recepticle

<table>
<thead>
<tr>
<th>Type:</th>
<th>Style 2: Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mfr:</td>
<td>Wabash Valley</td>
</tr>
<tr>
<td>Color:</td>
<td>Black or as approved</td>
</tr>
<tr>
<td>Finish:</td>
<td>Powder Coated</td>
</tr>
<tr>
<td>Model #:</td>
<td>Urbanscape “J” with liner, 32 Gallon</td>
</tr>
<tr>
<td>Other:</td>
<td>Flat Top</td>
</tr>
<tr>
<td>UFGS:</td>
<td>N/A</td>
</tr>
</tbody>
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### Picnic Tables

<table>
<thead>
<tr>
<th>Type:</th>
<th>Metal, vinyl coated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mfr:</td>
<td>Wabash Valley</td>
</tr>
<tr>
<td>Color:</td>
<td>Brown or as approved</td>
</tr>
<tr>
<td>Finish:</td>
<td>Factory vinyl coated</td>
</tr>
<tr>
<td>Model #:</td>
<td>Tables with Bench Seats</td>
</tr>
<tr>
<td>Other:</td>
<td>Perforated Pattern, In-ground mount</td>
</tr>
<tr>
<td>UFGS:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**C07.2.13. Picnic Tables**

- Applicable: Yes
- Number of base standards: 1
- Image Tool: 250 x 188
### C07.2.14. Planters

<table>
<thead>
<tr>
<th>Type:</th>
<th>Precast concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>□ Group 1 □ Group 2 □ Group 3 □ Group 4 □ Other</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Materials, Inc.</td>
</tr>
<tr>
<td>Color:</td>
<td>Weatherstone Gray</td>
</tr>
<tr>
<td>Finish:</td>
<td>Smooth</td>
</tr>
<tr>
<td>Model #:</td>
<td>Santa Fe</td>
</tr>
<tr>
<td>Other:</td>
<td><a href="http://materialsinc.com/wp-content/uploads/2017/07/SANTA_FE_PLANTERS.pdf">Link to PDF</a></td>
</tr>
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</table>

### C07.2.15. Play Equipment

<table>
<thead>
<tr>
<th>Type:</th>
<th>Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>□ Group 1 □ Group 2 □ Group 3 □ Group 4 □ Other</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Little Tikes Commercial</td>
</tr>
<tr>
<td>Color:</td>
<td>Varies</td>
</tr>
<tr>
<td>Finish:</td>
<td>Powdercoated Steel</td>
</tr>
<tr>
<td>Model #:</td>
<td>N-R-G Freestyle</td>
</tr>
<tr>
<td>Other:</td>
<td>Coordinate with Base Architect</td>
</tr>
</tbody>
</table>

| UFGS: | N/A |
C07.2.16. Screen Walls

- **Type:** CMU Walls
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr:** Custom
- **Color:** Earth Tones
- **Finish:** Split Face CMU
- **Model #:** CMU
- **Other:** N/A

UFGS: Section 04 20 00 Unit Masonry

C07.2.17. Tree Grates

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

UFGS: N/A

C07.2.18. Other

- **Applicable:**
- **N/A:**
C08. EXTERIOR SIGNS

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

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

C08.1. Colors and Types

☐ Applicable  ☐ N/A Large graphics do not apply

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

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

Standard Building Sign

Custom Building Sign

Monument Sign

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

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

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

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

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

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

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

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

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

10. Provide Directional and Wayfinding Signs and address both pedestrian and vehicular traffic following UFC 3-120-01 for size, layout and content.
11. Reserved parking signs should be kept to a minimum. When approved, provide post-mounted sign faces in base standard materials and colors. Consider “bracketing” a designated area with a single sign at each end.

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

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

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

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

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

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

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

### C08.1.1. Materials and Color Specifications

[ ] Applicable  [ ] N/A  Large graphics do not apply

[ ] Applicable  [ ] N/A  Small graphics do not apply

1. Exterior Regulatory Signs: Fabricate sign panels from 0.08 inch high grade aluminum allow, 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"x2" square hot dipped galvanized perforated steel posts, preferably powder coated anodized bronze. Sign posts shall be set in an 18" long by 2.5" galvanized perforated breakaway sleeve set in a 12"x24" concrete footing, with 3" of the sleeve above grade (2"x2" 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

---

**Typical Sign Fce**

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

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

---

**Typical Sign Post**

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

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

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

**Mfr:** Custom

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

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

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

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

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

**Applicable**
- ✔ Yes
- ☐ No
- ☐ NA

**Number of base standards** 5

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freestanding Primary Sign (Sizes and Uses per UFC)</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Mfr:** Custom

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

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

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

**Other:** Provide layout and sizes per UFC.

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

---

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freestanding Secondary Sign (Sizes and Uses per UFC)</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

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

- **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

Wall Mounted

- **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
### Glass Mounted

<table>
<thead>
<tr>
<th>Type: Glass Mounted</th>
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<tbody>
<tr>
<td>Applies to: Group 1</td>
</tr>
<tr>
<td>Mfr: Custom</td>
</tr>
<tr>
<td>Color: White vinyl lettering</td>
</tr>
<tr>
<td>Finish: Matte vinyl</td>
</tr>
<tr>
<td>Model #: Machine-cut sheet vinyl</td>
</tr>
<tr>
<td>Other: Apply vinyl lettering to glass. Provide sizes following UFC.</td>
</tr>
<tr>
<td>UFGS: N/A</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Applicable</th>
<th>N/A</th>
<th>Number of base standards 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image Tool 250 x 188</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type: Street Signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to: Group 1</td>
</tr>
<tr>
<td>Mfr: Custom</td>
</tr>
<tr>
<td>Color: White reflective lettering on a Standard Brown background</td>
</tr>
<tr>
<td>Finish: Powder coat or vinyl sign face</td>
</tr>
<tr>
<td>Model #: Aluminum sign face, control arm or pole mounted</td>
</tr>
<tr>
<td>Other: Mount 7' above grade minimum, pictographs and logos are prohibited on street name signs per UFC.</td>
</tr>
<tr>
<td>UFGS: Section 05 50 13 Miscellaneous Metal Fabrications</td>
</tr>
</tbody>
</table>
C08.1.5. Directional and Wayfinding Signs

Type: Vehicular

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

Mfr: Custom

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

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

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

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

Type: Pedestrian

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

Mfr: Custom

Color: Medium brown face, dark bronze posts

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

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

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

C08.1.6. Informational Signs

□ Applicable □ N/A Large graphics do not apply

□ Applicable □ N/A Small graphics do not apply

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

2. Static display signs shall have standard medium brown face, dark bronze posts, and white vinyl lettering.

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

C08.1.7. Motivational Signage

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

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

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

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

4. Mount marquee signs on reinforced concrete bases with a natural warm gray color.

C08.1.8. Parking Lot Signs

- Applicable  N/A

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.

