

DOVER AIR FORCE BASE INSTALLATION FACILITIES STANDARDS (IFS)



Installation Elements



Site Development



Facilities Exteriors



Facilities Interiors

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Dover Air Force Base IFS

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E03.1.7. Rapidly-Renewable Products			
E03.1.8. Other			

A. OVERVIEW

Comply with Air Force Corporate Standards for Overview:

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

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. All Air Force designs including Non-Appropriated Funds (NAF) facilities are required to conform to AFCFS per Air Force Instruction (AFI) 32-1023; AFCFS will be used to formulate Installation Facilities Standards (IFS) per the AFI. The Base Civil Engineer (BCE) maintains and implements 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 will 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 will implement IFS under their Joint-Base designation with volume numbers for individual installations following the IFS Development Tool template. For example, for Joint Base Langley-Eustis, provide: Vol. 1 Langley AFB and Vol. 2 Fort Eustis.
7. References and Supplementary Documents listed in Appendix G are included in these Installation Facilities Standards by reference and are fully part of this document. Please refer to [Appendix G](#) for a listing of documents, which are available via hyperlink for viewing and downloading.
8. Host Nation Facilities: Use the International Building Code(r) (IBC) for planning, design and construction of all facilities built for Host Nation personnel use outside of the United States and its territories and possessions. Use the IBC in conjunction with Status of Forces agreements (SOFA), bilateral agreements or other Host Nation (HN) agreements.
UFC 1-200-01 DoD Building Code: <https://www.wbdg.org/dod/ufc/ufc-1-200-01>

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

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Group 1 Facility Entrance



Group 3 Flightline Building



Group 2 Entrance



Group 4 Family Housing

A01. FACILITY HIERARCHY

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

A02. FACILITY QUALITY

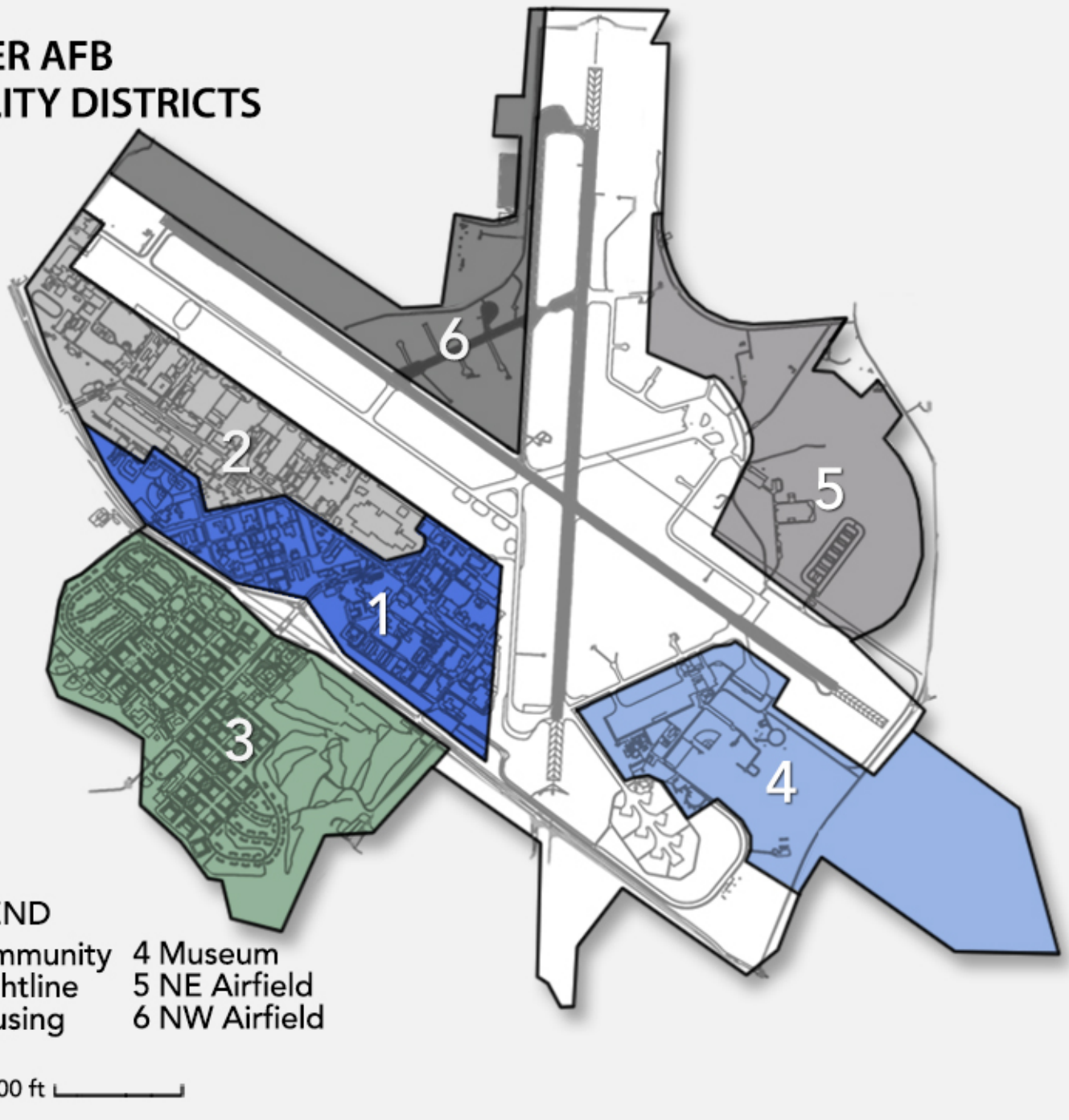
Comply with AF Corporate Standards for Facility Quality (and subsections):
<http://afcfs.wbdg.org/facility-quality/index.html>

A03. FACILITY DISTRICTS

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

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DOVER AFB FACILITY DISTRICTS



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

B. INSTALLATION ELEMENTS

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

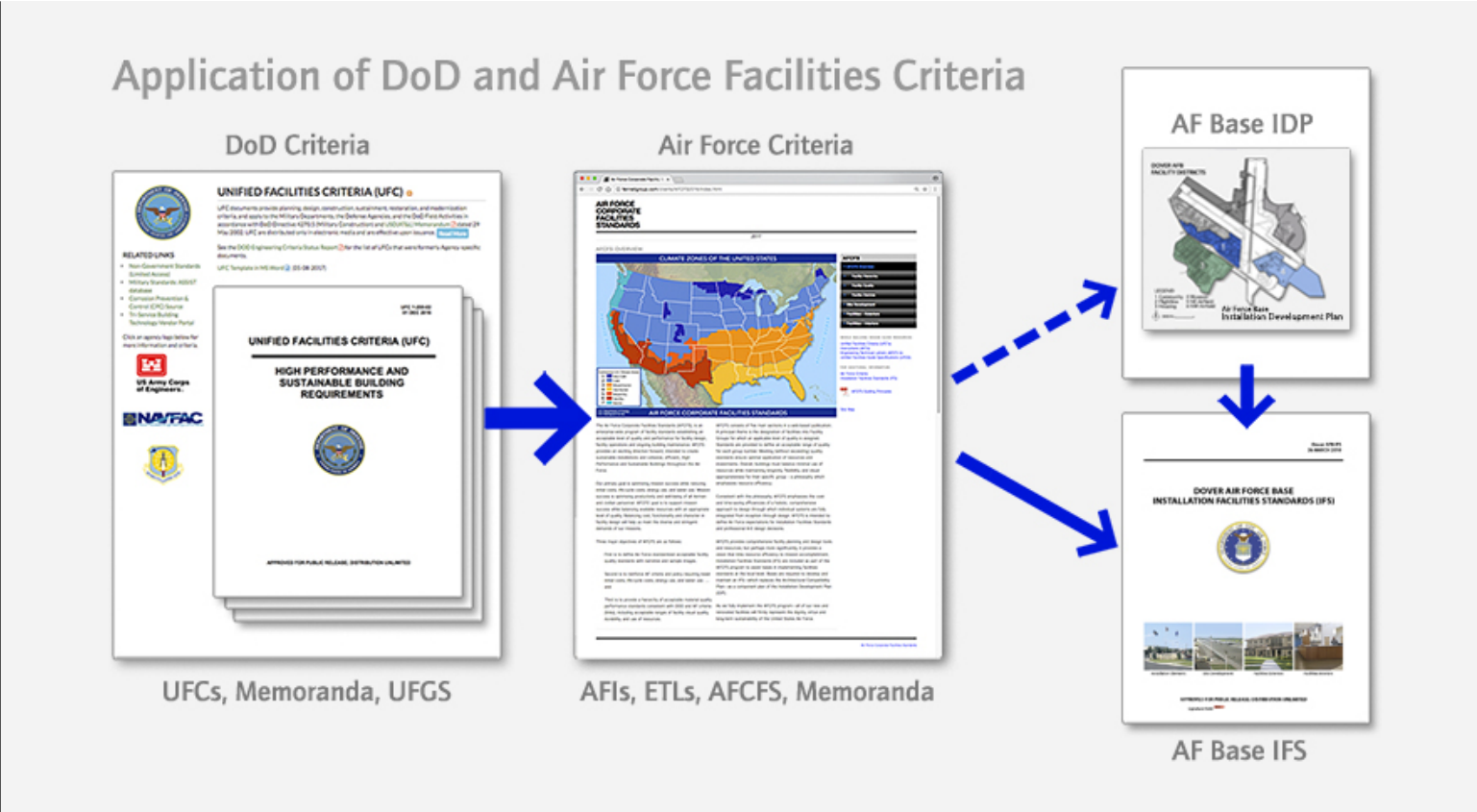
B01. COMPREHENSIVE PLANNING

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

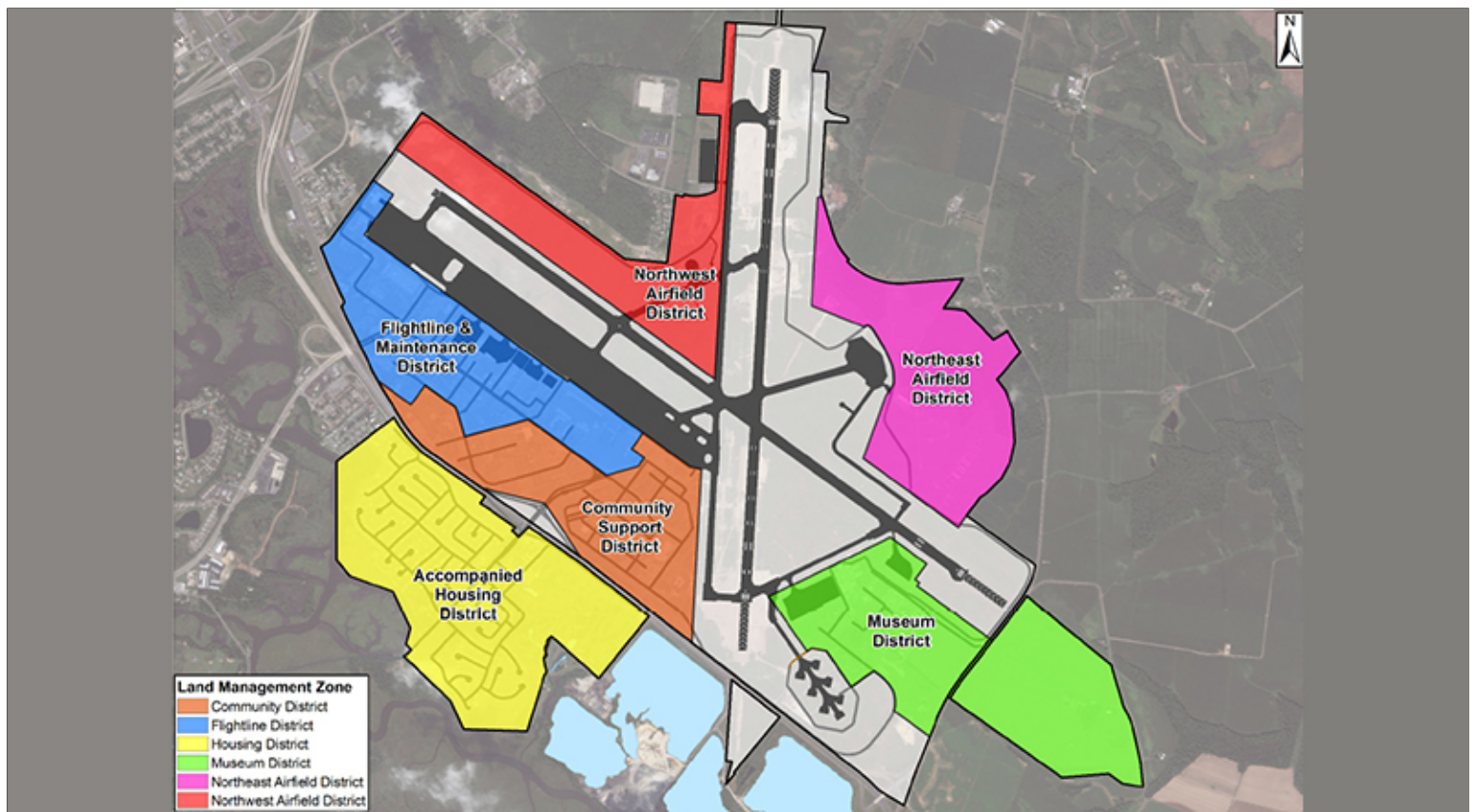
B01.1. Installation Development Plan (IDP)

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



Land Management Zone Diagram



Vision Diagram as Depicted in the IDP

B01.1. Installation Development Plan (IDP) - Continued

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 32-1015.

B01.1.1. IFS Requirements and Documents

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Maintain this Installation Facilities Standards (IFS) as a Component Plan of the base's Installation Development Plan (IDP).
2. Refer to G. Appendix supplemental document G01 Dover AFB IFS General Requirements which includes these sections:
 - 01 00 00 General Requirements
 - A. Design Guidance and Guide Specifications
 - B. Anti-Terrorism (AT)
 - C. General Architectural, Engineering and Construction Requirements
 - D. General Signage Requirements
 - E. Airfield Requirements
 - F. Utility Metering Requirements
 - G. System Maintainability Requirements
 - H. Sustainability and Resilience Requirements
 - I. General Design and Architect-Engineer Requirements
 - J. AMRS Meter Specifications
 - 01 31 13 Project Coordination
 - 01 31 20 Project Technical Data Management and Visualization
 - A. CAD Standards
 - B. Civil Drawings Requirements
 - 01 35 13.43 10 Special Project Procedures for Contaminated Sites
 - 01 35 43 Environmental Procedures
 - A. Control of Asbestos Containing Materials
 - B. Air Quality
 - C. Cultural Resources
 - D. Disposal of Excess Soil
 - E. Disposal of Extracted Groundwater
 - F. Environmental Impact Analysis Process (EIAP)
 - G. Environmental Management System
 - H. Green Procurement
 - I. Hazardous Materials
 - J. Hazardous and Universal Waste
 - K. Natural Resources
 - L. POL Storage Tanks
 - M. Solid Waste
 - N. Stormwater
 - 01 45 00 Quality Control
 - 01 57 19 Temporary Environmental Controls
 - A. Existing Groundwater Monitoring Wells
 - 01 55 00 Vehicular Access and Parking
 - A. Haul Routes
 - 01 58 13 Temporary Project Signage
 - Appendix A Memorandum for Contaminated Soils
3. Refer to other supplemental documents, which are provided by following division numbers of Unified Facilities Specifications, in G. Appendix.

B01.1.2. Brief History of Base

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Dover Army Airfield Aerial Photo 1944



Headquarters 125th AAF Unit-Fighter



Track-side PRR Station Dover, Delaware



State of Delaware Historical Building



Dover AFB Flightline Support Facilities



Dover AFB Flightline



Local Historical Architecture



Aircraft Approach

The origins of Dover Air Force Base begin in March 1941 when the United States Army Air Corps indicates a need for the airfield as a training airfield and assumed jurisdiction over the municipal airport at Dover, Delaware.

In March 1941, the construction of Municipal Airport, Dover Airdrome begins, and the facility is opened on December 17, 1941. It is converted to an Army Air Corps airfield a few weeks after the December 7, 1941, attack on Pearl Harbor. It is renamed Dover Army Airbase on April 8, 1943; Dover Subbase on June 6, 1943, and Dover Army Airfield on February 2, 1944. With the establishment of the United States Air Force on September 18, 1947, the facility is renamed Dover Air Force Base on January 13, 1948.

In 1948 the 436th Troop Carrier Wing is established and is redesignated the 436th Military Airlift Wing (MAW) on 27 December 1965. Assigned to Twenty-First Air Force, the wing is stationed at Dover AFB, Delaware, and flies C-124 Globemaster II, C-133 Cargomaster, C-141 Starlifter, and C-5 Galaxy aircraft.

The wing is redesignated the 436th Airlift Wing (AW) on 1 December 1991 and flies C-5 Galaxy and C-17 Globemaster III aircraft. As the active duty military host unit at Dover Air Force Base, the 436th Airlift Wing serves and provides command and staff supervision, along with support functions, for assigned airlift providing worldwide movement of outsized cargo and personnel on scheduled, special assignment, exercise and contingency airlift missions.

Dover AFB operates the largest and busiest air freight terminal in the Department of Defense and operates The Charles C. Carson Center for Mortuary Affairs, DoD’s largest joint-service mortuary facility and the only one located in the continental United States.

The base continues to successfully maintain and operate C-5 Galaxy and C-17 Globemaster III aircraft, and the “Eagle Wing” flies hundreds of missions throughout the world and provides 25 percent of the Nation’s strategic airlift capability, projecting global reach to over 100 countries around the globe.

End of Section

B01.1.3. Future Development

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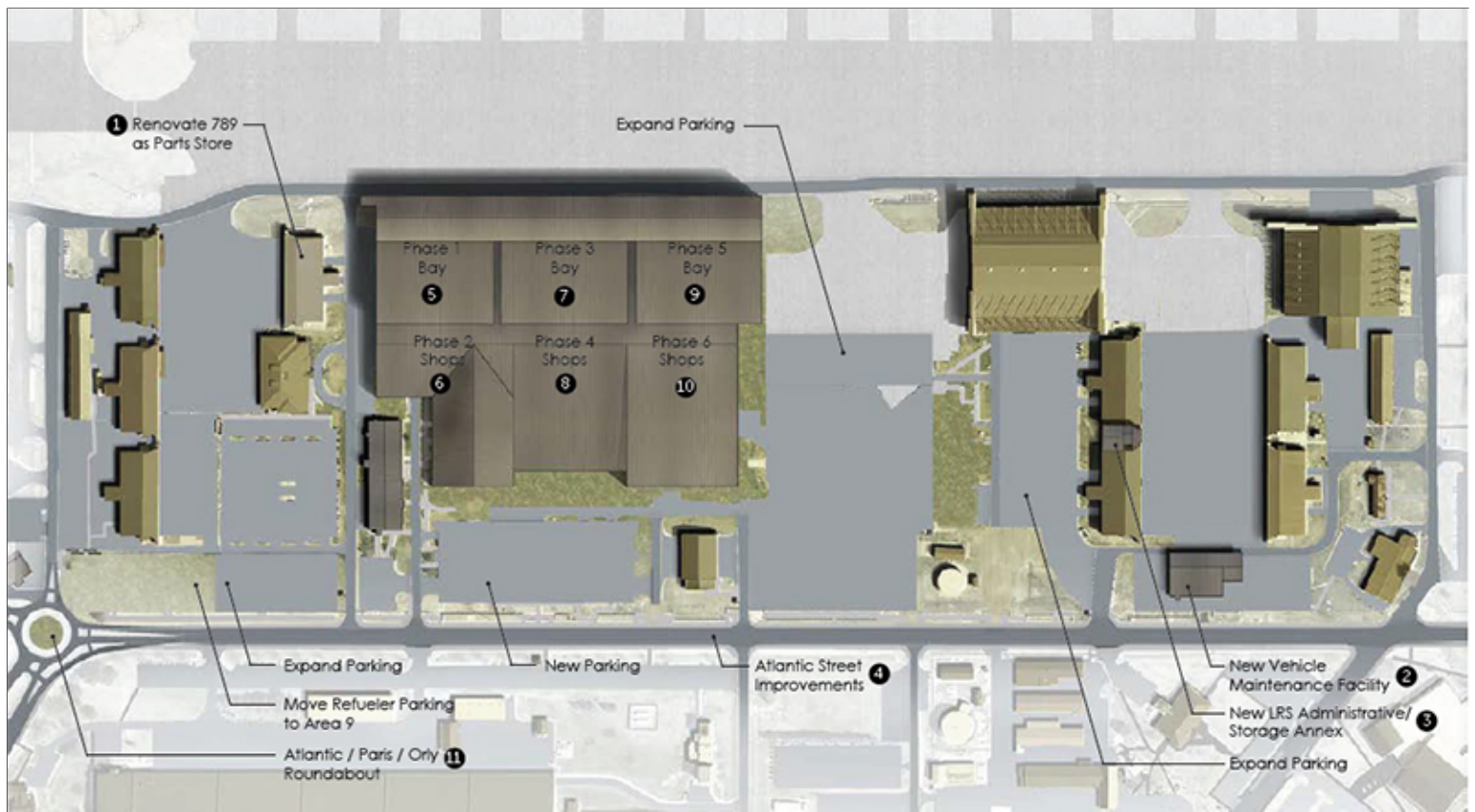
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Demo Plan for ADP 6



Preferred Alternative for ADP 6



Key Planning Factors Diagram



Flightline Considerations

1. Follow AFI 32-1015 for Air Force Comprehensive Planning, the Comprehensive Planning Process, Comprehensive Planning Requirements, and Geospatial Mapping.

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

End of Section

B02. STREET ENVELOPE STANDARDS

Comply with Air Force Corporate Standards for Installation Elements:

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

Comply with AF Corporate Standards for Street Envelope Standards:

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

B02.1. Hierarchy of Streets

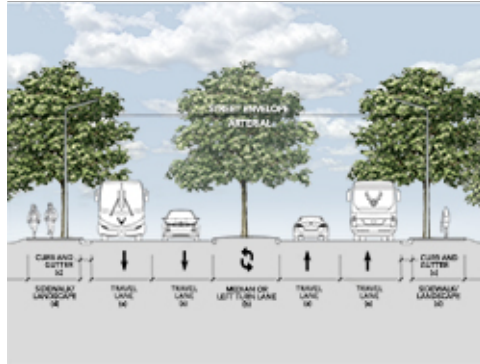
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Hierarchy of Streets



Street Envelope Section

1. Develop and evolve a hierarchical transportation network of arterial, collector and local streets following UFC 3-201-01, *Civil Engineering* and its industry references.
2. Provide consistent functionality throughout the installation and a level of visual quality relating to the adjacent Facility Group number.
3. Routes along facilities in Group 1 may have materials, finishes and features with a higher visual quality than Groups 2, 3 and 4. Reduce maintenance requirements by installing highly durable materials and finishes in routes along Group 3 industrial facilities.
4. Special routes may have a visual quality comparable to those along facilities in Group 1.
5. Create and maintain arterials with two lanes of traffic in each direction with landscaped or paved medians as applicable to the local climate and adjacent facility group designation / land use.
6. Minimize stops and turns along arterials. Eliminate on-street parking along arterials and collector streets.
7. Connect arterials to local streets with appropriately scaled collector streets.
8. Provide appropriate landscape setbacks and pedestrian buffers along all streets.
9. Minimize and consolidate curb cuts along streets.
10. Ensure access for emergency and service vehicles.
11. Define 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.

14. Refer to G. Appendix for supplemental document G32 Dover AFB IFS Exterior Improvements and section 32 10 00 Bases, Ballasts, and Paving regarding the use of State of Delaware Department of Transportation (DelDOT) materials and mix designs.

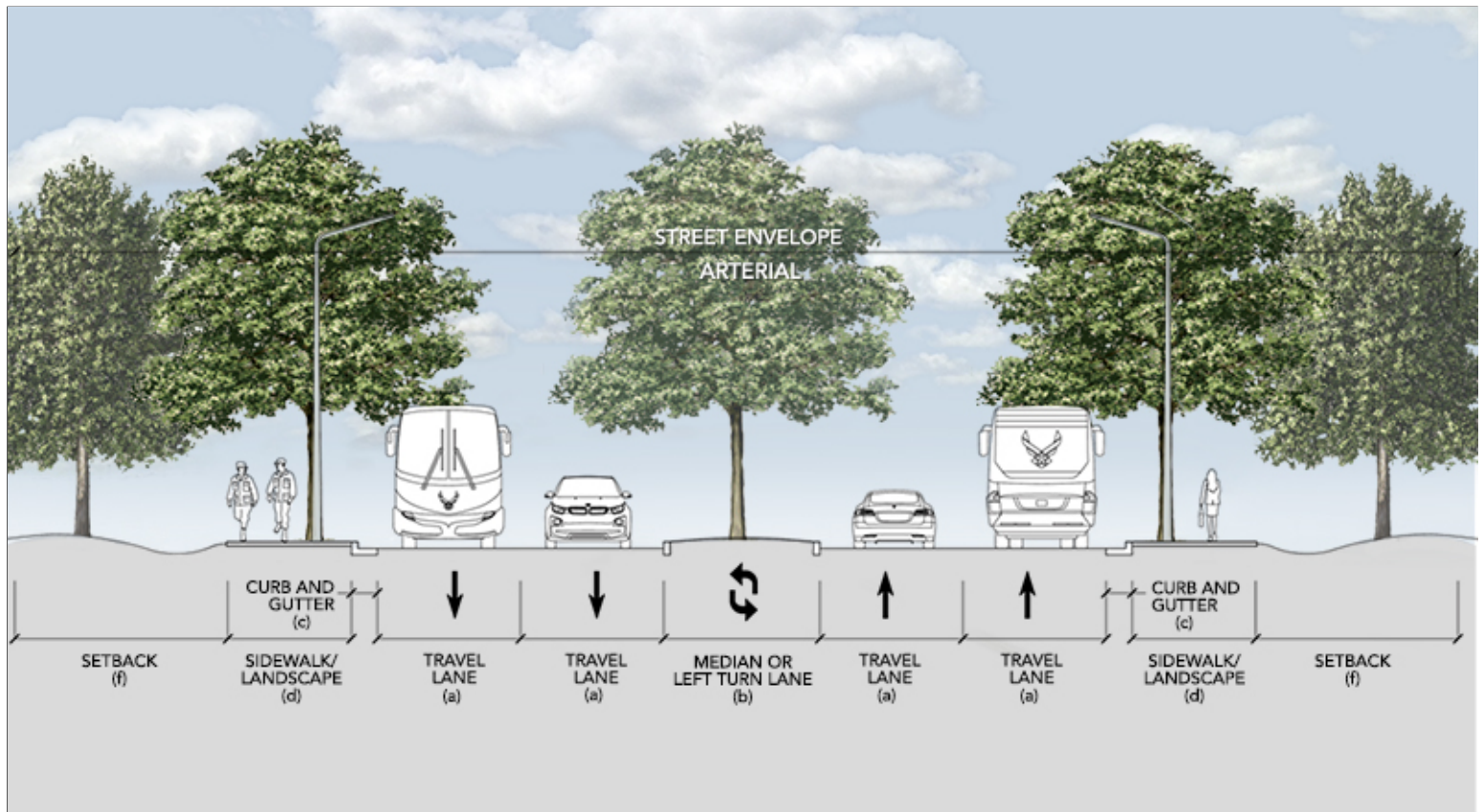
B02.1.1. Arterial Streets

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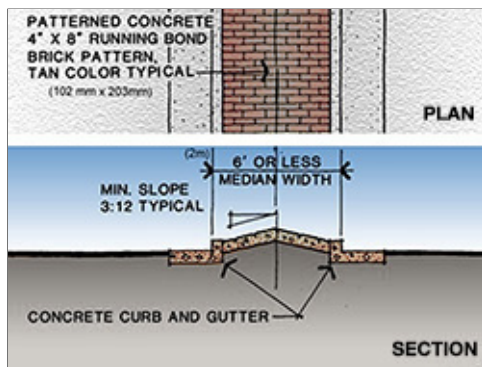
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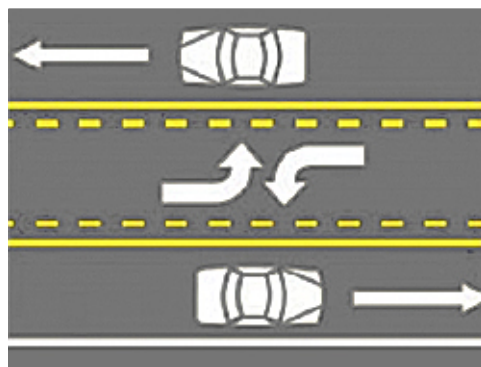
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Travel Lane (a): 12' Median (b): 12' Curb and Gutter (c): 2' Sidewalk / Landscape (d): 12' Setback (f): Min. 35' or per AT



Paved Median



Left Turn Lane



Landscaped Median

1. Continue to maintain the streets currently designated as aerial streets in future development.
2. Stops and turns should be minimized, and on-street parking will 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 reinforce the importance of arterial streets while being consistent in quality with the adjacent facility group number.

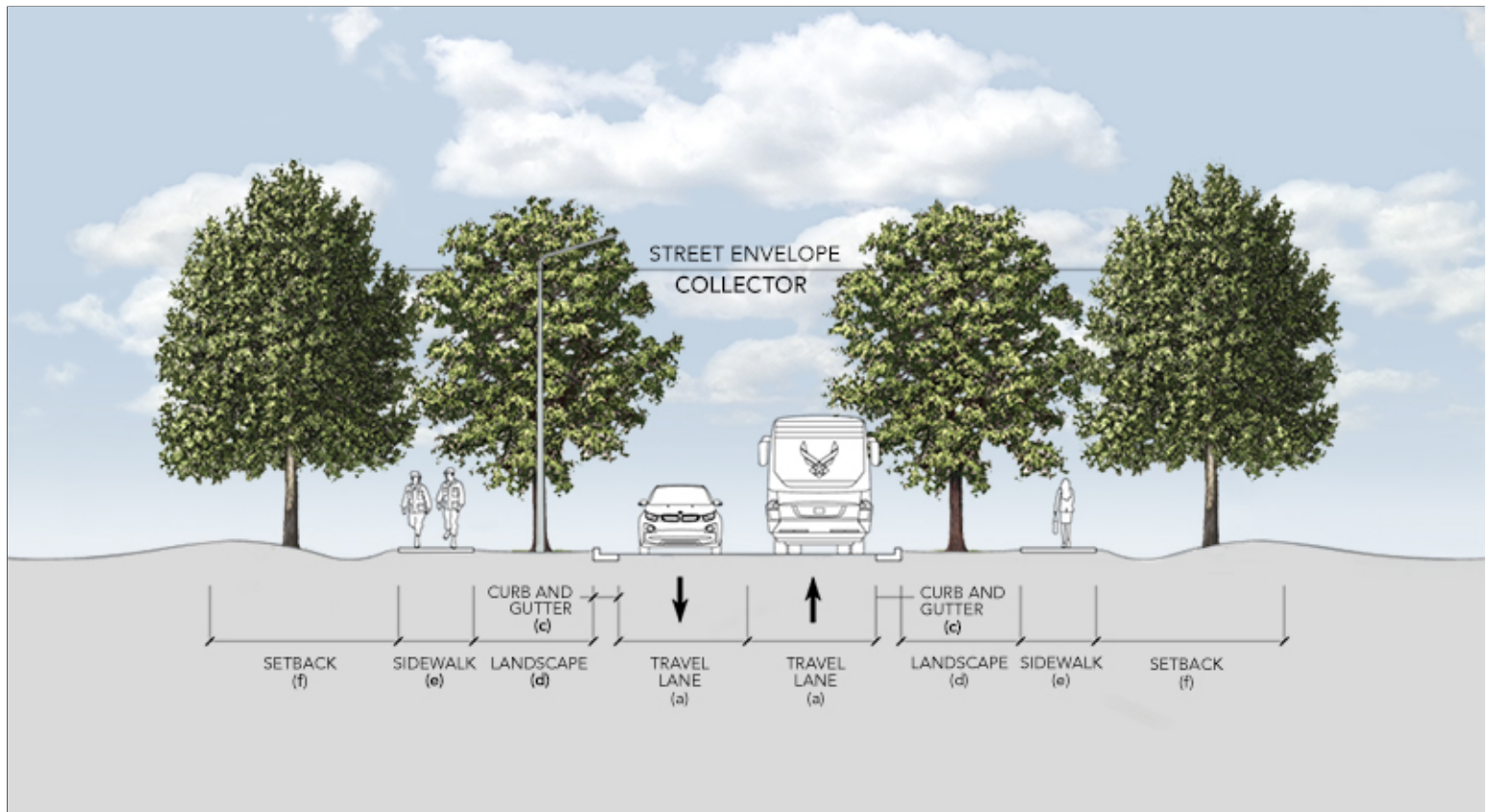
B02.1.2. Collector Streets

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

Image Tool 800 x 440

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

Image Tool 250 x 188



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 AT



Two-way Traffic



Typical Street Landscape

1. Due to frequent traffic stops, maintain low speed limits on collector streets.
2. Provide sidewalks on at least one side of collector streets. Buffers are preferred but not required on collector streets.
3. On street parking may be allowed on one side where secondary roads are over 28 feet wide but not less than 34 feet wide. Parking must not interfere with intersections or traffic flow.

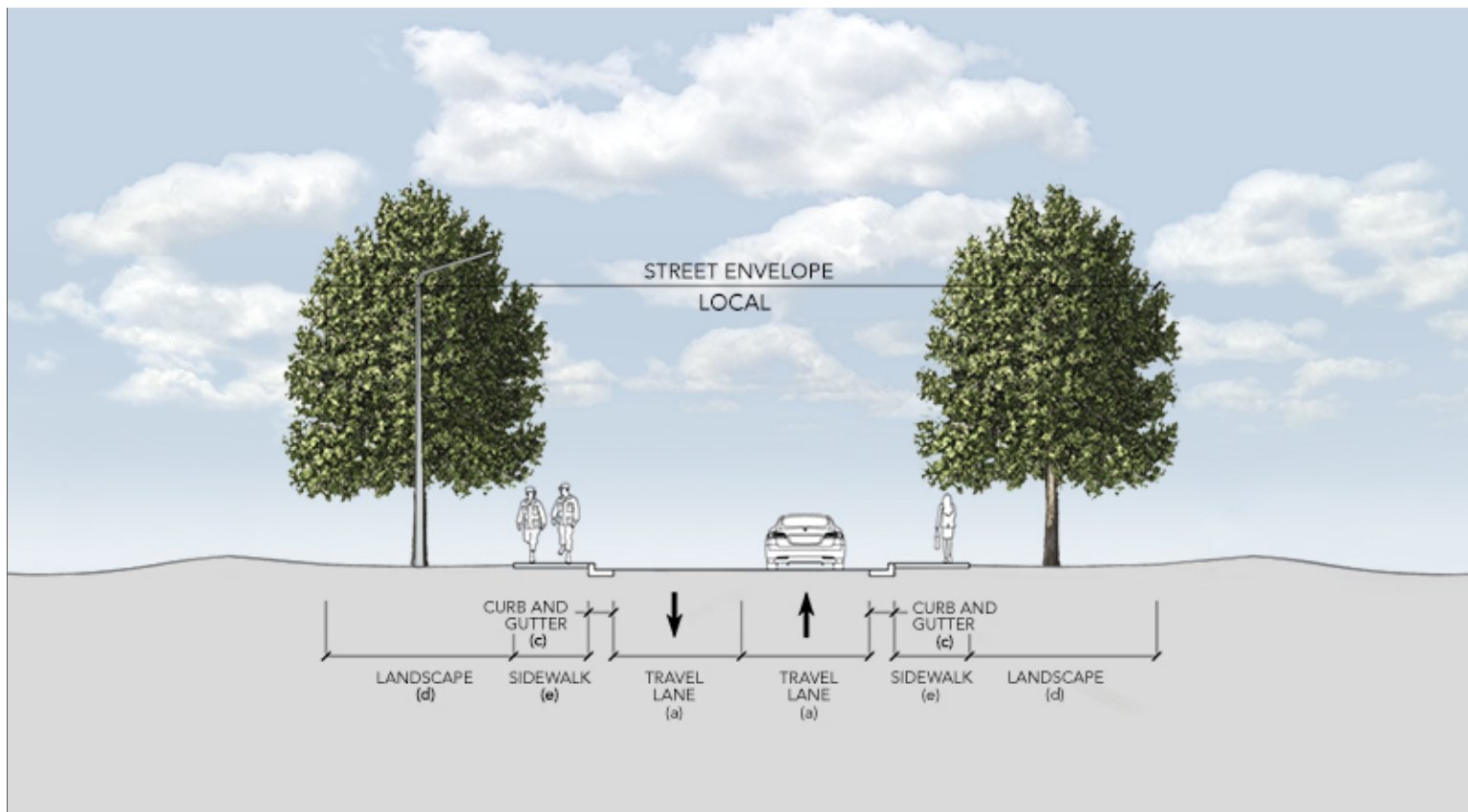
B02.1.3. Local Streets

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

Image Tool 800 x 440

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

Image Tool 250 x 188



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



Group 4 Streetscape

1. Due to frequent traffic stops, maintain low speed limits on local streets.
2. Provide sidewalks on at least one side of collector streets. Buffers are preferred but not required on collector streets.
3. On street parking may be allowed on one side where secondary roads are over 28 feet wide but not less than 34 feet wide. Parking must not interfere with intersections or traffic flow.
4. Cul-de-sacs are to only be used in the military housing area. The minimum radius for cul-de-sacs will be 50'.

B02.1.4. Special Routes

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Special Route Streetscape



Special Route Features

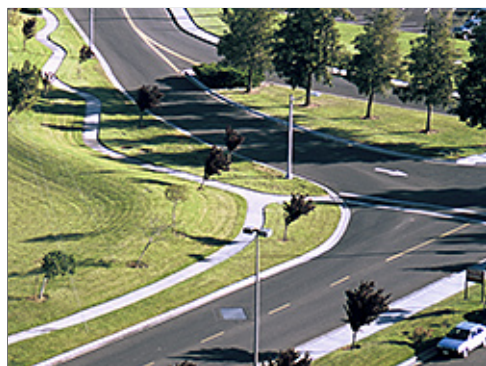
1. Develop all special routes consistently with those adjacent to Group 1 facilities.

B02.2. Hierarchy of Intersections

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Typical T Intersection

1. Provide a hierarchy of intersections to include arterial, arterial-collector, collector, collector-local and local following UFC 3-201-01 and its industry references.
2. Passive systems such as traffic circles are preferred to active systems such as signalized intersections. Aggressively pursue passive systems to lower maintenance requirements and reduce energy use.

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

B02.2.1. Arterials

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Develop arterial intersections consistently with the adjacent facility group designation.

B02.2.2. Arterial/Collector

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Develop arterial/collector intersections consistently with the adjacent facility group designation.

B02.2.3. Collectors

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Develop collector intersections consistently with the adjacent facility group designation.

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.

End of Section

B02.2.5. Street Frontage Requirements

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Group 1 Detached Sidewalk



Group 4 Attached Sidewalk

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.

B02.3. Street Elements

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Emulate the streetscape area's pre-development hydrology using passive and active design features to help sustain the adjacent regionally appropriate landscape. Coordinate with the base Stormwater Management Plan.
2. Employ systems, materials and techniques to maximize streetscape sustainability. Consider permeable 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, *Design: Sign Standards*.

6. Crosswalk markings must 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, *DoD Minimum Antiterrorism Standards for Buildings*. Refer to Air Force Doctrine Publication (AFDP) 3-10, *Force Protection*. Ensure the quality and quantities of lighting and fixtures are appropriate for the adjacent Facility Group number.
9. Fire hydrants will be painted the Bald Eagle Brown color. TUI (Tidewater Utilities Incorporated) will paint fire hydrant bonnets the appropriate color based on flow capacity and actual flow tests in accordance with NFPA 291, "Fire Flow and Marking of Hydrants".

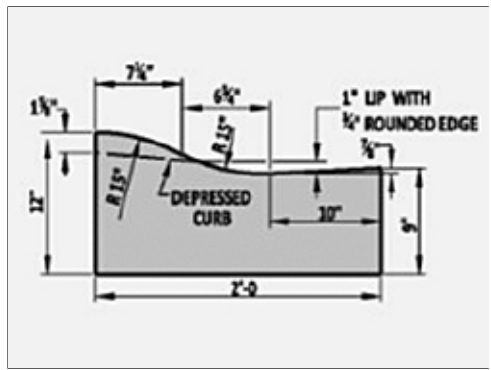
B02.3.1. Paving

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

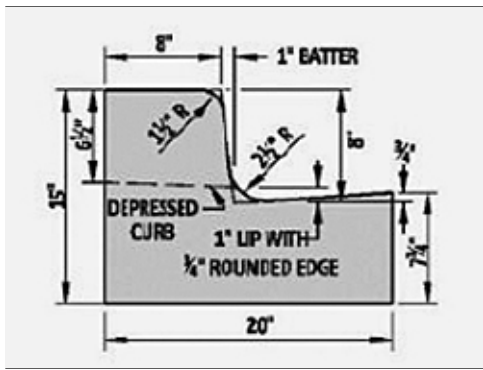
1. The use of State of Delaware Department of Transportation (DelDOT) materials and mix designs for graded aggregate base, intermediate and wearing surface courses of hot-mix hot-laid asphalt concrete may be permitted if they comply with the respective UFGS criteria. Refer to G. Appendix supplemental document G32 Dover AFB IFS Exterior Improvements.
2. Pavement design must comply with UFC 3-250-01, *Pavement Design for Roads and Parking Areas*. 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.
3. Materials must 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



Type 2 Curb



Type 3 Curb

1. Continuous concrete curbs will be provided at paved roads and parking areas adjacent to Group 1, Group 2 and Group 4 facilities.
2. Integral concrete curb and gutter will be used at areas with drainage (asphalt sloped towards curb). A header curb without gutter will be allowed in areas if adjacent asphalt is sloped away.