C08.1.9. Regulatory Signs

- Applicable  N/A

1. Provide, coordinate and efficiently install street, parking lot, sidewalk and facility lighting with appropriate luminaires, lamping, placement and spacing following UFC 3-530-01 and Installation Facilities Standards (IFS); ensure the level of quality is consistent with the adjacent facility group number. Pole-mounted, wall-mounted and bollard fixtures are permitted.

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

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

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

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

6. Calculate illuminant levels for all lighting applications following UFC 3-530-01 and ensure compliance with precurfew maximum brightness level requirements.
7. Sufficiently address environmental factors to prevent corrosion and weathering of fixtures, plinths and other components.

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

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

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

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

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

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

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

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

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

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

C08.1.10. Other

☐ Applicable ☐ N/A

C09. LIGHTING

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

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

- Provide, coordinate and efficiently install street, parking lot, sidewalk and facility lighting with appropriate luminaires, lamping, placement and spacing following UFC 3-530-01 and Installation Facilities Standards (IFS); ensure the level of quality is consistent with the adjacent facility group number. Pole-mounted, wall-mounted and bollard fixtures are permitted.

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

- 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.

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

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

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

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

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

- 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.

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

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

- Install lighted bollards only at Group 1 and high-traffic Group 2 facilities. Generally match materials, colors and shapes of adjacent facilities and the facility district.
13. Install natural warm gray color, smooth finished concrete bases for all poles in heights appropriate for the facility group and application. Generally Groups 1, 2 and 4 shall have at-grade bases. Group 3 shall have taller bases for added durability.

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

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

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

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

C09.2. Light Fixture Types

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

**C09.2.1. Street Lighting**

- **Type:** Style 1
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Hubbell, Kim Lighting
- **Color:** Dark Bronze Anodized (or Clear Anodized as approved by BCE)
- **Finish:** Factory
- **Model #:** Rectilinear Cutoff, Single Arm or Dual Arm Mount
- **Other:** Lamp: LED. Follow manufacturer’s recommendations for fixture base.
- **UFGS:** N/A
## C09.2.2. Parking Lot Lighting

- **Type:** Parking Lot Style 1
- **Applies to:** Group 1, Group 2, Group 3, Other
- **Mfr:** Hubbell, Kim Lighting
- **Color:** Dark Bronze Anodized (or Clear Anodized as approved by BCE)
- **Finish:** Factory
- **Model #:** Rectilinear or Round Cutoff, Single Arm or Dual Arm Mount
- **Other:** Lamp: LED. Follow manufacturer’s recommendations for fixture base.

### UFGS:
- N/A

---

## Type: Parking Lot Fixture Base

- **Applies to:** Group 1, Group 2, Group 3, 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**: Yes
- **Mfr**: Lithonia Lighting Products
- **Color**: Dark Bronze
- **Finish**: Anodized aluminum
- **Model #**: KBA
- **Other**: Flared cone, 3000K LED Lamp. Follow manufacturer's recommendations for fixture base.

C09.2.4. Sidewalk Lighting

- **Applicable**: Yes
- **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.
C09.2.5. Walls / Stairs Lighting

Type: **Style 1**

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

Mfr: Vista Lighting

Color: Dark bronze anodized

Finish: Smooth

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

Other: Lamp: LED

UFGS: N/A

C09.2.6. Other

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

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

- Applicable  N/A  Small graphics do not apply

---

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

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

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

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

Insert 3 photos for each facility group.

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.

D03.2. Architectural Character


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

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

4. Reinforce the campus environment theme and educational theme with a related architectural theme expressive of innovation and technology that represents the current Air Force Global Strike mission.

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 unless specified otherwise.

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

7. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.
D03.3.1. Climate-based Data and Life-Cycle Cost-Effective Passive and Natural Design Strategies:

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

Other: 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

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

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

### D03.3.3. Thermal Mass

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

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

Type: **Style 1 Wall Devices**

Appplies 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

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

Appplies 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://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Building Entrances:

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

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

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

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

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

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

6. Protect entrances from direct sun. North-facing entrances are preferred.

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

D04.2. Secondary Entrances

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

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

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

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

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

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

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

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

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

Comply with AF Corporate Standards for Doors and Windows:

Comply with AFCFS Recommended Materials:

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

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

2. Group 2 facilities shall be predominantly CMU or traditional 3-coat stucco system with control joints that accentuate architectural features; architectural precast may be used as an accent material. Refer to the Appendix for special requirements of Facility Districts.

3. Group 3 facilities shall be predominantly insulated Flat Metal Panel wall systems with accents of CMU. CMU construction is preferred to wood frame construction due to possible termite exposure.

4. Group 4 wall systems shall be a traditional 3-coat stucco system. CMU construction is preferred to wood frame construction due to possible termite exposure.

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

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

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

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

9. 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.

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

D05.2. Layout, Organization and Durability

1. Organize wall components including doors, windows, accents, shading devices, control joints, etc., to provide an ordered, professional appearance.

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

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

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

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

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

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

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

9. Refer to D07. Roofs for downspouts.

D05.3. Equipment, Vents and Devices

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

2. Do not expose conduits, cables, piping, lightning protection components, etc. on exterior walls; if unavoidable in renovations, finish these elements to match the adjacent wall surface.
3. Avoid visual clutter and where surface-mounted elements are required they shall match the wall color.

**D05.4 Wall Systems Materials**

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

Primary: CMU or Flat Metal Panels  
Secondary: Cast-in-place Concrete  
Accent: Alternate coursing and relief

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

Primary: 3-Coat Cementitious Stucco  
Secondary: Architectural precast  
Accent: Cast-in-Place Concrete or Flat Metal Panels

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

Primary: Ribbed metal sheeting  
Secondary: Ribbed Metal Sheeting in Alternate Color or CMU  
Accent: CMU

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

Primary: Stucco Over Sheathing or Fiber Cement Siding  
Secondary: Fiber Cement Siding, Trim Boards  
Accent: CMU

**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 3

<table>
<thead>
<tr>
<th>Type:</th>
<th>Insulated Metal Panel System - Kynar Finish, Light</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>[ ] Group 1  [ ] Group 2  [ ] Group 3  [ ] Group 4  [ ] Other</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Metl-Span</td>
</tr>
<tr>
<td>Model #:</td>
<td>CF Santa Fe Insulated Metal Wall System</td>
</tr>
<tr>
<td>Color:</td>
<td>Off-white</td>
</tr>
<tr>
<td>Finish:</td>
<td>Heavy stucco-embossed</td>
</tr>
<tr>
<td>Other:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

UFGS:  
Section 07 42 13 Metal Wall Panels:  
Section 07 42 63 Fabricated Wall Panel Assemblies:  
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 63.pdf
**Insulated Metal Panel System - Kynar Finish, Dark**

*Type:* Insulated Metal Panel System - Kynar Finish, Dark

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

*Mfr:* Metl-Span

*Model #:* CF Santa Fe Insulated Metal Wall System

*Color:* Medium Bronze

*Finish:* Heavy stucco-embossed

*Other:* N/A

*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

**Flat Seam Panel - Weathering Steel**

*Type:* Flat Seam Panel - Weathering Steel

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

*Mfr:* US Steel

*Model #:* Flat-seam cladding

*Color:* Natural weathered steel

*Finish:* Natural

*Other:* N/A

*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: Yes  N/A  Number of base standards: 1

Type: Coursed precast

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

Mfr: Local, TBD

Model #: Smooth Casting

Color: Light Beige

Finish: Very Light texture

Other: N/A

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

D05.4.4. Stucco Over Sheathing

Applicable: Yes  N/A  Number of base standards: 1

Type: 3-Coat Cementitious Stucco

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

Mfr: La Habra

Model #: Traditional 3-coat system

Color: Beige

Finish: Sand

Other: Accent color may be used

UFGS: Section 09 24 23 Cement Stucco:

D05.4.5. Curtain Wall

Applicable: Yes  N/A
D05.4.6. Cast-In-Place Concrete

Type: Board-Formed or Sheet-Formed Bearing Walls

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

Mfr: Custom

Model #: Rough-sawn dimensional lumber or liner forming

Color: Natural gray concrete

Finish: Board-formed or liner-formed texture exposed

Other: Board-formed texture has no exposed form ties

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

D05.4.7. Tilt-Up Concrete

D05.4.8. Ribbed Metal Sheeting

Type: Lap Seam

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

Mfr: TBD

Model #: Lap Seam Panel

Color: Beige

Finish: Embossed Texture, factory finished

Other: 24 Gauge Steel


D05.4.9. EFIS
D05.4.10. GRFC

☐ Applicable  ☐ N/A

D05.4.11. Concrete Block

☐ Applicable  ☐ N/A  Number of base standards 2

Type: Concrete Masonry Unit (CMU) Split Face

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

Mfr: Local TBD

Model #: 8x8x16 nominal, face and corner units

Color: Light or medium beige

Finish: Heavy Texture

Other: N/A

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

Type: Concrete Masonry Unit (CMU) Ground Face

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

Mfr: Local TBD

Model #: 8x8x16 nominal, face and corner units

Color: Light or medium beige

Finish: Ground with exposed aggregate

Other: Confirm class of system with the BCE

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

- **Type:** Style 1
- **Applies to:** Group 1, Group 2, Group 3, Group 4
- **Mfr:** James Hardie Building Products, Inc. or Allura
- **Model #:** Horizontal Lap Siding, Smooth Lap
- **Color:** Earth Tones
- **Finish:** Smooth
- **Other:** Hardie Plank and manufactured units. Finished edges

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

### D05.4.13. Other

- **Aplicable**

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**Kirtland Air Force Base IFS**

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D06. DOORS AND WINDOWS

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

Comply with AF Corporate Standards for Doors and Windows:

Comply with AFCFS Recommended Materials:

Insert 3 photos for each facility group.

---

Group 1

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Group 2

---

Group 3

---

Group 4
D06.1. Types
1. Clear anodized aluminum doors, windows and frames with thermal breaks are preferred for Facility Groups 1-3 because they show less wear and weathering than dark anodized finishes; match the color of the door and frame. For renovation projects the color of new windows, doors and frames may match 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 to any application in Group 3 facilities.

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

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

8. Windows must meet force protection requirements.

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

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

D06.2. Layout and Geometry
1. Visually and functionally compose openings in walls for the climate-specific exposure.

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

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

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

D06.3. Glazing and Shading
1. Tinted, energy-efficient, low-e, double-pane glazing is encouraged; provide triple-pane glazing in extreme environments.

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

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

4. Do not use mirrored glazing.

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

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

D06.4. Hardware
1. Provide hardware appropriate for the Facility Group while considering activity and frequency of use and local climate; hardware may be of higher visual quality for Facility Group 1.