3. A minimum standard curb height of 6 inches will be consistently maintained. "Rolled" mountable curbs are allowed in Facility Group 4.

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; when mounting elements (such as utility cabinets, communications equipment and water valves) above grade is unavoidable, paint these consistently and provide visual screening following Site Development, Landscaping.

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

B02.3.4. Traffic Signs

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

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

2. For Regulatory and Warning type signage and roadway markings, signals, crosswalks, temporary traffic control, etc., comply with US Department of Transportation Federal Highway Administration Manual of Uniform Traffic Control Devices (MUTCD) and the DoD Supplement to the MUTCD. Guide Sign faces and other sign faces (such as handicap and reserved parking signs, etc.) will be as required by UFC 3-120-01, Paragraph 2.18.2 Standard Brown paint (ISCC-NBS, Color Designation 56 String Brown, National Park Service Brown, Ink: PMS 469).

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

Not Applicable.

B03. OPEN SPACE / PUBLIC SPACE

Comply with Air Force Corporate Standards for Installation Elements:

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

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

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

B03.1. Plazas, Monuments and Static Displays

☐ Applicable ☒ N/A Large graphics do not apply

☒ Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 4

Image Tool 250 x 188



Group 1 Pavilion



Group 4 Pavilion



Group 3 Pavilion



Group 2 Pavilion

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.

End of Section

B03.1.1. Paved Plazas

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Group 2 Plaza

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

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

B03.1.2. Sculptures, Markers and Statuary

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

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 must 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.

End of Section

B03.1.3. Static Display of Aircraft

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Ground-mounted Display



Post-mounted Display

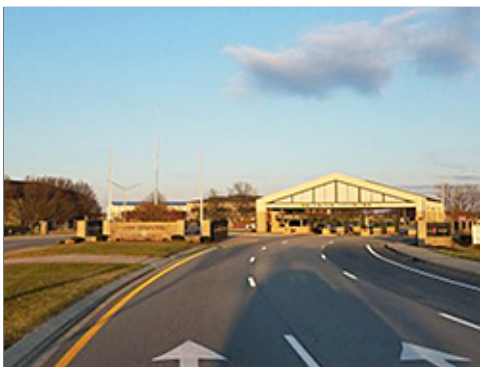
1. Follow IFS base-wide standards for all elements of the display area with specific attention to traffic sight lines, pedestrian circulation, site furnishings, signs, and lighting. Address requirements for the Facility District as well.
2. Generally, locate concrete base/foundation structures for static displays below grade.
3. At static displays where pedestrian paths are provided, a minimum of one trash receptacle and one bench will be provided. Receptacle and bench design must conform to IFS requirements.

B03.2. Grounds and Perimeters

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Perimeter Fence at Gate

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 will 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 must 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, *Landscape Architecture* Appendix B for the planning and design process and criteria for parade grounds.

2. Establish and maintain parade grounds only where there is a confirmed need and provide landscape materials appropriate for the locale 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 will determine quantities, sizes, and products on a case-by-case basis.

End of Section

B03.2.2. Parks

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Recreational Field



Park and Playground

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.

B03.2.3. Preserves

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

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.

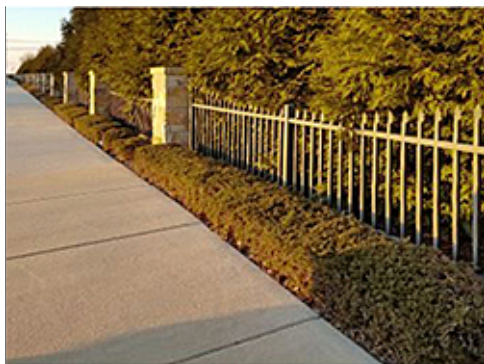
End of Section

B03.2.4. Perimeter Fence

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Group 1 Fence



Perimeter Fence



Group 3 Privacy Fence



Group 2 Security Wall



Group 2 CMU Screen Wall



Group 3 Remote Location

1. Design, install and maintain the base's perimeter fence following UFC 4-022-03.
2. Stringently comply with AT 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 associated with the main gates will 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.

End of Section

C. SITE DEVELOPMENT

Comply with Air Force Corporate Standards for Site Development:

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

C01. SITE DESIGN

Comply with AF Corporate Standards for Site Design / NEPA:

<http://afcfb.wbdg.org/site-development/site-design-nepa/index.html>

C01.1. Site Design Considerations

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Collect documentation to validate approvals and completion of the NEPA process.
2. Ensure site design compliance with the Installation Development Plan (IDP) and its component plans and Installation Facilities Standards (IFS).
3. Promote integrated design with on-site solutions such as engineered small-scale hydrologic controls versus base-wide infrastructure; consider open space, natural features, bioswales, building roofs, streets, and paved surfaces.
4. Limit the impact of development on land and water resources. All site elements and infrastructure will 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. System maintainability is a critical aspect of a facility. Provide adequate clearances around all pieces of equipment for periodic maintenance, inspection and cleaning. Provide the manufacturer's recommended minimum clearances or code required clearances, whichever is more stringent. System maintainability will be coordinated between all systems. Service of one piece of equipment will not require disturbance of adjacent equipment (for example do not block access to lights with piping or conduit).
8. Routine maintenance (filters, lights, lubrication, inspection, etc.) requires the most frequent and easiest access. Where maintenance access requires the use of portable ladders they will be no more than 10' maximum. Provide adequate space to use them properly. Access requirements over 10' require ship ladders, stairs, platforms, catwalks, etc. unless approved otherwise by Dover AFB.
9. Component Replacement (coils, fans, motors, etc.) requires less frequent access. However since this normally has the greatest impact on the facility user this work must be done quickly and efficiently. Provide all items necessary to perform these tasks (work platforms, equipment access hatches/panels, hoists, cranes, freight elevators, ladders, stairs, etc.).
10. Equipment Replacement (air handling unit, switchgear, boilers, heat pumps, etc.) requires the least access. Since this occurs very seldom the need for permanent equipment to support these tasks is not required. However, equipment replacement must be accommodated, and the facility will include items such as removable wall sections, access routes, etc. to allow replacement with the least amount of collateral damage. New building projects should preserve open space and protect natural habitat.
11. 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.
12. 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.

13. 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.
14. Minimize existing and planned obstructions from landscaping, structures, topography, and adjacent developments to preserve solar access and natural ventilation.
15. Purposefully integrate service access, receiving and storage areas to eliminate the need for visual screening.
16. 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.
17. Applicably coordinate heat island mitigation in paving and roof designs when implementing an integrated approach to stormwater management.
18. Consider the location of “Designated Tobacco Use Areas (DTA).”
19. Refer to the below listed and other applicable IFS Supplemental Documents, which may be downloaded via hyperlink in appendix G.:

G01 Dover AFB IFS General Requirements

- 01 00 00 General Requirements
 - A. Design Guidance and Guide Specifications
 - B. Anti-Terrorism (AT)
 - C. General Architectural, Engineering and Construction Requirements
 - D. General Signage Requirements
 - E. Airfield Requirements
 - F. Utility Metering Requirements
 - G. System Maintainability Requirements
 - H. Sustainability and Resilience Requirements
 - I. General Design and Architect-Engineer Requirements
- 01 31 20 Project Technical Data Management and Visualization
 - A. CAD Standards
 - B. Civil Drawings Requirements
- 01 35 13.43 10 Special Project Procedures for Contaminated Sites
- 01 35 43 Environmental Procedures
- 01 50 00 Temporary Facilities and Controls
 - A. Existing Groundwater Monitoring Wells

G31 Dover AFB IFS Earthwork

- 31 23 00 Excavation and Fill (Backfilling and compaction)

G32 Dover AFB IFS Exterior Improvements

- 32 10 00 Bases, Ballasts, and Paving
- 32 12 00 Flexible Paving
- 32 12 16 Asphalt Paving
- 32 13 13 Concrete Paving
- 32 13 14.13 Concrete Paving for Airfields and Other Heavy Duty Pavements
- 32 14 00 Unit Paving
- 32 31 26 Wire Fences and Gates
 - A. Post and Cable Fencing

G33 Dover AFB IFS Utilities

- 33 00 00 Utilities: General Requirements
- 33 09 00 Instrumentation and Control for Utilities (Advance Meter Reading System (AMRS))
- 33 10 00 Water Utilities
- 33 14 19 Valves and Hydrants for Water Utility Service
- 33 30 00 Sanitary Sewerage
- 33 40 00 Stormwater Utilities
- 33 50 00 Hydrocarbon Utilities

C01.2. Building Orientation

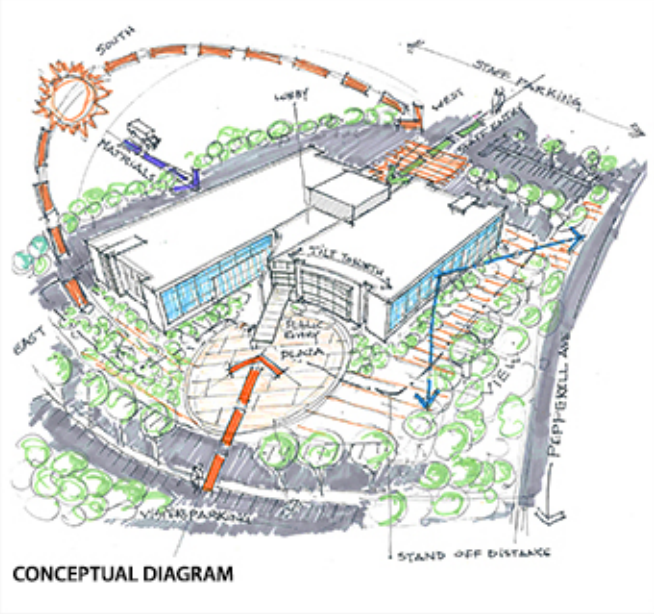
- ☒ Applicable ☐ N/A
- Select number of graphics / images (large: 800 px x 440 px) to insert
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- ☒ Applicable ☐ N/A
- Select number of graphics / images (small: 250 px x 188 px) to insert
- 6

Image Tool 800 x 440

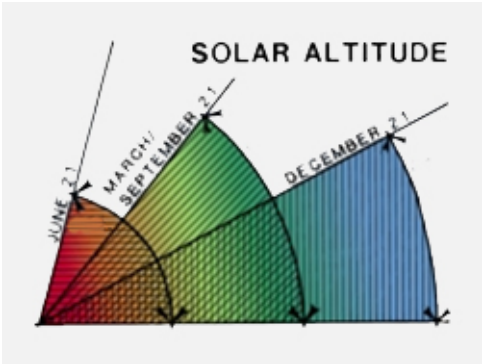
Image Tool 250 x 188

DRIVING FACTORS

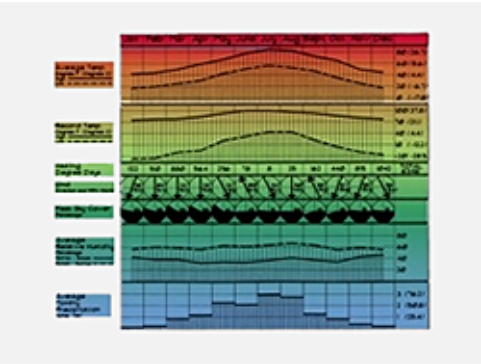
- | | | | |
|--|--|--|---|
| • Optimal solar orientation of the building. | • Maximize the daylight & desirable views. | • Meet the required AT/FP standoff distance | • Create a unified campus |
| • Main entrance from Pepperrell street. | • Saving existing vegetation and trees | • Separation between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



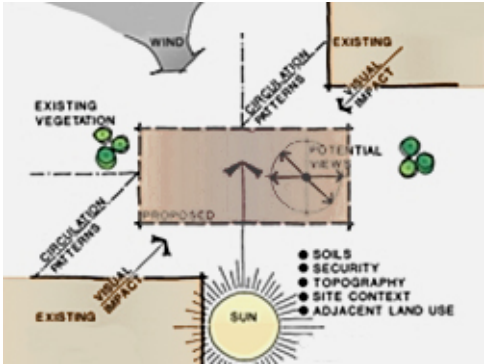
Conceptual Site Analysis and Site Design Diagram



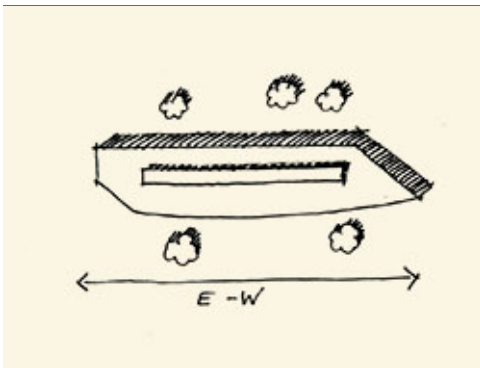
Local Solar Data



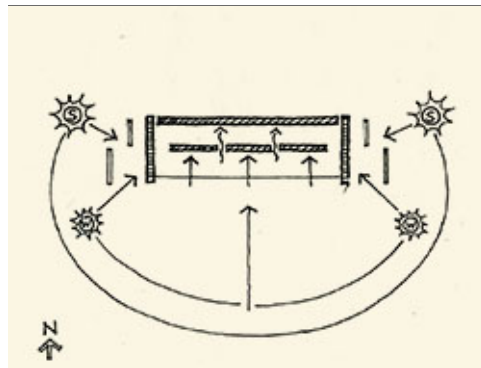
Local Climate Data



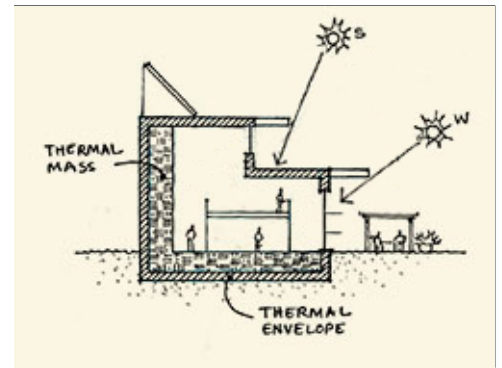
Site Data



East-West Axis



Optimum Solar Control



Maximized Shading

1. Ensure the site will accommodate optimum requirements for building orientation, which is with the long axis parallel to the east/west direction for rectilinear CONUS buildings.
2. Meet Installation Facilities Standards (IFS) requirements for the locations of the building's passive and renewable-energy systems—including geothermal and solar systems—and exterior shading systems.
3. Locate the building(s) and permitted ancillary structures to promote solar 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 Select number of graphics / images (small: 250 px x 188 px) to insert 5

Image Tool 250 x 188



Screen Wall



Landscape Screening



Piping Painted to Match Wall



Screened Utility Elements



Wall and Landscape Screen

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. Above grade utility features (fire hydrants, PIVs, FDCs, electrical transformers and switchgear, gas meters, etc.), which are located in or within 10 feet of adjacent vehicular traffic areas (without concrete roadway curb), will be protected by concrete filled Schedule 40 steel pipe bollards. Placement of bollards must not obstruct operational or maintenance access to the protected feature. Place concrete pavement within and including the area of bollards. Electrical transformers and switchgear will be provided with a minimum of 10 feet clearance on door sides of the equipment.
 3. Refer to Section C07.1. for specific requirements for bollards.
 4. Provide square or circular reinforced concrete collars around all cleanouts, valve boxes, monitoring wells or similar features located within turfed areas (collars not required within paved areas). Size of the collar will be 8 inches outside of the cleanout or valve box.
 5. Provide installation of utility infrastructure to support near term and future electric vehicle charging stations.
 6. 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.
 7. Include consideration of appropriate placement of meters in support of Automated Revenue Management Services (ARMS).
 8. Permanent metering must be provided for electric, natural gas, and water utilities at every Dover AFB facility so that utility consumption for each facility can be monitored and tracked over time. Metering of fire water service is not required. Whenever possible electric meters will be located inside the electrical room, otherwise they will be located in the mechanical room. Water meters will be located inside the mechanical room. Gas meters will be located on the building exterior at the gas service entrance at the rear of the building. Electric, natural gas, and water meters will be remote readable and comply with AFCEC AMRS meter requirements.
- Navigate to G. Appendix of this IFS to download supplemental document G33 Dover AFB IFS Utilities and refer to section 33 09 00 Instrumentation and Control for Utilities for meter specifications.
9. Heating, Ventilating, and Air Conditioning Systems requires that building electricity, water, and natural gas be included in the HVAC Direct Digital Controls minimum points list. These points must be visible to the Dover Air Force Base's Energy Management and Control System (EMCS). All utility metering devices must be connected to the Base's EMCS.
 10. 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.
 11. Direct roof drainage to underground collection when feasible or provide splash blocks / paved channels to intercept roof drainage at grade.

C03. PARKING AREAS

Comply with AF Corporate Standards for Site Development:

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

Comply with AF Corporate Standards for Parking Areas:

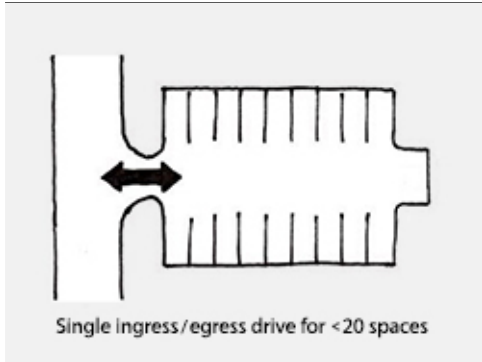
<http://afcs.wbdg.org/site-development/parking-areas/index.html>

C03.1. Configurations and Design

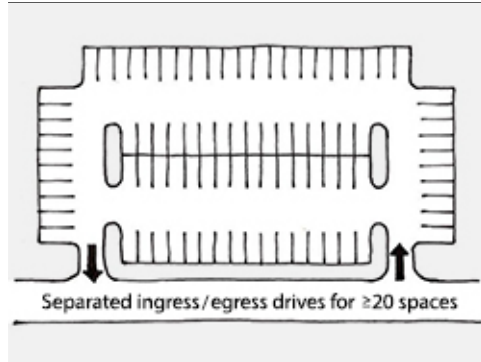
☐ Applicable ☒ N/A Large graphics do not apply

☒ Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 5

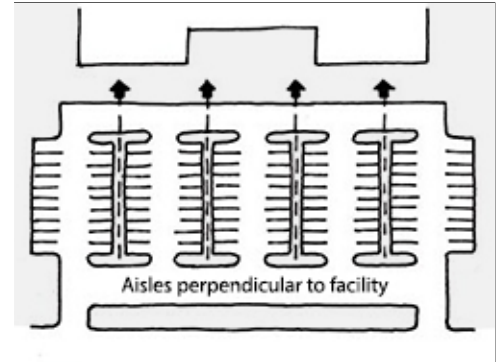
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Small Lot Configuration



Large Lot Configuration



Facility Group 1 Configuration



Connected Parking Lot



Adjacent Parking Lot

1. Evaluate adjacent sites and cost-effectively consolidate parking areas to maximize efficient use; ensure that all areas meet accessibility guidelines.
2. Generally, envision on-site parking as a series of small, connected singular areas selectively placed around the facility served, rather than a single large area; buffer parking areas from the facility main entrance with a transition space and provide drop-offs to decrease close-in parking. Comply with IFS standards while meeting AT 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 must be marked according to UFC 3-120-01, *Design: Sign Standards* 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.
13. Standard parking lot configuration will be perpendicular with two way circulation, with standard vehicle stall dimensions of 10' width and 18' depth, and minimum 26' traffic aisle width. Stall widths of 9.5' and/or diagonal parking configurations (60 degree) will only be considered in unusually constrained site plans with approval of the Dover AFB. Parking lot designs will include a reasonable number of motorcycle parking stalls (approximately 5%) with a standard stall width of 5', placed on concrete pavement and reasonably near the main facility entrance.
14. The use of parking bumpers or wheel stops at vehicle parking areas is not permitted.

C03.1.1. Paving and Striping

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

Facility Group 1 paving materials will be as follows.

- Primary: Asphaltic Concrete
- Secondary: Concrete
- Accent: Permeable Pavers

Facility Group 2 paving materials will be as follows.

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

Facility Group 3 paving materials will be as follows.

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

Facility Group 4 paving materials will be as follows.

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

1. The use of State of Delaware Department of Transportation (DelDOT) materials and mix designs for graded aggregate base, intermediate and wearing surface courses of hot-mix hot-laid asphalt concrete may be permitted if they comply with the respective UFGS criteria. Refer to G. Appendix supplemental document G32 Dover AFB IFS Exterior Improvements, section 32 10 00 Bases, Ballasts, and Paving.