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

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

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

D06.5. Doors and Windows Materials

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

**D06.5.1. Anodized Aluminum**

- **Type:** Anodized Aluminum Doors, Windows and Frames
- **Mfr:** Kawneer (or equivalent)
- **Color:** Natural aluminum
- **Finish:** Clear anodized aluminum
- **Model #:** 2x4, thermally broken framing
- **Other:** Group 1 may use larger openings with larger framing sections

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

- **Type:** Hollow Metal Doors, Windows and Frames
- **Applies to:** [ ] Group 1, [x] Group 2, [x] Group 3, [ ] Group 4, [ ] Other
- **Mfr:** Steelcraft
- **Color:** Medium Bronze
- **Finish:** Powder Coated, Satin
- **Model #:** 2x4, thermally broken framing
- **Other:** Group 1 use only for secondary entrances or emergency egress


### D06.5.3. Aluminum-clad Wood

- **Type:** Aluminum-clad Residential
- **Applies to:** [ ] Group 1, [ ] Group 2, [x] Group 3, [x] Group 4, [ ] Other
- **Mfr:** Marvin
- **Color:** White or light Earth tones
- **Finish:** Powder coated, satin
- **Model #:** Aluminum-clad wood doors and windows
- **Other:** Double hung windows

**UFGS:** Section 08 14 00 Wood Doors: [http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 14 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 14 00.pdf)

### D06.5.4. Other

- **Type:** N/A
- **Applies to:** [ ] Group 1, [ ] Group 2, [ ] Group 3, [ ] Group 4, [ ] Other

**UFGS:** N/A
D07. ROOF SYSTEMS

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

Comply with AF Corporate Standards for Roof Systems:

Comply with AFCFS Recommended Materials:

Insert 3 photos for each facility group.

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 sloped standing seam metal roofs. Group 3 facilities shall use sloped mechanically-seamed batten metal roofing. Minimal-sloped roofs may be used as approved on a case basis.

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

5. Group 2 and 3 facilities under 5,000 sf and narrow in plan geometry, may use low-sloped shed, gabled or hipped standing seam metal roofs. Larger facilities may use sloped-roof features in conjunction with predominantly minimal-sloped “flat” membrane roofs.

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

7. 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.

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

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

10. Keep roofs uncluttered and minimize penetrations.

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

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

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

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

15. Do not use ballasted EPDM or single membrane roofs.

D07.2. Roof Slope

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

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

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

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

5. Provide roof slopes to accommodate solar photovoltaic, solar thermal, passive systems and daylighting when applicable following UFC 1-200-02. Group 3 facility with large expansive roof areas are encouraged photovoltaic arrays.

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 contrast the wall. Ensure copings are properly flashed and detailed to avoid roof leaks.

**D07.4. Color and Reflectivity**

1. Sloped roofs in Groups 1 and 2 and smaller facilities in Group 3 shall be off-white 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. For building additions match the color of existing roof.

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

6. 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 fascia shall match the roof color.

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 Kynar-500 finishes in Cambridge White or Barista.

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.

**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. Minimize roof-mounted antenna systems.

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

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

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

12. Permanent fall protection will be considered with any new or addition to a roof with a slope above 3:12 per UFC 3-110-03.

**D07.7. Clerestories and Skylights**

1. Translucent panelized wall system clerestories and tubular daylight-type skylights are permitted in Group 1, 2 and 3 facilities. These are allowed in Group 3 facilities only when serving passive systems and are justifiable by life-cycle cost analysis.

2. Clerestories are preferred to skylights to avoid roof penetrations. Skylights, when permitted, must be simple in shape and integrated with the roof system to eliminate leakage.

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

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

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

**D07.8. Vegetated Roof**

1. Vegetated roofs are encouraged when they can be sustained with low maintenance, without potable irrigation systems and when they provide energy savings.

2. Use of a vegetative roof should include a maintenance contract for unique requirements.

3. Ensure that a vegetated roof is appropriate for the specific application and climate zone and where justifiable by life-cycle analysis.

4. Provide walking paths and pads for access and maintenance.

5. Do not use vegetative roofs near flightlines.

**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: Yes  N/A  Number of base standards: 4

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

UFGS: Section 07 61 14 Steel Standing Seam Roofing

<table>
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<tr>
<th>Type: Style 2</th>
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</thead>
<tbody>
<tr>
<td>Applies to: Group 1  Group 2  Group 3  Other</td>
</tr>
<tr>
<td>Mfr: ATAS International, Inc.</td>
</tr>
<tr>
<td>Color: Chocolate Brown</td>
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<tr>
<td>Finish: Kynar 500/Hylar 5000</td>
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<tr>
<td>Model #: Field Lok 2&quot; Seam</td>
</tr>
<tr>
<td>Other: Shed, gabled or hipped standing seam metal</td>
</tr>
</tbody>
</table>

UFGS: Section 07 61 14 Steel Standing Seam Roofing
Type: **Style 3**

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

Mfr: Englert

Color: Mansard Brown

Finish: Ultra Cool Low Gloss

Model #: S25000 Mechanically Seamed, 90 Degree seam, No Ribs

Other:

UFGS:  Section 07 61 14 Steel Standing Seam Roofing

Type: **Style 4**

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

Mfr: Fabral

Color: Mansard Brown

Finish: Kynar 500/Hylar 5000

Model #: Stan N’ Seam

Other:

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

- **Type:** Style 1
- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr:** GAF
- **Color:** White
- **Finish:** Smooth
- **Model #:** PVC TPO single-ply, “flat” minimal slope 60MM minimum
- **Other:** Fastening: Fully adhered

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

---

**D07.9.3. Built-up Multi-ply**

- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr:** Johns Manville
- **Color:** White
- **Finish:** Smooth
- **Model #:** PVC TPO single-ply, “flat” minimal slope 60MM minimum
- **Other:** Fastening: Fully adhered

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

---

**D07.9.4. Concrete Tile**

- **Applies to:**
  - Group 1
  - Group 2
  - Group 3
  - Group 4
  - Other
- **Mfr:** N/A
- **Color:** N/A
- **Finish:** N/A
- **Model #:** N/A
- **Other:** N/A

**UFGS:**
- Section 07 53 23 Ethylene-Propylene-Diene-Monomer Roofing
- Section 07 54 50 TPO Thermoplastic Single-Ply Roofing
  - (Not Available on UFGS)
### D07.9.5. Clay Tile