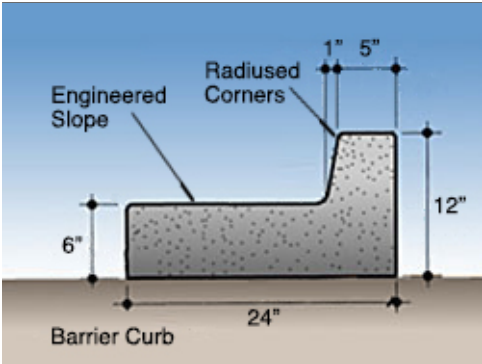
End of Section

C03.1.2. Curbing

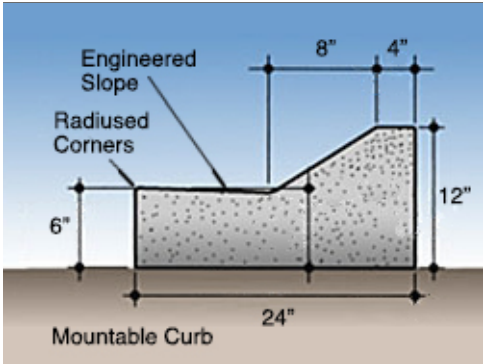
☐ Applicable ☒ N/A Large graphics do not apply

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

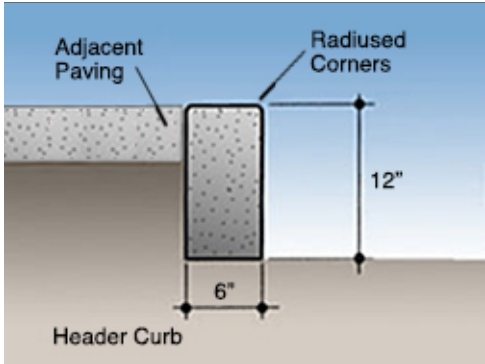
Image Tool 250 x 188



"Barrier" Curb



"Mountable" Curb



Header Curb

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

Primary: Concrete

Secondary: N/A

Accent: N/A

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

Primary: Concrete

Secondary: N/A

Accent: N/A

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

Primary: Concrete

Secondary: N/A

Accent: N/A

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

Primary: Concrete

Secondary: N/A

Accent: N/A

1. All roadway and parking lot curb will be integral curb and gutter and will have a cross section profile as shown for DelDOT Type 3 Integral Curb and Gutter. Upon approval by Dover AFB, exceptions may be permitted in situations where small portions of existing curb are replaced and must match existing. Provide a reverse slope gutter pan to permit drainage in situations where there is little or no available longitudinal slope along the gutter line.
2. In general all streets and parking lots will be provided with integral curb and gutter. Upon approval by Dover AFB, exceptions may be permitted for perimeter control, service and access roadways or similar pavement areas.
3. Where the use of integral curb and gutter is not possible, specify concrete filled pipe bollards.
4. Curbs will be constructed on graded crushed aggregate in a minimum thickness matching adjacent roadway construction. Sidewalks will be a minimum of 4 inches thick concrete and be provided with welded wire fabric reinforcement constructed on a minimum of 4 inches of graded crushed aggregate or structural fill. Sidewalks which cross vehicle entrances will be a minimum of 6 inches thick concrete and provided with welded wire fabric reinforcement constructed on a minimum of 6 inches of graded crushed aggregate or structural fill or greater if required based on vehicle loads.

End of Section

C03.1.3. Internal Islands and Medians

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Parking Lot Landscaped Island



Parking Lot Island with Xeric Plantings

1. All new parking lots in Groups 1 and 2 will be constructed of asphaltic concrete paving.
2. Porous paving may be considered on a case-by-case basis.
3. Cost-effectively provide light-colored concrete to reduce heat island effect; otherwise install asphaltic concrete paving. Dirt, gravel, and grass lots are not allowed.
4. Use consistent striping, angles and stall sizes in all parking areas.
5. All parking will be marked with white stripes of paint or applied vinyl coatings. Red or yellow markings will only be used for safety purposes and must be kept to a minimum. All lines will be four inches (4") wide.

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 AT guidelines are fully addressed.
4. Structures may be constructed below grade with roofs serving as vegetated areas or plazas.

C03.3. Connectivity

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A 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>

Comply with AF Corporate Standards for Stormwater Management:

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

C04.1. Stormwater Requirements

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Stormwater Element



Drainage Swale



Stormwater Discharge to Swale

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.
6. Cost-effectively integrate stormwater systems with AT measures.
7. Structures. Manholes and drainage inlets will be precast concrete and will be used at all changes in horizontal or vertical alignment. Inaccessible junction boxes (i.e., without manhole lids) must not be used. Maximum spacing of manholes or drainage inlet structures will be 300 feet. Cast-in-place steps will be used in all drainage structures with a depth greater than 4-feet. Manholes and drainage inlets will have cast-in-place concrete flow channels.
8. Pipe. Minimum pipe size will be 12 inch unless approved otherwise by Dover AFB. Allowable pipe types are 1) reinforced concrete pipe (RCP) Type III, IV, or V as appropriate for the depth of cover and type of loading, and 2) high density polyethylene (HDPE). Non-allowed pipe types are ductile iron, corrugated steel, and corrugated aluminum.

9. Building downspouts will discharge directly to an underground storm water collection system. Building downspout collection piping will be PVC SDR 35 or HDPE and a minimum of 6 inch diameter. Transitions will be through painted cast-iron boots at grade.

10. The preferred material is Polyvinyl Chloride (PVC) pipe and fittings for new sanitary sewer gravity mains and laterals.

C05. SIDEWALKS, BIKEWAYS AND TRAILS

Comply with AF Corporate Standards for Site Development:

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

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

<http://afcfs.wbdg.org/site-development/sidewalks-bikeways-trails/index.html>

C05.1. Circulation and Paving

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Sidewalk Connecting Facilities



Detached Sidewalk



Trail

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

Primary: Permeable Pavers

Secondary: Concrete Edging

Accent: N/A

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

Primary: Permeable Pavers

Secondary: Concrete Edging

Accent: N/A

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

Primary: Pervious Concrete

Secondary: N/A

Accent: N/A

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

Primary: Pervious 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. 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 will provide a direct path using "safe islands" and "peninsulas" to encourage safety. Walks parallel to streets will follow streetscape guidelines. Clearly mark pedestrian crossings at vehicular routes.
4. Mitigate heat island by providing high-albedo, shaded sidewalks. Permeable pavers will be used on all sidewalks, plazas and courtyards in Facility Groups 1 and 2; use pervious concrete in Groups 3 and 4. The designer will incorporate appropriate expansion and construction joints. Refer to G. Appendix supplemental document G32 Dover AFB IFS Exterior Improvements, 32 13 13 Concrete Paving.
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 will 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 will be increased to a minimum width of 8' to accommodate overhangs of the parked vehicles.
10. All sidewalks must 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% will be designed as ramps following accessibility guidelines. All walks will have a minimum cross slope of 2.1%.
11. Pavers will conform to the following range of color: Earth tones. Pavers used on walks will typically be 4"x8" nominal in size.
12. Connect to the bicycle circulation system and provide bicycle parking with a suitable means for securing bicycles following IFS. Consider changing/shower facilities for use by cyclists.
13. Refer to the Installation Development Plan for future trails, bicycle paths, and sidewalks.
14. Utilize DelDOT standard drawings for curb ramps. Although not required by the Architectural Barriers Act (ABA), all curb ramps on Dover AFB will include truncated dome detectable warnings consisting of 2' x 2' (nominal) precast concrete pavers, as manufactured by Hanover Architectural Products, in "Red 15" color for concrete sidewalk locations, or approved equal by Dover AFB. The precast detectable warnings pavers will be installed in a mortar bed or monolithically cast within the concrete sidewalk pavement with a minimum 4 inch thick concrete base, with paver joints of suitable width to accept either an appropriate grout or sealant.
15. Provide connecting sidewalks from all building entrance/exits. Mechanical, electrical, and communications room entrances will be accessible via sidewalks or pavements.

C05.1.1. Ramps and Stairs

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

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.

End of Section

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 1

Image Tool 250 x 188



Lighted Bollards

- 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>

C06.1. Climate-based Materials

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Indigenous Species



Drought Tolerant Species

- 1. Projects will typically not include landscaping unless specifically required by the project scope and included within the project Statement of Work, Request for Proposal, or approved by Dover AFB. When landscaping is required, the project will include a landscaping plan and supporting details in accordance with the requirements of UFC 3-201-02 "Landscape Architecture". When

included in the project, landscape designs and plantings will be appropriate to the natural environment and consistent with the installation's integrated natural resources management plan. Designs will utilize xeriscaping to the maximum extent possible, using low- to no-maintenance plants, vegetation, and ground cover.

C06.1.1. Landscape Design Concept

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Trees Defining Space



Accent Landscaping



Seasonal Color

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 will 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 will 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.
14. Provide a 2 feet wide lawn maintenance strip consisting of 4 inch thick Portland cement concrete pavement adjacent to buildings where EIFS exterior wall systems extend to grade to protect against errant lawn mowing equipment.
15. Maximum slope of turfed areas will be 4H:1V to facilitate mowing operations.
16. Refer to the IFS Supplemental Document, G32 Dover AFB IFS Exterior Improvements, which may be downloaded via hyperlink in appendix G. Note the supplemental document includes these sections:

32 90 00 Planting

- A. Compliance with Dover AFB IFS
- B. Landscape Contracts
- C. Prohibited Species
- D. Turf Establishment
- E. Maintenance of Turf Areas
- F. Protection of Facilities
- G. Irrigation Systems
- H. Tree Replacement
- I. Landscape Establishment
- J. Erosion Control Materials

20. Refer to other applicable supplemental documents, which are provided by discipline, also located in appendix G.

C06.1.2. Xeriscape Design Principles

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Mulched Planting Bed

1. Apply xeriscape principles following UFC 3-201-02, Appendix B, and Air Force Corporate Facilities Standards.
2. Facility plantings are encouraged to use native plant species and to consider specific microclimates created by the adjacent building: shadow areas, protected areas, zones adjacent to thermal mass, and availability of rainwater and/or grey water.

End of Section

C06.1.3. Minimizing Water Requirements

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Xeric Plant Materials

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 BCE.
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 will have one-year warranty and is subject to approval by the Base Landscape Architect.
8. Do not utilize the following landscaping material from Appendix A3 of the Dover AFB Architectural Compatibility Plan:
 - a. Shrubs- *Berberis thunbergii*, *Euonymus alata compacta*, *Spiraea japonica* "Anthony Waterer", *Spiraea japonica* "Little Princess", *Viburnum plicatum* var. *tomentosum*, Dwarf Spirea (Little Princess), and Double File Viburnum.
 - b. Groundcovers and Vines- *Hedra helix* "Baltica", *Vinca minor* Periwinkle, and Hardy English Ivy.
9. Seed. Specify seed mixture as required by the Delaware Department of Transportation Standard Specification Section 908 "Table A. Permanent Grass Seeding - Dry Ground".

10. Tree Replacement. Any existing trees necessarily removed by design or damaged as a result of construction activities will be replaced in kind unless approved otherwise by Dover AFB. Existing trees which are too mature to be replaced in kind will be replaced with a number and caliper of trees of equal value. The minimum caliper size is 2-inch. For example, an existing 12-inch caliper tree can be replaced with six 2-inch caliper trees of similar species or species of equal value.

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 will cost-effectively integrate a grey-water reclamation system following UFC 1-200-02, which provides source water for an automatic drip irrigation system; connect adaptive plantings adjacent to facilities to a grey-water irrigation system when available and discontinue the use of potable water for irrigation after the establishment period.
4. Provide irrigation design following UFC 3-201-02. Install drip irrigation products and components following UFGS Section 32 84 24 Irrigation Sprinkler Systems. Match the color of valve box lids to the adjacent ground treatment (i.e. green at turf & native seed areas, brown at wood mulch & rock areas).
5. Life cycle cost-effectively equip irrigation systems to sense soil moisture, rainfall and wind to minimize unnecessary watering; incorporate drip irrigation systems as the primary source.

C06.1.6. Base Entrance Landscaping

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Trees Outside Sight Lines

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.

End of Section

C06.1.7. Streetscape Landscaping

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Trees as a Focal Point

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

C06.1.8. Pedestrian Circulation Landscaping

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

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.

End of Section

C06.1.9. Parking Lot Landscaping

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Perimeter and Internal Landscaping



Landscaped Island

1. Integrate appropriate landscaping elements into parking areas to visually soften the appearance at a minimum rate of 5 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 will be landscaped to receive rainwater runoff from adjacent impervious parking areas to be absorbed into the ground/planting bed. Native plants and groundcovers are recommended within the rain garden areas, which can survive without supplemental irrigation once established.

C06.1.10. Screen/Accent Landscaping

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Provide complimentary accent landscaping at monuments and static displays.
2. At Facility Group 1, provide landscaping adjacent to all freestanding signs without distracting from the written communication.
3. Provide landscape screening of utility elements adjacent to Facility Group 1.
4. Providing landscaping as visual screening is preferred to the construction of walls and fences; berming and mounding may supplement landscape screening.

C06.1.11. Other

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Specify only 100% biodegradable erosion control materials for permanent applications. Erosion control mats, blankets, or similar items containing non-biodegradable material such as nylon or plastic can become a nuisance to mowing operations. Non-biodegradable erosion control materials may only be used as a temporary measure and must be entirely removed prior to construction completion.

C07. SITE FURNISHINGS

Comply with AF Corporate Standards for Site Development:

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

Comply with AF Corporate Standards for Site Furnishings:

<http://afcfb.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 3

Image Tool 250 x 188



Bike Rack



Visual Screen Wall



Custom Site Furnishing

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 will be precast and powder coated metal. Group 3 and 4 site furnishings will be powder coated or vinyl coated metal. 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 will match facility architecture.
5. Benches in Groups 1, 2, 3, 4, and parks will be powder coated steel.
6. Integrate functional bicycle racks with the design of the building's main entrance grounds in Facility Groups 1 and 2 while meeting AT requirements.
7. Limit the use of bollards, but when necessary for force protection use precast concrete in Groups 1 and 2; steel bollards in Group 3; anodized aluminum bollards in Group 4 and parks and trails.
8. Bollards adjacent to facilities, which are required to protect equipment, will be painted Dover AFB "Eagle Feather Tan". Standalone bollards away from buildings will be painted Dover AFB "Bald Eagle Brown". A 6-inch wide band of white reflective tape will be affixed to all bollards in non-paved areas. An additional 6-inch wide band of red reflective tape above the white band will be affixed to bollards in paved areas.
9. Locate architecturally coordinated containers for recycling, litter, ash, vending, etc., to minimize visual clutter and not visible from the building's main entrance. Minimize the use of freestanding planters.
10. Generally, limit picnic tables, barbeque grills and drinking fountains to lodging, dormitories, housing areas, parks and recreation areas following IFS.

11. Flagpoles using approved materials may be installed at locations designated by IFS, and in accordance with AFI 34-1201.
12. Refer to the Overview Section “Facility Hierarchy” topic of this AFCFS for guidelines regarding ancillary structures such as pavilions and shade shelters.
13. Bus shelters will be provided only where there is a documented need and when approved on a case-by-case basis. Generally, emulate the designs of adjacent shelters using powder coated or anodized aluminum structures.
14. Monuments and static displays will be limited. New elements are generally discouraged unless these are fully vetted through the base’s approval process and designed following IFS.
15. When visual screening is necessary, consider landscaping as the first option; screen walls are permitted in Groups 1, 2 and 3 constructed of CMU.
16. For fencing, apply the standards for “Products, Materials and Color” in the following section. Limit those with the highest visual quality to Facility Group 1 where there is sustained maintenance. Define all levels of security and visual quality.
17. Do not use chain-link fencing at Group 1, 2 or 4 facilities; Limit the use of barbed-wire outriggers on chain-link fencing at industrial sites, unless required for additional security or protection of assets.
18. Wood fencing may be used in Facility Group 4 and in recreation areas following IFS for material and finish when there is sustained periodic maintenance.
19. Provide trash dumpster enclosures for Group 1, 2 and 3 facilities with brick piers, CMU walls, and metal gates. All gates will be factory finished dark bronze.
20. Specify screen wall materials and finishes that do not require painting or maintenance beyond periodic cleaning.
21. In groups 1, 2, 3, and 4 and in parks, picnic tables and seating will be vinyl coated steel. Generally, limit picnic tables, barbeque grills and drinking fountains to lodging, dormitories, housing areas, parks and recreation areas.
22. Limit the use of freestanding planters to areas with ongoing maintenance.
23. Provide kiosks only where there is a documented need for visual communication of posted messages. When used, match adjacent facilities in materials and detailing and consolidate kiosks with other site furnishings within 30 feet of major pedestrian paths. Limit kiosks to facility Groups 1 and 2 and parks.
24. Manufacturers listed in sections C07.2.1. - C07.2.18. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

End of Section

C07.2. Site Furnishings Products, Materials and Color

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

C07.2.1. Barbeque Grills

☒ Applicable ☐ N/A Number of base standards 2

Image Tool 250 x 188



Type: **Charcoal**

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

Mfr: Most Dependable Fountains, Inc.

Color: Natural stainless steel

Finish: Mill

Model #: SS BBQ Grill

Other: Concrete foundation, coordinate with Base Architect

UFGS: N/A



Type: **Natural Gas**

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

Mfr: BBQ Coach

Color: Natural stainless steel

Finish: Mill

Model #: 32" 4-Burner

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

UFGS: N/A

C07.2.2. Benches

☒ Applicable ☐ N/A

Number of base standards 2



Type: **Metal Strap Bench**

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

Mfr: Landscape Forms

Color: Dark Bronze

Finish: Powder coat

Model #: 6' length

Other: N/A

UFGS: N/A



Type: **Metal Strep Bench**

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

Mfr: The Park Catalog

Color: Dark Bronze

Finish: Powder coat

Model #: 6' length

Other: N/A

UFGS: N/A

C07.2.3. Bike Racks

☒ Applicable ☐ N/A

Number of base standards 1



Type: **Style 1**

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

Mfr: Brandir International Inc.

Color: Galvanized, or dark bronze

Finish: Factory

Model #: The Ribbon Bike Rack, RB-07

Other: N/A

UFGS: N/A

C07.2.4. Bike Lockers

☐ Applicable ☒ N/A

C07.2.5. Bollards

☒ Applicable ☐ N/A

Number of base standards 3



Type: **Round Non-Lighted Bollard**

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

Mfr: Dura Art Stone

Color: Weatherstone Gray with Silver Accent

Finish: Textured precast / anodized aluminum

Model #: Rock aggregate

Other: Do not provide lighted bollard functionality; no lamping is required.

UFGS: N/A



Type: **Non-Lighted Decorative Bollard**

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

Mfr: Iron Age

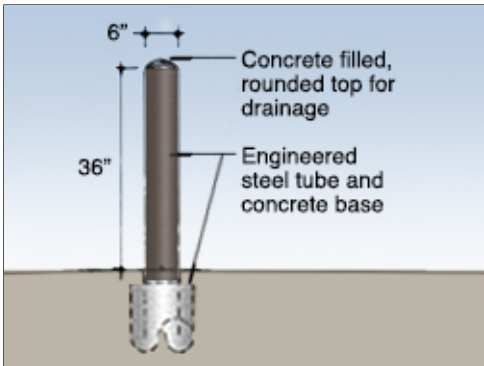
Color: Black

Finish: Powder Coat

Model #: MSBO351 35.25" x 9.5" Cast Aluminum

Other: Do not provide lighted bollard functionality; no lamping is required.

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

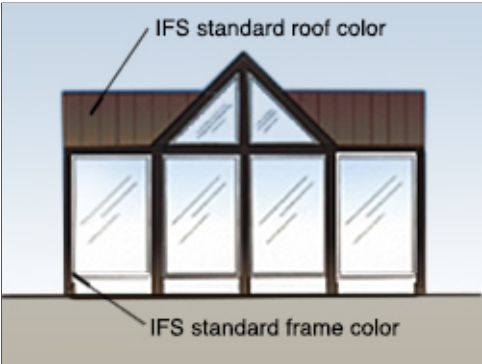
Model #: 6" Steel pipe, concrete filled, Cover: R-7173

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 #: Gabled roof

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

UFGS: N/A

C07.2.7. Drinking Fountains

☒ Applicable ☐ N/A Number of base standards 1



Type: **Pedestal**

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

Mfr: Most Dependable Fountains, Inc.

Color: Natural

Finish: Stainless Steel

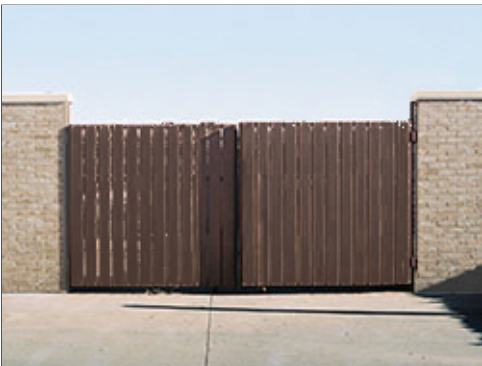
Model #: MDF 440 SMSS

Other: Accessible

UFGS: N/A

C07.2.8. Dumpster Enclosures / Gates

☒ Applicable ☐ N/A Number of base standards 1



Type: **1: Brick and Steel**

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

Mfr: Custom

Color: Red brick blend, dark brown doors

Finish: Face brick, powder coated doors

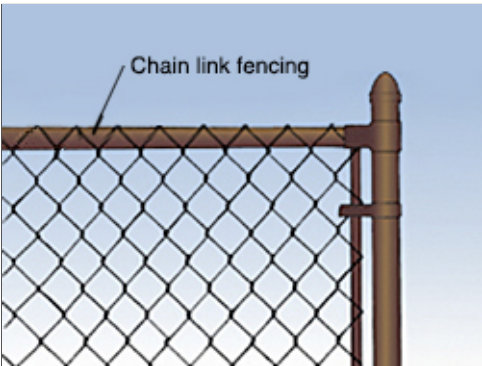
Model #: Match adjacent building

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

UGFS: Section 04 20 00 Unit Masonry

C07.2.9. Fencing

☒ Applicable ☐ N/A Number of base standards 5



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

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

Mfr: General Wire Co.