- Applicable: Yes
- N/A: No

### D07.9.6. Slate Shingles

- Applicable: Yes
- N/A: No

### D07.9.7. Vegetated System

- Applicable: Yes
- N/A: No

Number of base standards: 1

#### Type:
- **Living Roof**

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

#### Mfr:
- TBD

#### Color:
- Native Plants

#### Finish:
- Low Height plants

#### Model #:

#### Other:

#### UFGS:
- Section 32 97 00 Vegetated Roof Assemblies
- (Not Available on UFGS)

---

**Image Tool 250 x 188**

**Recommended Image:**

Detail of Vegetated Roof

Size image to:
- 250 pixels width x 188 pixels height

Click here to insert image
D07.9.8. Ribbed Metal Sheeting

Type: **Style 1**

- Applies to: [ ] Group 1  [ ] Group 2  [ ] Group 3  [ ] Group 4  [ ] Other
- Mfr: Berridge
- Color: Light beige or galvalume
- Finish: Factory, matte
- Model #: High Seam Tee-Panel
- Other: Mechanically seamed system, 24 gauge steel, Width: 16" Batten height: 1-3/4"

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

---

D07.9.9. Composite Shingles

Type: **Style 1**

- Applies to: [ ] Group 1  [ ] Group 2  [ ] Group 3  [ ] Group 4  [ ] Other
- Mfr: Tamko
- Color: Earth Tones
- Finish: Factory
- Model #: Heritage
- Other: Gabled or hipped with transverse gable or hipped features

UFGS: Section 07 31 13 Glass-fiber-reinforced Asphalt Shingles

---

D07.9.10. Other

- Applicable [ ]  N/A [ ]

---
D08. STRUCTURAL SYSTEMS

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

Comply with AF Corporate Standards for Structural Systems:

Comply with AFCFS Recommended Materials:

Insert 3 photos for each facility group.

Group 1

Group 2

Group 3

Group 4
D08.1. Systems and Layouts

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

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

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

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

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

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

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

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

D08.2. Structural Systems Materials

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

### D08.2.1. Concrete

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

<table>
<thead>
<tr>
<th>Type:</th>
<th>Cast-In-Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>Group 1, Group 2, Group 3, Group 4, Other</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Custom</td>
</tr>
<tr>
<td>Color:</td>
<td>Natural gray</td>
</tr>
<tr>
<td>Finish:</td>
<td>Light texture</td>
</tr>
<tr>
<td>Model #:</td>
<td>Post and beam and/or waffle slab</td>
</tr>
<tr>
<td>Other:</td>
<td>Coordinate with mechanical for chilled beam technologies</td>
</tr>
</tbody>
</table>

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

---

Kirtland Air Force Base IFS

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Back to Table of Contents
### D08.2.2. Insulated Concrete Forming (ICF)

- **Applicable**: Yes
- **N/A**: No

### D08.2.3. Steel

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

<table>
<thead>
<tr>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>Mfr:</td>
<td>US Steel</td>
</tr>
<tr>
<td>Color:</td>
<td>Shop primed</td>
</tr>
<tr>
<td>Finish:</td>
<td>Matte</td>
</tr>
<tr>
<td>Model #:</td>
<td>Structural steel shapes</td>
</tr>
<tr>
<td>Other:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**UFGS:** Section 05 12 00 Structural Steel  
[http://www.wbdg.org/FFC/DOD/UFGS/UFGS 05 12 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 05 12 00.pdf)

### D08.2.4. Pre-Engineered Steel

- **Applicable**: Yes
- **N/A**: No

<table>
<thead>
<tr>
<th>Type</th>
<th>Moment Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mfr:</td>
<td>Behlen Building Systems</td>
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<tr>
<td>Color:</td>
<td>Factory primed</td>
</tr>
<tr>
<td>Finish:</td>
<td>Matte</td>
</tr>
<tr>
<td>Model #:</td>
<td>Moment Frame</td>
</tr>
<tr>
<td>Other:</td>
<td>Draped insulation may be used behind wall finish system; Behlen standing seam roof system may be used for Group 3</td>
</tr>
</tbody>
</table>

**UFGS:** Section 13 12 00 Steel Building Systems  
Section 13 34 19 Metal Building Systems  
### D08.2.5. Masonry
- Applicable: Yes
- N/A: No

### D08.2.6. Heavy Timber
- Applicable: Yes
- N/A: No

### D08.2.7. Light-gauge Steel
- Applicable: Yes
- N/A: No

#### Number of base standards 1

#### Type: **Steel Framing**

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

#### Mfr:
- Steelrite

#### Color:
- Factory

#### Finish:
- Galvanized

#### Model #:
- Structural framing shapes

#### Other:
- N/A

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

### D08.2.8. Lumber Framing
- Applicable: Yes
- N/A: No

### D08.2.9. Other
- Applicable: Yes
- N/A: No
D09. MECHANICAL, ELECTRICAL AND PLUMBING

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

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

Insert 3 photos for each facility group.

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 CE) to main mechanical and electrical rooms.

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

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

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

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

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

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

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

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

11. Separate mechanical and electrical and communications rooms.

12. Integrate recessed and wall-mounted fixtures such as fire standpipe cabinets and drinking fountains within permanent walls.
E. FACILITIES INTERIORS

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

Insert 3 photos for each facility group.

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

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

Recommended Image:
Interior detail
Size image to: 250 pixels width x 188 pixels height
Click here to insert image
E01. Building Configurations
Comply with Air Force Corporate Standards for Building Configurations:

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

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

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

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

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


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

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

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

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

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

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

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

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

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

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

4. Proportion lobbies and common spaces based on type of function, activity and facility group.
5. Allow no direct sight lines into restrooms.

6. Situate utility and core areas to minimize impact on daylighting and to maximize use as thermal buffers.

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

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

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

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

**E01.1.1. Interior Design Process**

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

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

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

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

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

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

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

8. SID Format shall follow HQ AFCEC standards.

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

**E01.1.2. Codes and Regulations**

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

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

3. National Fire Protection Association (NFPA) 101 must be utilized to determine the occupancy classification as it relates to fire/smoke resistance rating of interior non-load bearing partitions (other than occupancy separation), means of egress, interior finish, features of fire protection (including vertical openings) and associated requirements.
E01.2. Quality and Comfort

Comply with Air Force Corporate Standards for Quality and Comfort:

1. Include durability in the life cycle cost analysis for best-value material selections with long life expectancies that do not show excessive wearing.