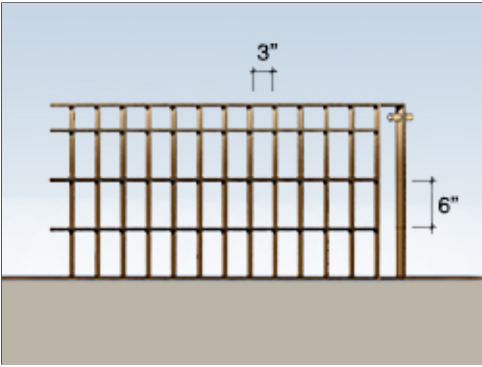
Color: Dark brown

Finish: PVC coating over galvanized steel

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

Other: Chain link fencing, for both perimeter and enclosure fencing, will be vinyl coated in the manufacturer's standard color of either black or dark brown (not green). If used, slat inserts must also be either black or dark

UGFS: Section 32 31 13 Chain Link Fences and Gates



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

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

Mfr: Custom

Color: Dark brown

Finish: Powder coat

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

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

UGFS: Section 05 50 13 Miscellaneous Metal Fabrications



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

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

Mfr: Custom

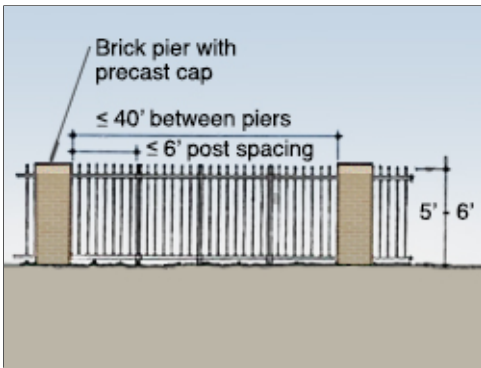
Color: Dark Brown

Finish: Powder coat

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

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

UGFS: Section 05 50 13 Miscellaneous Metal Fabrications



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

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

Mfr: Custom

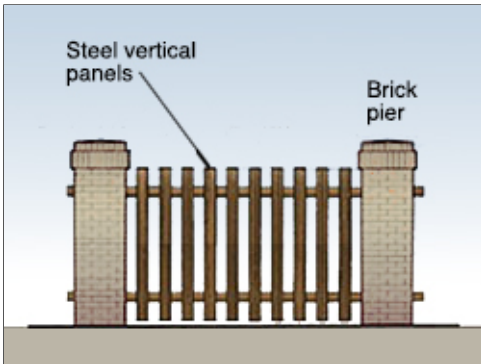
Color: Red brick blend, dark brown fencing

Finish: Face brick, powder coated metal

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

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

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



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

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

Mfr: Custom

Color: Red brick blend, dark brown fencing

Finish: Powder coated metal

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

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

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

C07.2.10. Flagpoles

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **1**

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

Mfr: Eder Flag

Color: Natural aluminum

Finish: Satin Lustre

Model #: ECL30 IH, Internal Halyard

Other: 5" Butt Dia. 33' H (30' Exposed)

UFGS: N/A

C07.2.11. Lighting – Landscape / Accent

Please refer to the Lighting section.

C07.2.12. Litter and Ash Receptacles

☒ Applicable ☐ N/A

Number of base standards 2

Image Tool 250 x 188



Type: **Style 1: 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,
http://materialsinc.com/wp-content/uploads/2014/10/TR-3225_SANTA_FE.pdf

UFGS: N/A



Type: **Style 2: Metal**

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

Mfr: Wabash Valley

Color: Black or as approved

Finish: Perforated Pattern

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

Other: With dome top, without side door

UFGS: N/A

C07.2.13. Picnic Tables

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



Type: **Metal, vinyl coated**

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

Mfr: Wabash Valley

Color: Brown or as approved

Finish: Factory vinyl coated

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

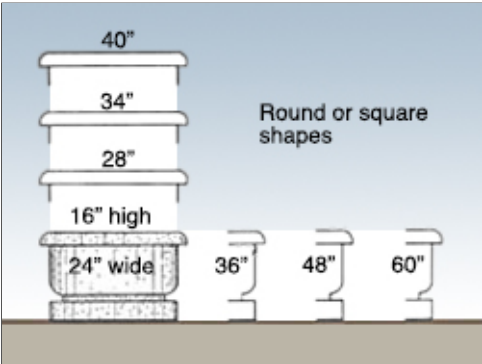
Other: Perforated Pattern, In-ground mount

UFGS: N/A

C07.2.14. Planters

☒ Applicable ☐ N/A

Number of base standards 1



Type: **Precast concrete**

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

Mfr: Materials, Inc.

Color: Weatherstone Gray

Finish: Smooth

Model #: Santa Fe

Other: N/A

UFGS: N/A

C07.2.15. Play Equipment

☒ Applicable ☐ N/A

Number of base standards 1



Type: **Steel**

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

Mfr: Little Tikes Commercial

Color: Varies

Finish: Powdercoated Steel

Model #: N-R-G Freestyle

Other: Coordinate with Base Architect

UFGS: N/A

C07.2.16. Screen Walls

☒ Applicable ☐ N/A Number of base standards 1



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

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

Mfr: Custom

Color: Tan brick, tan CMU

Finish: Powder coated metal

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

Other: Brick: 2'x2' (Height as required, equally spaced 8' to 40'), CMU running bond walls, precast column caps and wall coping

UFGS: Section 04 20 00 Unit Masonry

C07.2.17. Tree Grates

☒ Applicable ☐ N/A Number of base standards 1



Type: **Cast Iron**

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

Mfr: Neenah Enterprises, Inc.

Color: Natural cast iron

Finish: Cast

Model #: 2-Piece, 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://afcfb.wbdg.org/site-development/index.html>

Comply with AF Corporate Standards for Exterior Signs:

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

C08.1. Colors and Types

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Freestanding Building Sign



Building Number 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. Refer to Section C08.1.1 for colors of signs faces and sign posts.
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, *Design: Sign Standards*. 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-by-case basis.
7. Group 2 and 3 facilities will 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, must 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. Coordinate specific graphics requirements with Dover AFB project management.
19. Manufacturers listed in sections C08.1.1. - C08.1.10. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

C08.1.1. Materials and Color Specifications

☐ Applicable ☒ N/A Large graphics do not apply

☐ Applicable ☒ N/A Small graphics do not apply

1. Acceptable sign vendor is Pioneer Supply (800-545-2233), 1710 N. Franklin St, Pittsburg, PA 15233. Pioneer Sign Kit catalog number "Series 3 K1260P, or approved equal by Dover AFB.

Materials and Color Specifications

☒ Applicable ☐ N/A Number of base standards 3

Image Tool 250 x 188



Type: **Typical Sign Fce**

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

Mfr: Custom

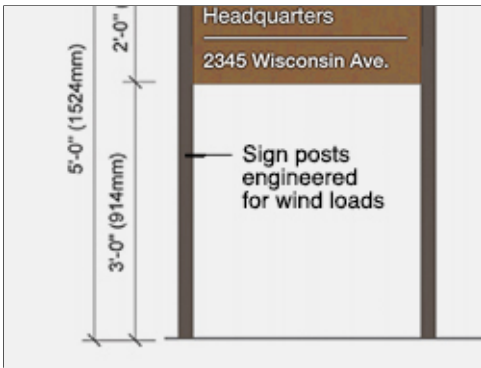
Color: National Park Service brown with white lettering

Finish: Matte vinyl

Model #: Aluminum flat sheet

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

UGFS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Typical Sign Post**

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

Mfr: Custom

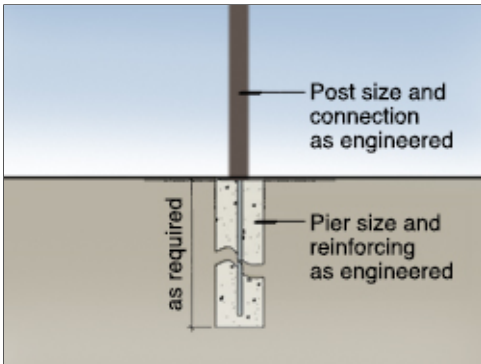
Color: Dark bronze, powder coat finish

Finish: Matte

Model #: Extruded aluminum with capped top ends

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

UGFS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Typical Sign Base**

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

Mfr: Custom

Color: Natural Gray

Finish: Sonotube-formed

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

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

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

C08.1.2. Installation and Gate Identification Signs

☒ Applicable ☐ N/A Number of base standards 1

Image Tool 250 x 188



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

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

Mfr: Custom

Color: Dark bronze, brushed aluminum, accents per UFC

Finish: Powder coat or vinyl sign face

Model #: Metal frame and panels, buff stone base

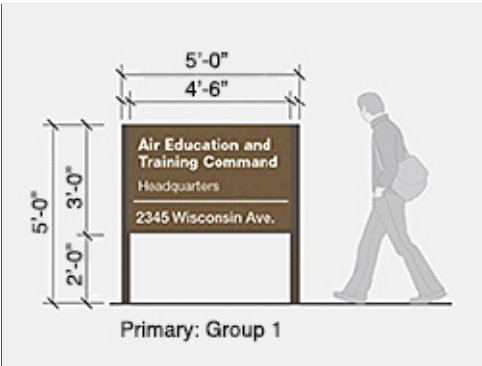
Other: White vinyl lettering. Provide dimensions per UFC. Secondary signs will match primary sign's materials, but will be smaller in size per UFC. Tertiary signs must follow the UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

C08.1.3. Building Identification Signs

☒ Applicable ☐ N/A Number of base standards 5

Image Tool 250 x 188



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

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

Mfr: Custom

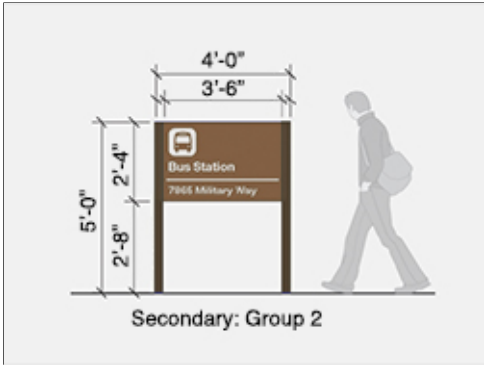
Color: Medium brown face, dark bronze posts, white vinyl lettering

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

Other: Provide layout and sizes per UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



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

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

Mfr: Custom

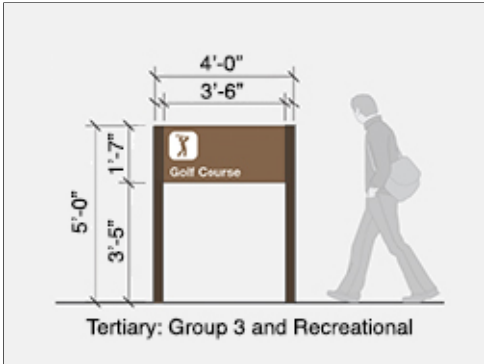
Color: Medium brown face, dark bronze posts, white vinyl lettering

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

Other: Provide layout and sizes per UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



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

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

Mfr: Custom

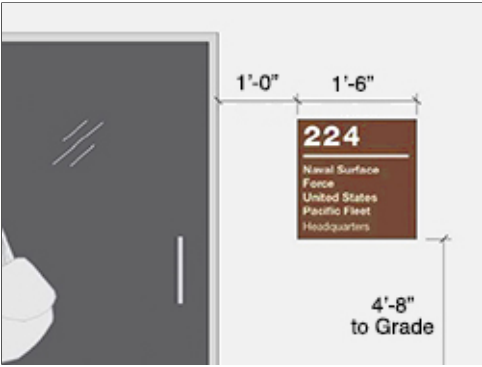
Color: Medium brown face, dark bronze posts, white vinyl lettering

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

Other: Provide layout and sizes per UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Wall Mounted**

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

Mfr: Custom

Color: Medium brown, white lettering

Finish: Satin vinyl applied to aluminum sheet

Model #: Aluminum sheet with vinyl face and vinyl lettering

Other: Provide layout and sizes following UFC.

UFGS: N/A



Type: **Glass Mounted**

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

Mfr: Custom

Color: White vinyl lettering

Finish: Matte vinyl

Model #: Machine-cut sheet vinyl

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

UFGS: N/A

C08.1.4. Traffic Control Devices (Street Signs)

☒ Applicable ☐ N/A Number of base standards 1



Type: **Street Signs**

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

Mfr: Custom

Color: White reflective lettering on a Standard Brown background

Finish: Powder coat or vinyl sign face

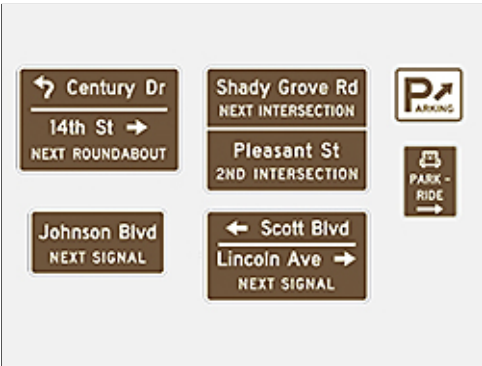
Model #: Aluminum sign face, control arm or pole mounted

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

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

C08.1.5. Directional and Wayfinding Signs

☒ Applicable ☐ N/A Number of base standards 2



Type: **Vehicular**

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

Mfr: Custom

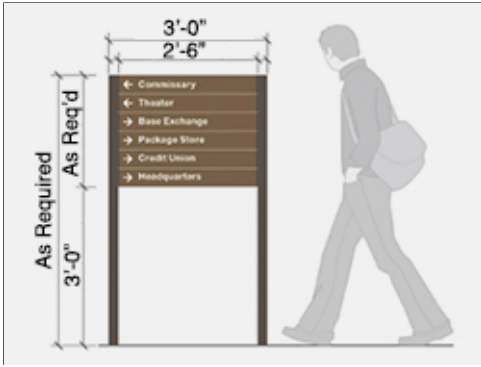
Color: Medium brown face, dark bronze posts, white reflective lettering

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 will have standard National Park Service brown.
3. Hours of operation signs will have a level of quality equivalent to the Facility Group number.
4. Temporary / Project Signage will 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 will be limited to an electronic "marquee" type changeable sign near each gate. Temporary signs are not permitted. Motivational information may also be posted in a small, printed format on kiosks in specified, high pedestrian use areas. Refer to kiosks under Site Furnishings.
3. Follow UFC 3-120-01 for color and layout. Note that animated, blinking, chasing, flashing, or moving effects are prohibited by the UFC.
4. Mount marquee signs on reinforced concrete bases with a natural warm gray color.

C08.1.8. Parking Lot Signs

☐ Applicable ☒ N/A

C08.1.9. Regulatory Signs

☐ Applicable ☒ N/A

1. Regulatory signage, which restricts, warns and advises, must be limited to those mandated under Highway/Traffic, Government Warning, and/or Parking Regulation. Follow UFC 3-120-01 and its industry references for color and layout.
2. Provide a comprehensive, systematic approach to regulatory signage to avoid clutter and confusion from “over signage.”
3. Maintain base warning signs for safety and security at the base perimeter and at specific secure areas. Use these to notify visitors of restrictions governing conduct on the base, as well as other security procedures.

C08.1.10. Other

☐ Applicable ☒ N/A

Not applicable

C09. LIGHTING

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

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

C09.1. Fixtures and Lamping

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Balanced Interior-Exterior Lighting



Parking Lot Fixture



Wall-Mounted Fixture

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. Incorporate vehicle motion sensors to allow for dimming when area is unoccupied. Integrate lighting control panel with EMCS system.

3. Ensure continuity and consistency of lighting elements. In new construction generally match post types, fixture types, styles, heights, sizes, materials, colors, and lamp types of adjacent facilities and the facility district.
4. Economically provide renewable-energy power sources such as solar photovoltaic when feasible.
5. Use appropriately designed or shielded luminaires to direct light downward to minimize light pollution and intrusion onto adjacent sites and to facilitate night training.
6. Calculate illuminant levels for all lighting applications following UFC 3-530-01 and ensure compliance with pre-curfew maximum brightness level requirements.
7. Sufficiently address environmental factors to prevent corrosion and weathering of fixtures, plinths and other components.
8. Wall mounted fixtures should respond to the architectural character of the facility.
9. Efficient accent lighting of architectural and landscape features may be provided for Group 1, lodging and historical applications. Accent lights in ground-mounted locations may be provided for static displays and signs when these do not conflict or cause hazards with overhead aircraft.
10. Comply with UFC 3-530-01 for light source technology and lamp types. High efficiency lamping such as LED is preferred for most applications.
11. Provide round tapered, square non-tapered, or round non-tapered aluminum poles and aluminum fixtures with square, rectangular or circular housings in colors and shapes to match adjacent facilities and the facility district.
12. Do not use lighted bollards.
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 will have at-grade bases. Group 3 will 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. Integrate controls to incorporate vehicle motion sensors to allow for dimming when area is unoccupied. Integrate lighting control panel with EMCS system.
18. Manufacturers listed in sections C09.2.1. - C09.2.6. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

End of Section

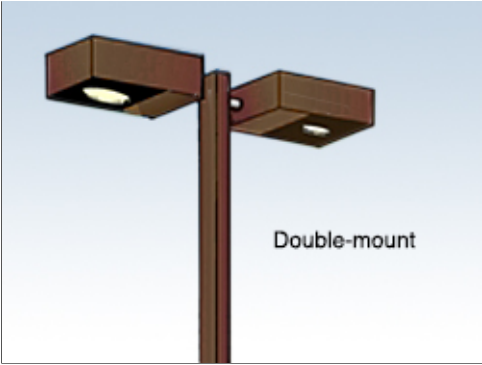
C09.2. Light Fixture Types

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

C09.2.1. Street Lighting

☒ Applicable ☐ N/A Number of base standards 2

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Hubbell, Kim Lighting

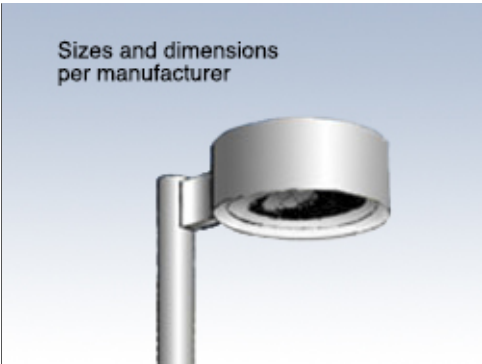
Color: Dark Bronze Anodized (or Clear Anodized as approved by BCE)

Finish: Factory

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

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

UFGS: N/A



Type: **Style 2**

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

Mfr: Hubbell, Kim Lighting

Color: Clear Anodized as approved by BCE

Finish: Factory

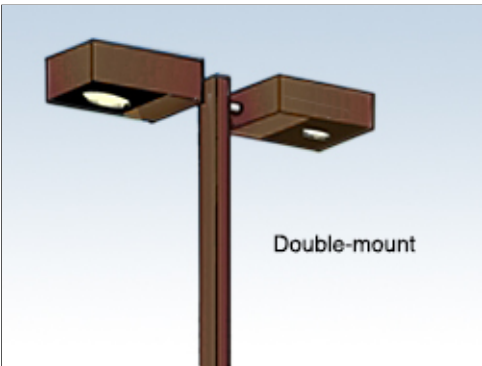
Model #: Round Cutoff, Single Arm or Dual Arm Mount

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

UFGS: N/A

C09.2.2. Parking Lot Lighting

☒ Applicable ☐ N/A Number of base standards 2



Type: **Parking Lot Style 1**

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

Mfr: Hubbell, Kim Lighting

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

Finish: Factory

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

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

UFGS: N/A

Type: **Parking Lot Fixture Base**

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

Mfr: Custom

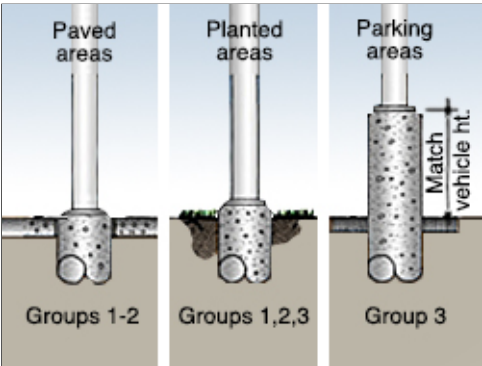
Color: Natural gray

Finish: Trowel

Model #: Form-cast, round

Other: N/A

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

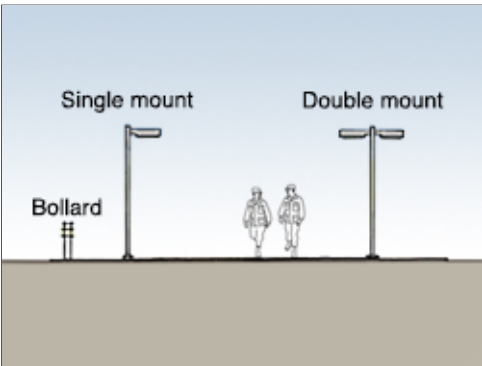


C09.2.3. Lighted Bollards

☐ Applicable ☒ N/A

C09.2.4. Sidewalk Lighting

☒ Applicable ☐ N/A Number of base standards 1



Type: **Rectilinear Cutoff**

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

Mfr: Hubbell, Kim Lighting

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

Finish: Anodized aluminum

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

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

UFGS: N/A

C09.2.5. Walls / Stairs Lighting

☒ Applicable ☐ N/A Number of base standards 1



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-exterior/index.html>

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

Image Tool 800 x 440

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

Image Tool 250 x 188



Group 3 Standard Materials and Colors



Group 1 Architectural Features



Group 2 Colonnade for Shading



Group 4 Standard Materials

D01. SUPPORTING THE MISSION

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

D02. SUSTAINABILITY

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

D03. ARCHITECTURAL FEATURES

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

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

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



D03.1. Orientation, Massing and Scale

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

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 will not be limited; however, building heights over 2 stories will be considered on a case-by-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

- ☐ Applicable ☒ N/A Large graphics do not apply
- ☒ Applicable ☐ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3

Image Tool 250 x 188



Environmentally Functional Features



Visual Architectural Unity



Recurring Elements and Features

1. Develop architectural features, materials and detailing appropriate for the Facility Group designation. Refer to Building Entrances, Wall Systems and Roof Systems.
2. Respond to the local climate and regional influences with environmentally functional architectural features.
3. For new facilities design generally maintain consistency and visual unity in the character of the adjacent buildings through compatible architectural features: repeated use of similar forms such as roofs, and through recurring elements such as doors, windows, materials and colors.