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

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

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

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

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

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

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


E02. Floors

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

E02.1. Floor Materials

Facility Group 1 floor materials shall be as follows.

Primary: Prepared Slabs (Ground, Polished)
Secondary: Porcelain tile
Tertiary: Carpet, Rubber Stair Treads

Facility Group 2 floor materials shall be as follows.

Primary: Prepared Slabs (Ground, Polished)
Secondary: Ceramic tile
Tertiary: Carpet, Rubber Stair Treads

Facility Group 3 floor materials shall be as follows.

Primary: Prepared Slabs (Ground)
Secondary: Prepared Slabs (Sealer)
Tertiary: N/A

Facility Group 4 floor materials shall be as follows.

Primary: Carpet
Secondary: Ceramic tile
Tertiary: N/A

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

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

3. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.
**E02.1.1. Prepared Slabs**

- **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)

---

**E02.1.2. Natural Stone and Terrazzo**

- **Type:** Finished Concrete
- **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)
E02.1.3. Quarry Tile

- **Type:** Style 1
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Daltile
- **Color:** Earth tones
- **Finish:** Matte, slip resistant
- **Model #:** N/A
- **Other:** Use in commercial kitchen flooring.

**UFGS:** Section 09 30 10 Ceramic, Quarry, and Glass Tiling

---

E02.1.4. Ceramic Tile

- **Type:** Style 1 Porcelain
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Daltile
- **Color:** Earth tones
- **Finish:** Matte, slip resistant
- **Model #:** Porcelain tile
- **Other:** Use in high traffic areas. Epoxy grout is recommended.

**UFGS:** Section 09 30 10 Ceramic, Quarry, and Glass Tiling
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

---

**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: Carpet Tile**

- 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: Rolled Carpet**

- 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

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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://afcf.s.wbdg.org/facilities-interiors/walls/index.html

E03.1. Wall Materials

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

- **Primary:** Brick (or other as approved by the BCE)
- **Secondary:** Gypsum board (painted)
- **Tertiary:** Ceramic tile (restrooms)

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

- **Primary:** Brick
- **Secondary:** Gypsum board (painted)
- **Tertiary:** Ceramic tile (restrooms)

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

- **Primary:** Ground face block, sealed (do not paint)
- **Secondary:** N/A
- **Tertiary:** Ceramic tile (restrooms)

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

- **Primary:** Gypsum board (painted)
- **Secondary:** N/A
- **Tertiary:** Ceramic tile (restrooms)

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

2. Select and apply paint with sheens (gloss levels) appropriate for the application following UFGS Section 09 90 00 Paints and Coatings.

3. Provide ceramic tile on wet walls of kitchens, toilet rooms, locker rooms, etc., in all facility groups.

4. Neutral split-face or ground-face integrally colored block with a clear sealer may be used in Group 3. Do not paint block.

5. Provide rubber base on drywall partitions in Groups 1 and 2.

6. Hardwood base may only be used in Group 1 as approved on a case basis.

7. Hardwood chair rails / bumper rails may be used in high-use areas of Groups 1 and 2; aqueous clear finishes are preferred to reduce maintenance; plastic chair rails are permitted only in medical applications.

8. Decorative moldings may be used only in Group 1 when approved on a case basis.

9. Corner guards are permitted only in high traffic spaces with wheeled or cart use such as private service areas in Groups 1 and 2; stainless steel corners guards with a brushed finish may be judiciously used in Group 3.

10. Group 4 may use painted composite wood base.

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

**Note:** Apply the below base-wide standards for Walls (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.
E03.1.1. Concrete
☐ Applicable  ☐ N/A

E03.1.2. Masonry
☐ Applicable  ☐ N/A

Number of base standards 1

<table>
<thead>
<tr>
<th>Type:</th>
<th>Modular Face Brick</th>
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<td>☐ Group 1  ☐ Group 2  ☐ Group 3  ☐ Group 4  ☐ Other</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Local (TBD)</td>
</tr>
<tr>
<td>Color:</td>
<td>Earth Tones or Gray</td>
</tr>
<tr>
<td>Finish:</td>
<td>Light texture</td>
</tr>
<tr>
<td>Model #:</td>
<td>Coursed unit masonry</td>
</tr>
<tr>
<td>Other:</td>
<td>Brick is preferred. Concrete block may only be used in Group 3 when approved by the CENE.</td>
</tr>
</tbody>
</table>

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

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E03.1.3. Ceramic Tile
☐ Applicable  ☐ N/A

Number of base standards 1

<table>
<thead>
<tr>
<th>Type:</th>
<th>Style 1</th>
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<tbody>
<tr>
<td>Applies to:</td>
<td>☐ Group 1  ☐ Group 2  ☐ Group 3  ☐ Group 4  ☐ Other</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Daltile</td>
</tr>
<tr>
<td>Color:</td>
<td>Earth tones</td>
</tr>
<tr>
<td>Finish:</td>
<td>Gloss, Semi-gloss</td>
</tr>
<tr>
<td>Model #:</td>
<td>Ceramic wall tile</td>
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<tr>
<td>Other:</td>
<td>Located on wet walls in restrooms</td>
</tr>
</tbody>
</table>

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling
### E03.1.4. Gypsum Board

- **Type:** Style 1  
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other  
- **Mfr:** US Gypsum  
- **Color:** Solid Earth tone colors  
- **Finish:** Paint (Sheen per UFGS)  
- **Model #** Tapered edge  
- **Other:** Finished to Level 4  

UFGS: Section 09 29 00 Gypsum Board  
[http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 29 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 29 00.pdf)  
Section 09 90 00 Paints and Coatings  
[http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 90 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 90 00.pdf)

### 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:  
Facility Group 1 ceiling materials shall be as follows.

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

Facility Group 2 ceiling materials shall be as follows.

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

Facility Group 3 ceiling materials shall be as follows.

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

Facility Group 4 ceiling materials shall be as follows.

Primary: Gypsum board (painted)
Secondary: N/A
Tertiary: N/A

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

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

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

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

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

Applicable ☑ N/A Number of base standards 1

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: ☐

<table>
<thead>
<tr>
<th>Type: Style 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
</tr>
<tr>
<td>■ Group 1</td>
</tr>
<tr>
<td>■ Group 2</td>
</tr>
<tr>
<td>■ Group 3</td>
</tr>
<tr>
<td>□ Group 4</td>
</tr>
<tr>
<td>□ Other</td>
</tr>
<tr>
<td>Mfr: Armstrong</td>
</tr>
<tr>
<td>Color: White</td>
</tr>
<tr>
<td>Finish: Factory</td>
</tr>
<tr>
<td>Model #: 2'x2' Tegular with reveal edge and fine texture, grid 15/16”</td>
</tr>
<tr>
<td>Other: Performance characteristics are Class A; NRC-0.70; CAC-40; LR-0.86; minimum recycled content 82%.</td>
</tr>
</tbody>
</table>

- UFGS: Section 09 51 00 Acoustical Ceilings
  [http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 51 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 51 00.pdf)

### E04.1.4. Gypsum Board

- Applicable: ☑
- N/A: ☐

<table>
<thead>
<tr>
<th>Type: Style 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
</tr>
<tr>
<td>■ Group 1</td>
</tr>
<tr>
<td>■ Group 2</td>
</tr>
<tr>
<td>■ Group 3</td>
</tr>
<tr>
<td>□ Group 4</td>
</tr>
<tr>
<td>□ Other</td>
</tr>
<tr>
<td>Mfr: US Gypsum</td>
</tr>
<tr>
<td>Color: Solid neutral colors</td>
</tr>
<tr>
<td>Finish: Paint (sheen per UFGS)</td>
</tr>
<tr>
<td>Model #: Tapered edge</td>
</tr>
<tr>
<td>Other: N/A</td>
</tr>
</tbody>
</table>

- UFGS: Section 09 29 00 Gypsum Board
  [http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 29 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 29 00.pdf)
  Section 09 90 00 Paints and Coatings
  [http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 90 00.pdf](http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 90 00.pdf)
E04.1.5. Metal Panels
☐ Applicable ☑ N/A

E04.1.6. Wood
☐ Applicable ☑ N/A

E04.1.7. Rapidly-Renewable Products
☐ Applicable ☑ N/A

E04.1.8. Other
☐ Applicable ☑ N/A

E05. Doors and Windows
Comply with Air Force Corporate Standards for Doors and Windows:

E05.1. Doors and Windows and Frames Materials
<table>
<thead>
<tr>
<th>Facility Group 1</th>
<th>Facility Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>door (frame) and window frame materials shall be as follows.</td>
<td>door (frame) and window frame materials shall be as follows.</td>
</tr>
<tr>
<td>Primary: Aluminum, clear anodized</td>
<td>Primary: Hollow metal (galvanized, painted)</td>
</tr>
<tr>
<td>Secondary: Hollow metal (painted)</td>
<td>Secondary: Hollow metal (galvanized, painted)</td>
</tr>
<tr>
<td>Tertiary: N/A</td>
<td>Tertiary: N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facility Group 1</th>
<th>Facility Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>door (leaf) materials shall be as follows.</td>
<td>door (leaf) materials shall be as follows.</td>
</tr>
<tr>
<td>Primary: Hardwood veneer</td>
<td>Primary: Hollow metal (galvanized, painted)</td>
</tr>
<tr>
<td>Secondary: Hollow metal (painted)</td>
<td>Secondary: Hollow metal (galvanized, painted)</td>
</tr>
<tr>
<td>Tertiary: N/A</td>
<td>Tertiary: N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facility Group 2</th>
<th>Facility Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>door (frame) and window frame materials shall be as follows.</td>
<td>door (frame) and window frame materials shall be as follows.</td>
</tr>
<tr>
<td>Primary: Aluminum, clear anodized</td>
<td>Primary: Wood</td>
</tr>
<tr>
<td>Secondary: Hollow metal (painted)</td>
<td>Secondary: N/A</td>
</tr>
<tr>
<td>Tertiary: N/A</td>
<td>Tertiary: N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facility Group 2</th>
<th>Facility Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>door (leaf) materials shall be as follows.</td>
<td>door (leaf) materials shall be as follows.</td>
</tr>
<tr>
<td>Primary: Hardwood veneer</td>
<td>Primary: Wood solid core</td>
</tr>
<tr>
<td>Secondary: Hollow metal (painted)</td>
<td>Secondary: Composite solid core</td>
</tr>
<tr>
<td>Tertiary: N/A</td>
<td>Tertiary: N/A</td>
</tr>
</tbody>
</table>

1. Hardwood casings may be provided over metal frames in Group 1 as approved on a case basis.
2. Paneled textured doors are preferred in Group 4.
3. Do not use hollow-core wood doors.
4. Generally match original hardware in renovations.
5. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

**Note:** Apply the below base-wide standards for Doors and Windows (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.
### E05.1.1. Aluminum

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

<table>
<thead>
<tr>
<th>Type:</th>
<th><strong>Style 1</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>Group 1</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Kawneer</td>
</tr>
<tr>
<td>Color:</td>
<td>Clear anodized</td>
</tr>
<tr>
<td>Finish:</td>
<td>Factory</td>
</tr>
<tr>
<td>Model #:</td>
<td>InFrame Interior Framing, (2x4 nominal framing)</td>
</tr>
<tr>
<td>Other:</td>
<td>Satin stainless steel hardware</td>
</tr>
</tbody>
</table>

**UFGS:**
- Section 08 41 13 Aluminum-Framed Entrances and Storefronts
- Section 08 71 00 Door Hardware
  [https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf](https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf)

### E05.1.2. Hollow Metal

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

<table>
<thead>
<tr>
<th>Type:</th>
<th><strong>Steel Doors</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>Group 1</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Steelcraft</td>
</tr>
<tr>
<td>Color:</td>
<td>Neutral colors</td>
</tr>
<tr>
<td>Finish:</td>
<td>Paint (Sheen per UFGS)</td>
</tr>
<tr>
<td>Model #:</td>
<td>Hollow metal, 2&quot; w. frames, 16 gauge (welded corners) grouted solid</td>
</tr>
<tr>
<td>Other:</td>
<td>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.</td>
</tr>
</tbody>
</table>