4. Reinforce the military transport theme with a related architectural theme expressive of innovation and technology that represents the current mission at Dover AFB.
5. All facilities will 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.
7. Ensure architectural compatibility through the use of consistent materials such as concrete masonry units (CMU), brick, and Exterior Insulation Finish Systems (EIFS). Please refer to Section D05.4 Wall Systems Materials and D07.9. Roof Systems Materials for a detailed listing of materials.

D03.3. Details and Color

1. Provide a palette of approved Dover AFB colors in brick, block, EFIS and powder-coated metals. Refer to Section D05.4 Wall Systems Materials and D07.9. Roof Systems Materials for a detailed listing of colors and other details.
2. Relate the level of architectural detailing to the Facility Group number.
3. Use only materials with integral color as the predominant exterior building material; do not use materials that require field painting and ongoing maintenance.
4. For existing facilities that have been previously painted, follow the painting standards in IFS supplemental document, *G05 Dover AFB IFS Architecture and Exterior Painting Standards*, which may be downloaded via hyperlink in appendix G.
5. 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.
6. Noncorrosive metals with factory applied color finishes are required.
7. Combine details and color with orientation, massing, scale and architectural character to maintain base compatibility.

☐ Applicable ☒ N/A Large graphics do not apply

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

Image Tool 250 x 188



Contrasting Metal Panels and Brick



Brick with Precast Coping



Brick Relief Accent

8. Navigate to G. Appendix supplement, *G05 Dover AFB IFS Architecture and Exterior Painting Standards*, for additional information.
9. Manufacturers listed in sections D03.3.2. - D03.3.7. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

End of Section

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: N/A

<i>Facility:</i>	Narrow buildings along E-W axis are preferred
<i>Wall:</i>	Integral shading features and devices / interior masonry thermal mass walls (for cooling)
<i>Doors:</i>	Recessed are preferred
<i>Windows:</i>	Provide insulating glazing on north-facing windows / maximize shading for windows on south façades.
<i>Roof:</i>	High to medium albedo, moderate slope for all buildings except hangars / large industrial facilities
<i>Structure:</i>	Do not expose ferrous metals. Provide factory finished non-ferrous metals or concrete
<i>MEP:</i>	Ground-source following LCCA
<i>Other:</i>	Internal thermal mass walls may be used for cooling following LCCA. Operable windows with screens must be provided wherever possible.
<i>Other:</i>	Active skin systems / active shading devices are permitted following LCCA.

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

D03.3.2. Natural Ventilation System

☒ Applicable ☐ N/A Number of base standards 1



Type: **Style 1 Aluminum Windows**

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

Mfr: Kawneer (or equivalent)

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

Finish: Anodized

Model #: 2x4, slider or awning type

Other: Provide thermally broken frames.

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

D03.3.3. Thermal Mass

☒ Applicable ☐ N/A Number of base standards 1



Type: **Style 1 Interior Wall Material**

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

Mfr: Custom, TBD

Color: Red brick blend

Finish: Light texture

Model #: Coursed unit masonry

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

UFGS: Section 04 20 00 Unit Masonry

D03.3.4. Thermal Shading

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1 Wall Devices**

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

Mfr: Kawneer (or equivalent) or custom

Color: Dark bronze

Finish: Factory, to match frames

Model #: Louver

Other: Shading devices may be attached to frames or structure

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

D03.3.5. Renewable Heating/Cooling

☐ Applicable ☒ N/A

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

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



D04.1. Primary Entrances

1. Emphasize the primary entrance in the overall building design with a projecting or recessed covering for weather protection following Installation Facilities Standards (IFS) for Facility Group designations. Design building entrance layout in accordance with UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*.
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 AT and IFS.
6. Protect entrances from falling snow and ice.
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.

End of Section

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

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



D05.1. Hierarchy of Materials

1. Group 1 facilities may have more refined detailing than Group 2 and Group 2 may have more definition than Group 3.
2. Group 1 and 2 facilities will be a combination of; Dover Tan standard-size and may use exterior insulation finish system for subtle accents to brick. Use header, rowlock, and soldier coursing with corbelling, relief or other accents to create shadow lines. Brick and architectural precast may be used also. Metal insulated sandwich panels are acceptable for Group 3 facilities and inconspicuous areas of Group 2 facilities. Refer to the Appendix for special requirements of Facility Districts.
3. Group 1 facilities will promote the use of relief in brick surfaces creating shadow lines; Conceal expansion joints with downspouts or locate them at transitions in the wall such as pilasters or reveals.
4. Group 4 will be a combination of two of the following materials: brick and horizontal siding.
5. Multi-story Group 1 facilities may include a transition in material, color or detailing to create a visual base. Generally, limit brick and exterior insulation finish systems to a single color on Group 2, 3 and 4 facilities.
6. Use high-performance building envelopes following UFC 1-200-02, *High Performance and Sustainable Building Requirements* and UFC 3-101-01, *Architecture*.
7. Use detailing not subject to excessive weathering. Provide wall accents consistently throughout the base.
8. Where masonry construction materials are used in exterior exposure applications or below grade, such as concrete block, concrete brick, cement mortar, and grout, these must be composed of low-alkali cement mix designs.
9. Protective Coating: New structural and/or architectural concrete and masonry construction must be protected with a concrete/masonry sealer (i.e., siloxane, etc.) such as Conpro Shield MX or MasterProtect H200, or approved equal.
10. Use integrally colored materials and factory-finished metals. Do not paint concrete block.
11. Provide gutters and downspouts which connect to an underground storm water collection system. Downspout color must match the wall color. Transitions will be through cast-iron boots at grade painted Bald Eagle Brown or Black.
12. Translucent wall panels may be used in Facility Group 1 and Group 2 when protected from direct solar gain. Provide insulating panels and shading appropriate for the orientation and exposure.
13. Factory Fabricated Insulated Metal Wall Panel Systems will be polyisocyanurate or polyurethane core foamed-in-place, minimum 22 gage embossed galvanized steel exterior with a polyvinylidene fluoride finish and minimum 26 gage galvanized steel interior (embossed for exposed applications and non-embossed for non-exposed applications) with a silicone modified polyester finish, including manufacturer's 20 year no-dollar-limit warranty, as manufactured by Kingspan "Shadowline" panel system or approved equal
14. DAFB Decorative Concrete Masonry Units: Split-face and smooth decorative concrete masonry units will be as manufactured by Fizzano Brothers Concrete Masonry Products, Inc., 1776 Chester Pike, Crum Lynne, PA 19022, (Color Number F-1054C), or New Holland Concrete, New Holland, PA, (Color Number N1162), or approved equal. Mortar color will be natural Portland cement with no color additives.
15. DAFB Brick Masonry Units: Brick will be as manufactured by the Belden Brick Company, Canton, OH, (Color Number 8521), or General Shale Plymouth, (Color Number 39-10-050-0), or Glen-Gary, (Color Number R83), or approved equal. Mortar color will be natural Portland cement with no color additives.
16. DAFB Exterior Insulation Finish System (EIFS). Approved colors will be either Dryvit #111 "Prairie Clay" in Sandpebble or Sandblast texture or Sto Classic Color Collection #93860 "Sandstone" in Medium 1.5 or Fine 1.0 texture. Other colors require prior approval by Dover AFB.
17. Manufacturers listed in sections D05.4.1. - D05.4.13. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

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 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 will 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 will match the wall color.
4. All facilities must have a Knox Box, manufactured by the Knox Company, Irvine CA.
 - a. The Knox Box must consist of a 100% welded steel case, hinged 1/2" thick steel door with interior gasket seal and 1/8" stainless steel lock cover, dark bronze finish, without the tamper switch option.
 - b. Specify Model 3274 (recessed mount) for new construction or Model 3265 (surface mount) for existing construction if recessed mounting is not feasible. Note: Knox boxes are typically specified under UFGS division 10, section 10 41 16 Emergency Key Cabinets.
 - c. Box location will be adjacent to the facility main entrance at approximately 5' high.
 - d. The contractor must obtain an order form with authorized signature from the DAFB Fire Department to place the order for this item.

End of Section

D05.4 Wall Systems Materials

Facility Group 1 wall materials will be as follows.

- Primary: Brick
- Secondary: Architectural Precast
- Accent: Optional: EIFS

Facility Group 2 wall materials will be as follows.

- Primary: Brick and EIFS
- Secondary: Architectural precast
- Accent: Optional: Cast-in-Place Concrete

Facility Group 3 wall materials will be as follows.

- Primary: Insulated Metal Sheeting
- Secondary: Brick
- Accent: Optional: Brick

Facility Group 4 wall materials will be as follows.

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

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

D05.4.1. Flat Metal Panels

☒ Applicable ☐ N/A Number of base standards 2



Type: **Aluminum Composite Panel**

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

Mfr: 3A Composites

Model #: Alucobond Plus Anodized Collection

Color: Off-white or light beige as approved by CES

Finish: Clear anodized or factory finish

Other: Route and Return Dry Seal

UFGS: Section 07 42 13 Metal Wall Panels:
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 13.pdf>
Section 07 42 63 Fabricated Wall Panel Assemblies:
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 63.pdf>



Type: **Insulated Metal Panel System - Galvanized Steel or Aluminum**

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

Mfr: Kingspan

Model #: Shadowline Insulated Metal Wall System

Color: Light beige or off-white as approved by CES

Finish: Factory embossed, course textured, fluoropolymer

Other: Refer to D05.1.13.

UFGS: Section 07 42 13 Metal Wall Panels:
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 13.pdf>
Section 07 42 63 Fabricated Wall Panel Assemblies:
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 63.pdf>

D05.4.2. Brick Veneer

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Belden Brick or General Shale Plymouth or Glen-Gary

Model #: 2.6x4x8 nominal, face brick

Color: #8521A (Tan); #39-10-050-0 - Royal Grey Velour; #R83 - Boulder Grey

Finish: Straight edges, smooth texture

Other: Mortar color will be natural Portland cement with no color additives

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

D05.4.3. Architectural Precast

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1, Smooth Casting**

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

Mfr: Local, TBD

Model #: Smooth Casting

Color: Light Beige

Finish: Very Light texture

Other: N/A

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

D05.4.4. Stucco Over Sheathing

☐ Applicable ☒ N/A

D05.4.5. Curtain Wall

☐ Applicable ☒ N/A

D05.4.6. Cast-In-Place Concrete

☐ Applicable ☒ N/A

D05.4.7. Tilt-Up Concrete

☐ Applicable ☒ N/A

D05.4.8. Ribbed Metal Sheeting

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Flush Seam Panel**

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

Mfr: Berridge

Model #: Flush Seam Panel

Color: Beige (match ICI Devoe Pastel Tint Base #BLK 1P32 YOX 1P39 OXR 19)

Finish: Embossed Texture, factory finished

Other: 24 Gauge Steel

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

D05.4.9. EIFS

☒ Applicable ☐ N/A

Number of base standards 2

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Dryvit

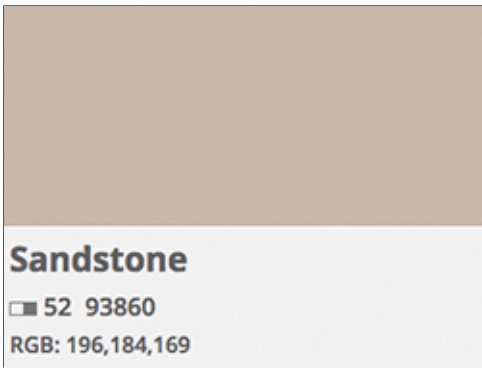
Model #: "Outsulation" System

Color: #111 "Prairie Clay"

Finish: "Sandpebble" or "Sandblast" texture

Other: Other colors require prior approval by Dover AFB

UFGS: Section 07 24 00 Exterior Insulation and Finish Systems:
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 24 00.pdf>



Type: **Style 2**

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

Mfr: Sto

Model #: Insulated Wall Cladding

Color: Sto Classic Color Collection #93860 "Sandstone"

Finish: Medium 1.5 or Fine 1.0 texture

Other: Other colors require prior approval by Dover AFB

UFGS: Section 07 24 00 Exterior Insulation and Finish Systems:
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 24 00.pdf>

D05.4.10. GFRC

☐ Applicable ☒ N/A

D05.4.11. Concrete Block

☒ Applicable ☐ N/A Number of base standards 2

Image Tool 250 x 188



Type: **Concrete Masonry Units (CMU): Split Face**

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

Mfr: Fizzano Brothers Concrete or New Holland Concrete

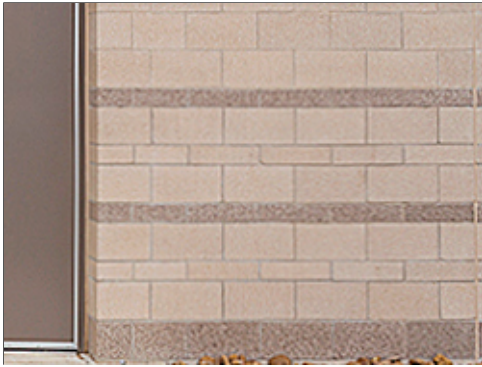
Model #: 8x8x16 nominal, face and corner units

Color: Fizzano Color Number F-1054C or New Holland Color Number N1162

Finish: Heavy texture

Other: Mortar color will be natural Portland cement with no color additives.

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



Type: **Concrete Masonry Units (CMU): Ground Face**

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

Mfr: Fizzano Brothers Concrete or New Holland Concrete

Model #: 8x8x16 nominal, face and corner units

Color: Fizzano Color Number F-1054C or New Holland Color Number N1162

Finish: Smooth Texture

Other: Mortar color will be natural Portland cement with no color additives.

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

D05.4.12. Fiber Cement Siding

☒ Applicable ☐ N/A Number of base standards 1

Image Tool 250 x 188



Type: **Hardie Plank, Hardie Shingleyle 1**

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

Mfr: James Hardie Building Products, Inc.

Model #: Horizontal Lap Siding, Shingle Siding

Color: Earth Tones

Finish: Wood Texture

Other: Hardie Plank, Hardie Shingle

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

D05.4.13. Other

☐ Applicable ☒ N/A

D06. DOORS AND WINDOWS

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

Insert 3 photos for each facility group.

Image Tool 250 x 188

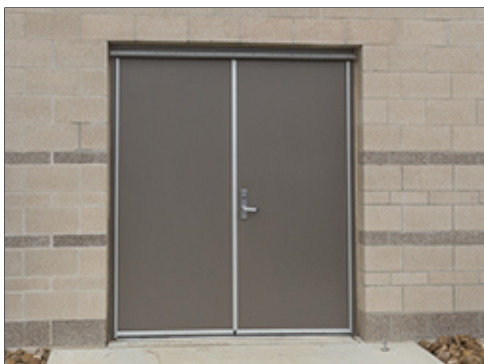
Group 1



Group 2



Group 3



Group 4



D06.1. Types

Note: Ensure doors and windows are designed in accordance with UFC 4-010-01.

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. Exterior hollow metal doors will have factory flush tops constructed of factory installed and welded inverted metal channels, not retrofitted with sealed inserts. Provide thermally broken frames. Specify exterior rain drips on door head frames and at bottom of doors. Provide metal thresholds (ADA compliant when required) of a minimum width to match the adjacent door jamb and integral raised dam with vinyl insert to seal against windblown rain. Exterior doors serving common use areas will be provided with closures and integral hold open feature.
 - a. Primary doors and frames will match Bald Eagle Brown (Dark Bronze), ICI Devoe #4216-7460.
 - b. Secondary and utility entrance doors and frames must match the adjacent wall color. Refer to D05.4.1. Flat Metal Panels, D05.4.8. Ribbed Metal Sheeting, D05.4.9. EIFS, or as applicable for wall colors.
7. Overhead Doors: Exterior color will match exterior building color. Specify interior door color to match interior color scheme. Provide natural or neoprene rubber weather stripping on door heads and door jamb guides secured by means of galvanized steel fasteners through continuous galvanized steel pressure bars a minimum of 5/8 inch wide by 1/8 inch thick.
8. Passive thermal comfort methods of ventilation are encouraged where life cycle cost justified. Operable windows with screens must be provided wherever possible.
9. Windows must meet force protection requirements.
10. Adjacent joint sealants should be slightly darker than the frame color.
11. Manufacturers listed in sections D06.5.1. - D06.5.4. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

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 will 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 will 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.
7. Design doors and windows in accordance with UFC 4-010-01.

D06.4. Hardware

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

D06.5. Doors and Windows Materials

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

D06.5.1. Anodized Aluminum

☒ Applicable ☐ N/A Number of base standards 1

Image Tool 250 x 188



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

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

Mfr: Kawneer (or equivalent)

Color: Dark Brown Anodized

Finish: Matte

Model #: 2x4

Other: Provide thermally broken frames

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

D06.5.2. Hollow Metal

☒ Applicable ☐ N/A

Number of base standards 1



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

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

Mfr: Hollow Metal Doors, Windows and Frames

Color: Refer to D06.1.6.a. and D06.1.6.b.

Finish: Powder Coated, Satin

Model #: 2x4 frame, welded and grouted solid

Other: Secondary doors must match wall color. When used at main entrances, doors will be Bald Eagle Brown (Dark Bronze) - ICI Devoe #4216-7460. Comply with D06.1.

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

D06.5.3. Aluminum-clad Wood

☐ Applicable ☒ N/A

D06.5.4. Other

☐ Applicable ☒ N/A

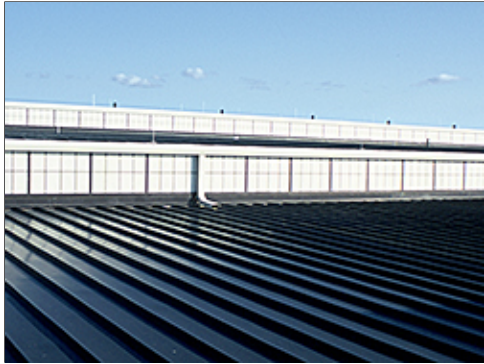
D07. ROOF SYSTEMS

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

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



D07.1. Roof Type and Form

1. Use proven, cost-effective roof systems with high durability, weather resistance, and low maintenance that are compatible with Installation Facilities Standards (IFS) and requirements for the designated Facility Group.
2. Generally, match the roof type and form of existing adjacent facilities in new construction.
3. Group 1 and 2 buildings will use sloped standing seam metal roofs. Minimal-slope roofs may be used as approved on a case-by-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 will have gabled or hipped composite shingle roofs.
7. Roof eaves will 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 will coordinate with adjacent wall-mounted shading devices.
9. The color, shape and slope of the eave and soffit will 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 must be maintained for the life of the system and replaced in accordance with UFC 3-110-04, *Roofing Maintenance and Repair* and AFI 32-1051.
14. Roof Access:
 - a. UFC 3-110-03 Roofing requires buildings of over two stories to be provided with roof access by means of a roof hatch or external ladder. For Dover AFB two stories will be considered as 20 feet. Dover AFB policy is to provide roof access only in cases where there is roof mounted mechanical equipment or other items which require periodic maintenance or access. Multiple roof areas may be accessible from a single roof hatch or external ladder only when the difference in elevation between the adjacent roof areas is 24 inches or less. All designs which incorporate a roof hatch or external ladder must be approved by the Dover AFB Architectural Compatibility Review Board.
 - b. New Buildings: External roof access for new buildings is not permitted by UFC 4-010-01, *DoD Minimum Anti-Terrorism Standards for Buildings*. Where roof access is allowed by Dover AFB policy, the roof access will be provided by a roof hatch and internal stairway or ladder which preferably originates from a mechanical room.
 - c. Existing Buildings: Where roof access is allowed by Dover AFB policy, existing buildings will be provided with a roof hatch and internal stairway or ladder which preferably originates from a mechanical room. Where a roof hatch is not possible, roof access will be provided by a building attached exterior ladder with a means of secured access.
 - d. For buildings of three stories or more the requirements for a roof hatch as contained in UFC 3-600-01, *Fire Protection Engineering for Facilities* will still apply, even in the absence of roof mounted equipment.
15. Manufacturer's metal roof system warranties must be for a period of no less than 20 years. Manufacturer's single ply membrane roof system warranties (EPDM or PVC) must be for a period of no less than 30 years.

16. Manufacturers listed in sections D07.9.1. - D07.9.10. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

D07.2. Roof Slope

1. Group 1 and 2 buildings will 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 will 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.
6. Provide underlayments as required for the roofing type as directed by the UFC.

D07.3. Parapets and Copings

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

D07.4. Color and Reflectivity

1. Sloped roofs in Groups 1 and 2 and smaller facilities in Group 3 will be dark bronze to match adjacent facilities and follow requirements of IFS.
2. All minimal-slope membrane roofs will 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 will be earth tones.
4. Comply with UFC 3-110-03, *Roofing* and ASHRAE 90.1 for Solar Reflectance Index (SRI) and thermal requirements.
5. All roof flashing will match the color of the predominant background material.

D07.5. Gutters, Downspouts, Scuppers, Drains

1. All sloped roofs will use gutters and downspouts. Gutters will be outside the fascia.
2. Internal roof drainage systems are not permitted in new construction. Minimal-sloped roofs will be sloped to drain to the building perimeter through scuppers into downspouts.
3. All gutters and fascias will 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 powder-coated finishes in medium bronze.
9. All downspouts will 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 and coordinate color to match the roofing material.
3. Avoid the use of rooftop mechanical equipment, however for renovations and unavoidable configurations ensure units are screened to match the roofing material.
4. Provide access points and service routes to equipment that protect the roof.
5. Screen all large vents.
6. Ensure attic spaces are properly vented at ridges and soffits.
7. Match roof color for all exposed equipment and vents.
8. Avoid roof-mounted antenna systems.
9. Arrange Lightning Protection Systems (LPS) components in an ordered, uncluttered, inconspicuous appearance and integrated into the organization of the roof and wall systems.
10. Ensure that LPS roof mounting systems are approved by the roofing manufacturer.
11. Additions to a roof must not interfere with LPS or other rooftop systems that may be required.
12. Permanent fall protection must be included with any addition to a roof with a slope above 3:12 per UFC 3-110-03.

D07.7. Clerestories and Skylights

1. Clerestories and skylights are permitted in Group 1 facilities. These are allowed in Group 3 facilities only when serving passive systems and are justifiable by life-cycle analysis.
2. Clerestories are preferred to skylights to avoid roof penetrations. Skylights, when permitted, must be simple in shape and integrated with the roof system to eliminate leakage.
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. Not applicable.

D07.9. Roof Systems Materials

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

D07.9.1. Standing Seam Metal

☒ Applicable ☐ N/A Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Berridge

Color: Dark bronze, or Steelite #103 Dark Bronze

Finish: Matte

Model #: Tee-Panel

Other: Shed, gabled or hipped standing seam metal

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

D07.9.2. Membrane Single-ply

☒ Applicable ☐ N/A Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Carlisle Systems

Color: Off-white

Finish: Smooth

Model #: TPO single-ply, "flat" minimal slope

Other: N/A

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

D07.9.3. Built-up Multi-ply

☐ Applicable ☒ N/A

D07.9.4. Concrete Tile

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Regional, TBD

Color: "Weathered Gray"

Finish: Smooth textured

Model #: Flat profile roof tile, ridge and eave rake units

Other: N/A

UFGS: Section 07 32 16 Concrete Roof Tile
(Not Available on UFGS)

D07.9.5. Clay Tile

☐ Applicable ☒ N/A

D07.9.6. Slate Shingles

☐ Applicable ☒ N/A

D07.9.7. Vegetated System

☐ Applicable ☒ N/A

D07.9.8. Ribbed Metal Sheet

☐ Applicable ☒ N/A

D07.9.9. Composite Shingles

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: GAF

Color: "Weathered Cedar"

Finish: Factory

Model #: Timberline

Other: Gabled or hipped with transverse gable or hipped features; gutters, fascia, and roof accessories match roof color

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

D07.9.10. Other

☐ Applicable ☒ N/A

D08. STRUCTURAL SYSTEMS

Comply with AF Corporate Standards for Facilities Exteriors:

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

Comply with AF Corporate Standards for Structural Systems:

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

Comply with AFCFS Recommended Materials:

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

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



D08.1. Systems and Layouts

1. Project drawings depicting structural steel requirements must also detail the specific connection requirements, either welded or bolted, including sizes, types, spacing, etc. Detailing of connection requirements must not be left to the shop drawings.
2. All light gage framing requirements must be detailed on the plans, including gage, sizes, and spacing of members.
3. The structural drawings will include a summary of all building design loads. The summary will include the design floor loads for all floor slabs including any mezzanine floors.
4. Pre-Engineered Metal Buildings: Specification 13 34 19 "Metal Building Systems" requirements for a Building System Warranty will be edited to require a manufacturer's 20-year no-dollar- limit warranty for the metal building system, and that repairs which become necessary because of defective materials and workmanship while metal building system is under warranty will be performed within 32 hours after notification, unless additional time is approved by the Contracting Officer, and that failure to perform repairs within 32 hours of notification will constitute grounds for having emergency repairs performed by others and will not void the warranty.
5. Pre-engineered structural steel framing may be used for Groups 1, 2 and 3 facilities. Installation-appropriate thermal envelopes, materials and detailing are required. Designs must follow UFC 1-200-01, *DoD Building Code* (general building requirements) and its reference to the International Building Code (IBC). Pre-engineered steel framing for all crewed structures and uncrewed structures with masonry veneers must follow IBC deflection criteria.
6. Select economical structural systems that integrate roof and wall systems.
7. 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.
8. Fully coordinate structural grids with exterior window systems to align columns with window frames or wall systems.
9. When structure is exposed provide an organized appearance and coordinate with mechanical, electrical, plumbing, fire protection, information technology, and communications systems.
10. Limit the use of specialty systems (such as space frames, vaults or domes) and of structure as a visual feature.
11. Cost-effectively design interior bearing walls as thermal mass.
12. Manufacturers listed in sections D08.2.1. - D08.2.9. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

D08.2. Structural Systems Materials

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

D08.2.1. Concrete

☐ Applicable ☒ N/A

D08.2.2. Insulated Concrete Forming (ICF)

☐ Applicable ☒ N/A

D08.2.3. Steel

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Rigid Framing**

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

Mfr: US Steel

Color: Shop primed

Finish: Matte

Model #: Structural steel shapes

Other: N/A

UGFS: Section 05 12 00 Structural Steel

<http://www.wbdg.org/FFC/DOD/UGFS/UGFS 05 12 00.pdf>

D08.2.4. Pre-Engineered Steel

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Moment Frame**

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

Mfr: Local TBD

Color: Factory primed

Finish: Matte

Model #: Moment Frame

Other: Draped insulation may be used behind wall systems. Deflection criteria must follow IBC.

UGFS: Section 13 12 00 Steel Building Systems

(Not Available on UFGS)

Section 13 34 19 Metal Building Systems

<http://www.wbdg.org/FFC/DOD/UGFS/UGFS 13 34 19.pdf>

D08.2.5. Masonry

☐ Applicable ☒ N/A

D08.2.6. Heavy Timber

☐ Applicable ☒ N/A

D08.2.7. Light-gauge Steel

☒ Applicable ☐ N/A Number of base standards 1



Type: **Rigid Framing**

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

Mfr: Local

Color: Factory

Finish: Galvanized

Model #: Standard Structural Shapes

Other: N/A

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

D08.2.8. Lumber Framing

☐ Applicable ☒ N/A

D08.2.9. Other

☐ Applicable ☒ N/A

D09. MECHANICAL, ELECTRICAL AND PLUMBING

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

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

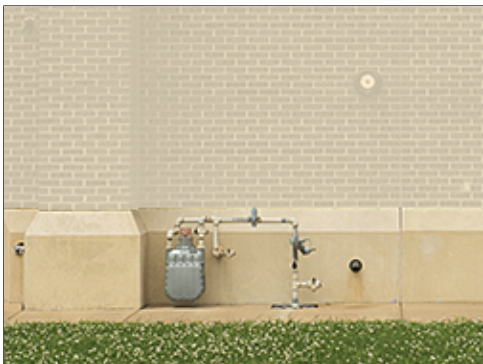
Insert 3 photos for each facility group.

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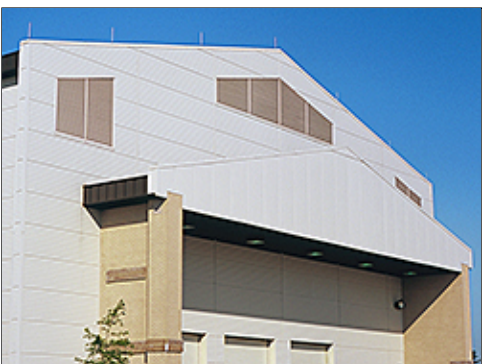
Group 1



Group 2



Group 3



Group 4



D09.1. Passive and Active Systems

GENERAL MEP AF GUIDELINES

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 when life cycle cost effective.
4. Integrate shading into building exteriors to reduce solar heat gain during hot seasons.

D09.1.1. MECHANICAL ENGINEERING

1. The Delaware Department of Natural Resources will not allow geothermal well drilling due to underground water contamination.
2. Do not use cooling towers.
3. Provide chillers and condensing units with manufacturer's optional condenser coil fin guards and electrical hook-ups for temporary power.
4. If chillers are specified, provide valve and cap with 3" camlock connections near chillers for connection of temporary chillers and electrical hook-ups for temporary power.
5. If heating hot water boilers are specified, provide valve and cap with 3" camlock connections on the exterior of the facility for connection of temporary boilers and electrical hook-ups for temporary power.
6. Exterior HVAC should be concealed, when possible, either in the back of the facility, inside of a mechanical yard or behind a retaining wall. Concealed HVAC equipment does not need to be painted. HVAC equipment that is visible from the street should be of the following colors:
 - a. Condensers are typically gray, including dark gray and light gray, and light green.
 - b. HVAC chilled water piping is typically white and metal colored.
 - c. Chillers are typically slate gray.
 - d. Mini splits are typically white or off-white.
 - e. Package units are typically dark gray.
 - f. Tan and dark bronze are also acceptable colors for HVAC equipment.
 - g. If the selected HVAC equipment is not standardly available in the preceding colors, or in tan or dark bronze, present the color option(s) before the Architectural Review Board for approval. The Architectural Review Board will either approve the requested color option(s) or require the HVAC equipment to be painted eagle feather tan or dark bronze.
7. Chillers should be selected to have factory epoxy coating applied to its coils to prevent corrosion.
8. Dielectric nipples will be used. The use of dielectric unions will not be permitted unless expressly approved by Dover AFB.
9. Temperature and pressure gauges will be provided on chiller supply and return piping in addition to temperature and pressure sensors required by the controls system.
10. All HVAC direct digital controls will be compatible with the Trane enterprise software used by the Base Civil Engineer Energy Monitoring Control System (EMCS) Shop.

11. Press fittings are permitted for gas piping. Press fittings are not permitted for refrigerant piping. Hot and chilled HVAC water fittings cannot be press fitted; only screwed, welded or bolted dependent upon the UFGS specifications pertaining to the size and material.
12. Disable unused ports on building controllers.
13. Controllers must be BACnet capable.
14. Wi-Fi and/or Bluetooth capability must be removed or disabled.
15. Must be in compliance with DAFGM2023-32-01.
16. Outside air duct size should be similar to Air Handler building supply duct size to minimize differential pressure issues.
17. Refer to the IFS Supplemental Document, G23 Dover AFB IFS Heating Ventilating Air Conditioning, which may be downloaded via hyperlink in Appendix G. Note the supplemental document includes these sections:
 - 23 00 00 Heating, Ventilating, and Air Conditioning (HVAC): General Requirements
 - A. HVAC Design Requirements
 - B. Variable Frequency Drives (VFD) Requirements
 - 23 08 00 Commissioning of Mechanical and Plumbing Systems (Reserved)
 - 23 09 00 Instrumentation and Control for HVAC
 - 23 30 00 HVAC Air Distribution (Ductwork)

D09.1.2. PLUMBING ENGINEERING

1. Refer to the IFS Supplemental Document, G22 Dover AFB IFS Plumbing, which may be downloaded via hyperlink in Appendix G. Note the supplemental document includes these sections:
 - 22 00 00 Plumbing: General Requirements
 - 22 10 00 Plumbing Piping Systems
 - A. Purging and Disinfection of Potable-Water System
 - B. Facility Backflow Prevention
 - C. Plumbing Roof Vents
 - D. Solar Hot Water
 - 22 40 00 Plumbing Fixtures
 - 22 42 26 Commercial Disposers (Garbage Disposals)
 - 22 45 13 Emergency Showers
 - 22 47 13 Drinking Fountains

D09.1.3. ELECTRICAL ENGINEERING

1. Refer to the IFS Supplemental Document, G26 Dover AFB IFS Electrical, which may be downloaded via hyperlink in Appendix G. Note the supplemental document includes these sections:
 - 26 00 00 Electrical: General Requirements
 - A. Electrical Design and Documentation Requirements
 - B. Manholes and Equipment Pads
 - C. Overhead Electrical Distribution
 - D. Cathodic Protection
 - E. Electrician Qualifications
 - F. Electrical Distribution and Service at Dover AFB
 - G. Facility Distribution and Electrical Rooms
 - 26 05 19 Low-Voltage Electrical Power Conductors and Cables
 - 26 05 26 Grounding and Bonding for Electrical Systems
 - 26 05 53 Identification for Electrical Systems
 - A. General Labeling Requirements

- B. Dover AFB Projects
- C. Hospital and Health Care Projects
- D. Electrical Panels Labeling
- E. Electrical Equipment Labeling
- F. Disconnects (Safety Switches) Labeling
- 26 22 00 Low-Voltage Transformers
- 26 24 16 Panelboards
- 26 32 00 Packaged Generator Assemblies
- 26 41 00 Facility Lightning Protection
- 26 50 00 Lighting
 - A. Design Analysis
 - B. Exterior Lighting Control
 - C. Emergency Egress/Exit Lighting

2. Refer also to IFS Supplemental Documents G32 Dover AFB IFS Utilities, 33 09 00 Instrumentation and Control for Utilities (Advance Meter Reading System (AMRS)).

D09.1.4. COMMUNICATION

1. Refer to the IFS Supplemental Document, G27 Dover AFB IFS Communications, which may be downloaded via hyperlinks in Appendix G. Note the supplemental document includes these sections:

- 27 00 00 Communications: General Requirements
 - A. Communications Pre-Wiring
 - B. Communication System Drawings
 - C. Communication Outlets
 - D. Device Plates
 - E. Communications Terminal Backboards
 - F. Termination and Testing
 - G. Labeling
 - H. Spare Wires
 - I. Communication and Information System Criteria
 - J. Suspended Ceiling
 - K. Grounding
 - L. Electrician Qualifications
 - M. Communications Rooms
 - N. Design Requirements

D09.1.5. FIRE PROTECTION ENGINEERING

1. Refer to the IFS Supplemental Document, G21 Dover AFB IFS Fire Suppression, which may be downloaded via hyperlink in Appendix G. Note the supplemental document includes these sections:

- 21 00 00 Fire Suppression: General Requirements
 - A. Critical Electronic Equipment Spaces
 - B. Hangar Fire Protection Systems
 - C. General Purpose Portable Fire Extinguishers
- 21 13 13 Wet Pipe Sprinkler Systems, Fire Protection
- 21 11 19 Fire-Department Connections
- 21 30 00 Fire Pumps

D09.1.6. FIRE DETECTION/ALARM AND MASS NOTIFICATION SYSTEMS (FA/MNS)

1. Refer to the IFS Supplemental Document, G28 Dover AFB IFS Electronic Safety and Security, which may be downloaded via hyperlink in Appendix G. Note the supplemental document includes these sections:

- 28 00 00 Electronic Safety and Security: General Requirements
 - A. Contract Documents
 - B. Hardware

- C. License Requirements
- 28 31 76 Interior Fire Alarm and Mass Notification System, Addressable (Reserved)
- 28 46 00 Fire Detection and Alarm
 - A. Equipment Requirements
 - B. Hangar Fire Protection Systems
 - C. Training
- 28 46 11 Fire Sensors and Detectors (Initiating)
- 28 46 13 Fire-Alarm Systems
- 28 46 21 Fire Alarm
 - A. Fire Alarm Control System (Control Panel)
 - B. Remote System Audible/Visual Graphic Display Annunciator Audible Appliance
 - C. Technical Data and Computer Software Requirements (Plus Software)
 - D. Radio Alarm Transceivers
- 28 46 23 Fire Alarm Notification Appliances (Signaling)
- 28 47 00 Mass Notification

D09.1.7 UTILITIES

1. Refer to the IFS Supplemental Document, G32 Dover AFB IFS Utilities, which may be downloaded via hyperlink in Appendix G. Note the supplemental document includes these sections:

- 33 00 00 Utilities: General Requirements
- 33 09 00 Instrumentation and Control for Utilities (Advance Meter Reading System (AMRS))
- 33 10 00 Water Utilities
- 33 14 19 Valves and Hydrants for Water Utility Service
- 33 30 00 Sanitary Sewerage
- 33 40 00 Stormwater Utilities
- 33 50 00 Hydrocarbon Utilities

End of Section

D09.2. Functionality and Efficiency

1. Fully coordinate mechanical, electrical, plumbing (MEP) and fire protection systems with each other and with the building structure, enclosure, thermal envelope and interior design.
2. Ensure direct exterior access is provided (for CE) to main mechanical and electrical rooms.
3. Screen exterior equipment from primary views (landscape, building masses, screen walls) and comply with AT 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.

End of Section

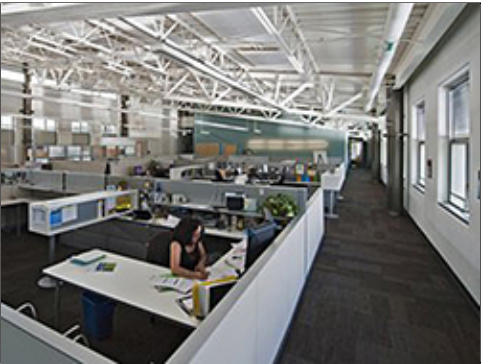
E. FACILITIES INTERIORS

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

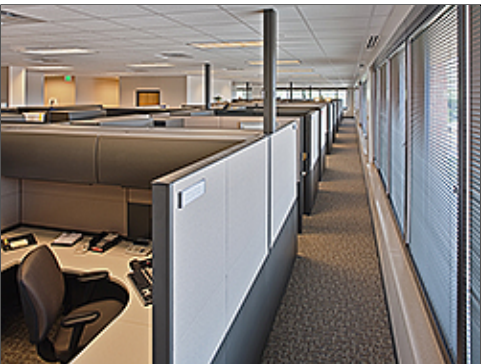
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Group 1



Group 2



Group 3



Group 4



E01. Building Configurations

Comply with Air Force Corporate Standards for Building Configurations:

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

1. Provide open-plan configurations for office, administrative, operational and related activities and spaces for maximum flexibility. Use a “core and shell” approach in which all building systems, infrastructure and permanent interior partitions anticipate two or more uses (operations) during a facility’s lifespan.
2. Create flexible interior configurations using Furniture, Fixtures & Equipment (FF&E) and limit private offices and private rooms. Refer to AFMAN 32-1084 for space requirements. To the greatest extent, limit permanent partitions to core areas such as toilet rooms, stairs, mechanical and utility rooms.
3. Use more durable long-lasting finishes in core areas for walls, ceilings, floor coverings and built-in casework. Coordinate interior FF&E layouts with structural grids during space planning.
4. Provide high-performance building configurations following UFC 1-200-02, *High Performance and Sustainable Building Requirements* and UFC 3-101-01, *Architecture*. Ensure passive design strategies are cost effectively incorporated before active mechanical systems are designed.
5. Comply with UFC 1-200-01, *DoD Building Code* (general building requirements). UFC 1-200-01 provides applicability of model building codes and government unique criteria for typical design disciplines and building systems, as well as for accessibility, antiterrorism, security, high performance and sustainability requirements, and safety.
6. Meet security and force protection requirements in UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*.
7. Comply with AFCFS for supporting mission requirements, addressing human comfort and well being, and creating highly flexible interiors while satisfying metrics for high performance and sustainable buildings.
8. Provide a level of quality for interior features, materials and finishes that is appropriate for the Facility Group number. Group 1 may receive higher quality than Groups 2 thru 4. Refer to Facility Hierarchy.
9. Through open-plan configurations, preserve all passive and natural design strategies and fully integrate facility interiors with overall building systems.
10. Professional interior designers, or architects with significant interior design experience, must accomplish the design and review of applicable new construction, renovations and maintenance projects.
11. Consult with the State Historic Preservation Officer (SHPO) and base-level Historic Preservation offices regarding proposed changes to properties listed on or eligible for listing on the National Register of Historic Places. Follow requirements of The National Historic Preservation Act and Secretary of the Interior Standards for the Treatment of Historic Properties.
12. Maintain architectural compatibility following AFCFS and this Installation Facilities Standards (IFS) document to create continuity while avoiding monotony.