**UFGS:**
- Section 08 11 13 Steel Doors and Frames
- Section 08 71 00 Door Hardware
  [https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf](https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf)
Type: **Steel Frames**

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

**Mfr:** Steelcraft

**Color:** Neutral colors

**Finish:** Paint (Sheen per UFGS)

**Model #:** Hollow metal, frame grouted solid

**Other:** Satin stainless steel hardware

---

**UFGS:** Section 08 11 13 Steel Doors and Frames
Section 08 71 00 Door Hardware
[https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf](https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf)

---

**E05.1.3. Wood**

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

**Type:** **Style 1, Administrative**

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

**Mfr:** Simpson

**Color:** Natural hardwood veneer

**Finish:** Clear Sealer, satin (aqueous)

**Model #:** 3'x7'x 1 ¾", solid core

**Other:** Satin stainless steel hardware, Glass lites may be used. Stained birch veneer face, 5 ply construction, rotary cut finish.

---

**UFGS:** Section 08 14 00 Wood Doors
[http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 14 00.pdf](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](https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf)
E05.1.4. Other

☐ Applicable  ☐ N/A

E06. Casework Systems

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

E06.1. Casework Materials

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

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

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

4. Refer to AFCFS for approved materials.

5. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.
### E06.1.1. Plastic Laminate

<table>
<thead>
<tr>
<th>Type:</th>
<th>Style 1, Low Use Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>Group 1</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Formica</td>
</tr>
<tr>
<td>Color:</td>
<td>Medium Earth tones and neutral tones</td>
</tr>
<tr>
<td>Finish:</td>
<td>Light textured</td>
</tr>
<tr>
<td>Model #:</td>
<td>High pressure laminate</td>
</tr>
<tr>
<td>Other:</td>
<td>Combine with matching solid-surface banding on casework edges.</td>
</tr>
</tbody>
</table>

**UFGS:** Section 06 41 16.00 10 Plastic-Laminate-Clad Architectural Cabinets  

### E06.1.2. Solid Polymer Surface

<table>
<thead>
<tr>
<th>Type:</th>
<th>Style 1, High Use Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>Group 1</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Corian</td>
</tr>
<tr>
<td>Color:</td>
<td>Medium Earth tones and neutral tones</td>
</tr>
<tr>
<td>Finish:</td>
<td>Light textured</td>
</tr>
<tr>
<td>Model #:</td>
<td>Solid Surface</td>
</tr>
<tr>
<td>Other:</td>
<td>Faces and edge banding</td>
</tr>
</tbody>
</table>

**UFGS:** Section 12 36 00 Countertops  
E06.1.3. Rapidly-Renewable Products

Type: **Style 1 Moderate Use Areas**

- **Applies to:**
  - [ ] Group 1
  - [x] 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

Type: **Style 1**

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

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

- **Mfr:** None

- **Color:** None

- **Finish:** None

- **Model #:** None

- **Other:** None

**UFGS:** None
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 31 00.pdf
E06.2. Countertop Materials

**E06.2.1. Plastic Laminate**

Applicable  ☑  N/A  Number of base standards 1

<table>
<thead>
<tr>
<th>Type:</th>
<th>Style 1, Low Use Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>☑ Group 1  ☑ Group 2  ☑ Group 3  ☐ Group 4  ☐ Other</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Formica</td>
</tr>
<tr>
<td>Color:</td>
<td>Medium Earth tones and neutral tones</td>
</tr>
<tr>
<td>Finish:</td>
<td>Light textured</td>
</tr>
<tr>
<td>Model #:</td>
<td>High pressure laminate</td>
</tr>
<tr>
<td>Other:</td>
<td>Only use rounded half or full bullnose and integral backsplash. Do not use plastic laminate edge banding on front edges.</td>
</tr>
</tbody>
</table>

UFGS: Section 06 41 16.00 10 Plastic-Laminate-Clad Architectural Cabinets

**E06.2.2. Solid Polymer Surface**

Applicable  ☑  N/A  Number of base standards 1

<table>
<thead>
<tr>
<th>Type:</th>
<th>Style 1, High Use Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies to:</td>
<td>☑ Group 1  ☑ Group 2  ☑ Group 3  ☐ Group 4  ☐ Other</td>
</tr>
<tr>
<td>Mfr:</td>
<td>Corian</td>
</tr>
<tr>
<td>Color:</td>
<td>Medium Earth tones and neutral tones</td>
</tr>
<tr>
<td>Finish:</td>
<td>Light textured</td>
</tr>
<tr>
<td>Model #:</td>
<td>Solid Surface</td>
</tr>
<tr>
<td>Other:</td>
<td>Faces and edges</td>
</tr>
</tbody>
</table>

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

- **Type:** Style 1, Group 1 High Visibility, Heavy Use
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Local (TBD)
- **Color:** Neutral tones
- **Finish:** High polish, sealer
- **Model #:** Custom cut slabs
- **Other:** N/A

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

---

E06.2.4. Cast Stone

- **Type:** Style 1: Metal
- **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

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E06.2.5. Metal

- **Type:** Style 1: Metal
- **Applies to:** Group 1, Group 2, Group 3, Group 4, Other
- **Mfr:** Local (TBD)
- **Color:** Natural stainless steel
- **Finish:** Mill
- **Model #:** Custom fabricated countertops
- **Other:** Provide integral fronts, sides and backsplash

UFGS: Section 12 31 00 Manufactured Metal Casework
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 31 00.pdf
E07. Furnishings
Comply with Air Force Corporate Standards for Furnishings:
http://afcfs.wbdg.org/facilities-interiors/furnishings/index.html

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

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

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

E08.1 Types and Color
Comply with Air Force Corporate Standards for Types and Color:

E08.2. Interior Signs Materials
1. Natural stone, masonry and cast stone signs may only be used in Group 1 with approval on a case basis.

E09. Lighting, Power and Communication

E09.1. Functionality and Efficiency
Comply with Air Force Corporate Standards for Functionality and Efficiency:

E09.2. Types and Color
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

G. APPENDIX - References
Comply with Air Force Corporate Standards:
http://afcfs.wbdg.org/index.html