E01.1. Layout and Common Areas

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

<http://afcfs.wbdg.org/facilities-interiors/buildings-configurations/layout-and-common-areas/index.html>

1. Create open-plan interior environments to accommodate changes.
2. Limit interior partitions, private offices and rooms; use furniture or modular systems to provide privacy and acoustic control.
3. When partitions are functionally justified such as for conference rooms, use systems furniture and moveable (demountable) floor-to-ceiling wall systems for acoustical or visual privacy.
4. Proportion lobbies and common spaces based on type of function, activity and facility group.
5. Allow no direct sight lines into restrooms.

6. Situate utility and core areas to minimize impact on daylighting and to maximize use as thermal buffers.
7. Ensure electrical, lighting and communications system can be adaptable to configuration changes.
8. Avoid power poles to the maximum extent; when poles are necessary minimize the number and coordinate locations with furniture placement and other elements.
9. Avoid sloping floors to maintain flexibility and eliminate future structural changes.
10. Special consideration may apply to Sensitive Compartmented Information Facilities (SCIFs).

E01.1.1. Interior Design Process

1. Comply with UFC 3-120-10, *Interior Design* for the Comprehensive Interior Design (CID,) which includes both Structural Interior Design (SID) and Furniture, Fixtures & Equipment (FF&E) design services. Navigate to Appendix G05 for Dover AFB Interior Finishes Supplement for additional information.
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 must follow UFC 3-120-10.
9. Base the FF&E package on the furniture footprint developed in the SID. Identify all new or existing equipment needed and its users within each facility or each area of the facility. Provide specific information on: equipment sizes, electrical requirements, ventilation requirements, weight (if heavy), quantity, and security level if required. Presume all administrative spaces have computers and supporting equipment.
10. Locks must be keyed in sets or subsets as scheduled. Locks must be furnished with the manufacturer's standard construction key system. Change keys for locks will be stamped with change number and the inscription "U.S. Property - Do Not Duplicate." Keys will be supplied as follows: Locks: 3 change keys each lock. Master keyed sets: 3 keys each set. Refer to the IFS Supplemental Document, G08 Dover AFB IFS Openings, section 08 71 00 Door Hardware, which may be downloaded via hyperlink in Appendix G. Note the supplemental document includes these sections:

08 10 00 Doors and Frames

A. Fire Rated Doors and Frames

08 71 00 Door Hardware

A. Hardware for Fire Doors and Exit Doors

B. Hinges

C. Locks and Latches

D. Exit Devices

E. Cylinders and Cores

F. Keying System

11. Lock Cylinders (Mortise, Rim, and Bored): All locks, keying, and hardware to comply with Builders Hardware Manufacturer's Association (BHMA).

E01.1.2. Codes and Regulations

1. Refer to UFC 1-200-01, *DoD Building Code* (general building requirements) 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 will be as defined in the International Building Code (IBC) and must be used where dictated by UFC 1-200-01 except where noted in UFC 3-600-01, *Fire Protection Engineering for Facilities*.
3. National Fire Protection Association (NFPA) 101 must be utilized to determine the occupancy classification as it relates to fire/smoke resistance rating of interior non-load bearing partitions (other than occupancy separation), means of egress, interior finish, features of fire protection (including vertical openings) and associated requirements.

E01.2. Quality and Comfort

Comply with Air Force Corporate Standards for Quality and Comfort:

<http://afcfs.wbdg.org/facilities-interiors/buildings-configurations/quality-and-comfort/index.html>

1. Include durability in the life cycle cost analysis for best-value material selections with long life expectancies that do not show excessive wearing.
2. Select long-lasting materials and finishes for permanent core areas such as lobbies, restrooms and stairs.
3. Select low-maintenance materials and products that reduce ongoing servicing and repair and that are easy to clean.
4. Relate the visual quality of finishes to the Facility Group number.
5. Building and interior configurations should address both operations and climatic responses.
6. Convey a professional image; avoid trendy patterns and textures.
7. Use materials and finishes that provide a healthy indoor environment.
8. Orient interior spaces toward views while maintaining cost-effective building performance and efficiency.
9. Promote air movement and daylighting for human health and wellbeing.

End of Section

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 will be as follows.

- Primary: Prepared Slabs, Terrazzo with BCE Approval
- Secondary: Porcelain Tile, Prepared Slabs
- Tertiary: Carpet, Rubber Stair Treads

Facility Group 2 floor materials will be as follows.

- Primary: Carpet, Rubber Stair Treads
- Secondary: Ceramic tile
- Tertiary: N/A

Facility Group 3 floor materials will be as follows.

- Primary: Epoxy-Coated Slabs
- Secondary: Prepared Slabs (Sealed)
- Tertiary: Carpet, Rubber Stair Treads

Facility Group 4 floor materials will 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-by-case basis.
2. Carpet: Note that Engineering Technical Letters (AFETL) are cancelled or superseded. Refer to the Whole Building Design Guide for a comprehensive listing of former AFETLs and replacement documents which indicates the Air Force Carpet Standard is superseded by UFGS 09 68 00. Specify broadloom carpet goods (not carpet tiles) for all applications except areas containing raised (computer) flooring systems, unless approved by Dover AFB.
3. Resilient and rapidly renewable flooring may be used in low traffic areas in Group 1, 2 and 4.
4. Concrete surfaces will be moisture tested prior to applying any epoxy materials. If tested moisture content exceeds 3%, a sealant primer or other approved mitigation method must be used.
5. Manufacturers listed in sections E02.1.1. - E02.1.8. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

End of Section

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

E02.1.1. Prepared Slabs

☒ Applicable ☐ N/A Number of base standards 2



Type: **Style 1, Ground and Polished**

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

Mfr: Local (TBD)

Color: Natural gray cement, light to dark beige aggregates

Finish: Fine polished texture

Model #: Medium to small aggregate

Other: N/A

UFGS: Section 03 35 45 Polished Concrete Finishing
(Not Available on UFGS)

Type: **Style 2, Polished**

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

Mfr: Local (TBD)

Color: Natural gray cement, light to dark beige aggregates

Finish: Medium polished texture, slip resistant

Model #: Medium to small aggregate

Other: N/A

UFGS: Section 03 35 45 Polished Concrete Finishing
(Not Available on UFGS)

E02.1.2. Natural Stone and Terrazzo

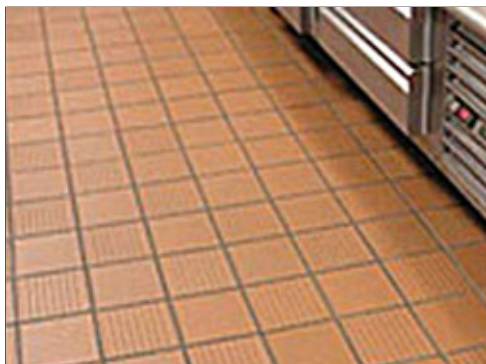
☐ Applicable ☒ N/A

E02.1.3. Quarry Tile

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Daltile

Color: Earth tones

Finish: Matte, slip resistant

Model #: N/A

Other: Use in commercial kitchen flooring.

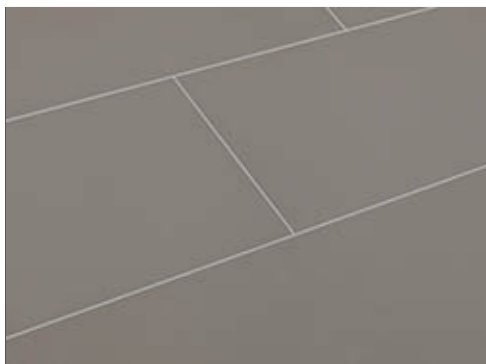
UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 30 10.pdf>

E02.1.4. Ceramic Tile

☒ Applicable ☐ N/A

Number of base standards 2

Image Tool 250 x 188



Type: **Style 1 Porcelain**

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

Mfr: Daltile

Color: Earth tones

Finish: Matte, slip resistant

Model #: Porcelain tile

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

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



Type: **Style 2 Ceramic**

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

Mfr: Daltile

Color: Earth tones

Finish: Matte, slip resistant

Model #: Ceramic tile

Other: Use in low traffic area toilet rooms.

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

E02.1.5. Resilient Floor

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1 Stair Treads**

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

Mfr: Roppe

Color: Neutral tones

Finish: Factory

Model #: Raised design rubber tread

Other: Stair treads material

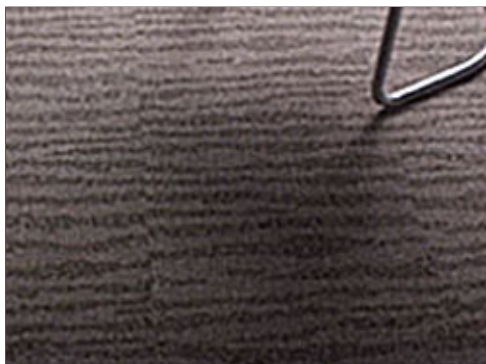
UFGS: Section 09 65 00 Resilient Flooring
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 65 00.pdf>

E02.1.6. Carpet

☒ Applicable ☐ N/A

Number of base standards 2

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Mohawk Group

Color: Neutral multi-colored tones/patterned/solid

Finish: Yarn: Nylon 6 or 6.6/cut pile or loop pile

Model #: Broadloom, 6' wide rolled, carpet tiles, entry walk-off carpet

Other: N/A

UGFS: UFGS 09 68 00 Carpeting
<http://www.wbdg.org/FFC/DOD/UGFS/UGFS 09 68 00.pdf>

Type: **Style 2**

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

Mfr: Mohawk Group

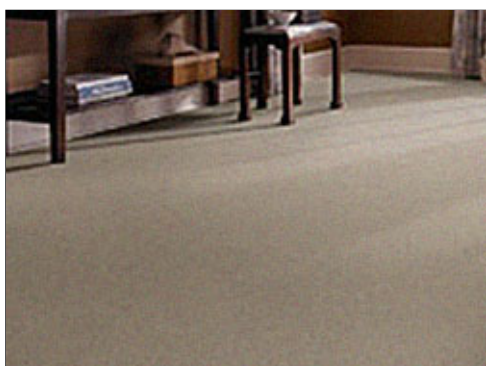
Color: Earth tones

Finish: Factory

Model #: Broadloom, residential loop, "Smartstrand"

Other: N/A

UGFS: UFGS 09 68 00 Carpeting
<http://www.wbdg.org/FFC/DOD/UGFS/UGFS 09 68 00.pdf>



E02.1.7. Rapidly-Renewable Products

☐ Applicable ☒ N/A

E02.1.8. Other

☐ Applicable ☒ N/A

E03. Walls

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

E03.1. Wall Materials

Facility Group 1 wall materials will 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 will be as follows.

Primary: Gypsum Board (Painted)
Secondary: Brick (or Other as Approved by the BCE)
Tertiary: Ceramic Tile (restrooms)

Facility Group 3 wall materials will be as follows.

Primary: Ground Face Block, Sealed (Do Not Paint)
Secondary: N/A
Tertiary: Ceramic Tile (restrooms)

Facility Group 4 wall materials will 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-by-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. Refer to the following IFS Supplemental Documents which may be downloaded via hyperlinks in Appendix G.

G08 Dover AFB IFS Openings

08 10 00 Doors and Frames

A. Fire Rated Doors and Frames

08 71 00 Door Hardware

A. Hardware for Fire Doors and Exit Doors

B. Hinges

- C. Locks and Latches
- D. Exit Devices
- E. Cylinders and Cores
- F. Keying System
- G. Closers
- H. Door Stops

G09 Dover AFB IFS Finishes

- 09 00 00 Finishes: General Requirements
 - A. Materials with Integral Color
 - B. Flooring Materials
- 09 67 23.15 Fuel Resistive Resinous Flooring, 3-Coat System
- 09 68 00 Carpeting
- 09 90 00 Painting and Coating
 - A. Exterior Painting Standards
- 09 96 00 High-Performance Coatings
 - A. Preparation of Concrete Surfaces

G10 Dover AFB IFS Specialties

- 10 00 00 Specialties: General Requirements
- 10 28 13 Toilet Accessories
 - A. Toilet Paper Dispensers
 - B. Paper Towel Dispensers
 - C. Soap Dispensers

12. Manufacturers listed in sections E03.1.1. - E03.1.8. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

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

E03.1.1. Concrete

☐ Applicable ☒ N/A

E03.1.2. Masonry

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Modular Face Brick**

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

Mfr: Local (TBD)

Color: Red blend

Finish: Light texture

Model #: Coursed unit masonry

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

UGFS: Section 04 20 00 Unit Masonry

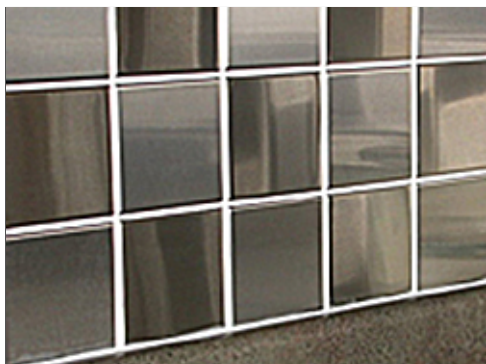
<http://www.wbdg.org/FFC/DOD/UGFS/UGFS 04 20 00.pdf>

E03.1.3. Ceramic Tile

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Daltile

Color: Earth tones

Finish: Gloss, Semi-gloss

Model #: Ceramic wall tile

Other: Located on wet walls in restrooms, minimum 6"X6" tile

UGFS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling

<http://www.wbdg.org/FFC/DOD/UGFS/UGFS 09 30 10.pdf>

E03.1.4. Gypsum Board

☒ Applicable ☐ N/A

Number of base standards 1



Type: **Style 1**

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

Mfr: US Gypsum

Color: Solid Earth tone colors

Finish: Paint (Sheen per UFGS)

Model #: Tapered edge

Other: N/A

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

E03.1.5. Metal Panels

☐ Applicable ☒ N/A

E03.1.6. Wood Paneling

☐ Applicable ☒ N/A

E03.1.7. Rapidly-Renewable Products

☐ Applicable ☒ N/A

E03.1.8. Other

☐ Applicable ☒ N/A

1. Not Applicable

End of Section

E04. Ceilings

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

E04.1. Ceiling Materials

Facility Group 1 ceiling materials will be as follows.

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

Facility Group 2 ceiling materials will be as follows.

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

Facility Group 3 ceiling materials will 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 will 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-by-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. Acoustical Ceiling Systems. Administrative / office-type spaces, associated restrooms and breakrooms in Group 1 and 2 requiring sound attenuation will use "Style 1" 2' x 2' recessed white grid system as listed in Section E04.1.3. Utility spaces such as workshops and areas in Group 3 requiring sound attenuation will use "Style 2" lay-in tiles listed in Section E04.1.3.
- 4. Manufacturers listed in sections E04.1.1. - E04.1.8. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

End of Section

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

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

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Vulcraft

Color: Neutral colors reviewed on a case-by-case basis

Finish: Field painted (Sheen per UFGS)

Model #: Formlok floor and roof decking

Other: N/A

UFGS: Section 05 30 00 Steel Decks

<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 05 30 00.pdf>

E04.1.2. Exposed Concrete

☐ Applicable ☒ N/A

E04.1.3. Grid and Acoustical Tile

☒ Applicable ☐ N/A

Number of base standards 6

Image Tool 250 x 188



Type: **Style 1A - General Offices/ Corridors/ Conference Rooms**

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

Mfr: USG

Color: White

Finish: Factory

Model #: 86185, 2'x2', Mars ClimaPlus Performance, SQ edge, grid 15/16"

Other: Performance characteristics are Class A; NRC-0.75; CAC-35; LR-0.90; GREENGUARD Gold Certified, minimum recycled content 68%.

UFGS: Section 09 51 00 Acoustical Ceilings

<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 51 00.pdf>



Type: **Style 1B - General Offices/ Corridors/ Conference Rooms**

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

Mfr: Armstrong

Color: White

Finish: Factory

Model #: 1445, 2'x2', ULTIMA Health Zone High SQ edge, grid 15/16"

Other: Meet ASTM E1264, Class A, NRC-0.80, CAC-35, LR-.86, Recycled Content >= 50%.

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

Type: **Style 2A - Laundry Facilities/ High Moisture Areas**

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

Mfr: USG

Color: White

Finish: Factory

Model #: 56099, 2'x2', Clean Room Class 100, SQ edge, grid 15/16"

Other: Performance characteristics are Class A; NRC- No rating; CAC-35; LR-0.77; GREENGUARD Gold Certified, min. recycled content >=55%.

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





Type: **Style 2B - Laundry Facilities/ High Moisture Areas**

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

Mfr: Armstrong

Color: White

Finish: Factory

Model #: 1715, 2'x2', Clean Room VL, SQ edge, grid 15/16"

Other: Performance characteristics are Class A; NRC-0.55; CAC-35; LR-0.79; GREENGUARD Gold Certified, minimum recycled content >=50%.

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

Type: **Style 3A - Dormitories**

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

Mfr: USG

Color: White

Finish: Factory

Model #: 707, 2'x2', Glacier Basic, SQ edge, grid 15/16"

Other: Performance characteristics are Class A; NRC-0.65; CAC-35; LR-0.70; GREENGUARD Gold Certified, minimum recycled content 72%.

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





Type: **Style 3B - Dormitories**

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

Mfr: Armstrong

Color: White

Finish: Factory

Model #: 563 , 2'x2', CIRRUS, SQ edge, grid 15/16"

Other: Performance characteristics are Class A; NRC-0.75; CAC-35; LR-0.85; GREENGUARD Gold Certified, minimum recycled content >=50%.

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

E04.1.4. Gypsum Board

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: US Gypsum

Color: Solid neutral colors

Finish: Paint (sheen per UFGS)

Model #: Tapered edge

Other: N/A

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

E04.1.5. Metal Panels

☐ Applicable ☒ N/A

E04.1.6. Wood

☐ Applicable ☒ N/A

E04.1.7. Rapidly-Renewable Products

☐ Applicable ☒ N/A

E04.1.8. Other

☐ Applicable ☒ N/A

E05. Doors and Windows

Comply with Air Force Corporate Standards for Doors and Windows:

<http://afcfb.wbdg.org/facilities-interiors/doors-and-windows/index.html>

E05.1. Doors and Windows and Frames Materials

Facility Group 1

door (frame) and window frame materials will be as follows.

Primary: Aluminum, clear anodized

Secondary: Hollow metal (painted)

Tertiary: N/A

Facility Group 1

door (leaf) materials will be as follows.

Primary: Hardwood veneer

Secondary: Hollow metal (painted)

Tertiary: N/A

Facility Group 2

door (frame) and window frame materials will be as follows.

Primary: Aluminum, clear anodized

Secondary: Hollow metal (painted)

Tertiary: N/A

Facility Group 2

door (leaf) materials will be as follows.

Primary: Hardwood veneer

Secondary: Hollow metal (painted)

Tertiary: N/A

Facility Group 3

door (frame) and window frame materials will be as follows.

Primary: Hollow metal (galvanized, painted)

Secondary: Hollow metal (galvanized, painted)

Tertiary: N/A

Facility Group 3

door (leaf) materials will be as follows.

Primary: Hollow metal (galvanized, painted)

Secondary: Hollow metal (galvanized, painted)

Tertiary: N/A

Facility Group 4

door (frame) and window frame materials will be as follows.

Primary: Wood

Secondary: N/A

Tertiary: N/A

Facility Group 4

door (leaf) materials will be as follows.

Primary: Wood solid core

Secondary: Composite solid core

Tertiary: N/A

1. Hardwood casings may be provided over metal frames in Group 1 as approved on a case-by-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 in sections E05.1.1. - E05.1.4. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

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

E05.1.1. Aluminum

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Kawneer

Color: Clear anodized

Finish: Factory

Model #: InFrame Interior Framing, (2x4 nominal framing)

Other: Satin stainless steel hardware

UFGS: Section 08 41 13 Aluminum-Framed Entrances and Storefronts
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 41 13.pdf>
 Section 08 71 00 Door Hardware
<https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf>

E05.1.2. Hollow Metal

☒ Applicable ☐ N/A

Number of base standards 2

Image Tool 250 x 188



Type: **Steel Doors**

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

Mfr: Steelcraft

Color: Neutral colors

Finish: Paint (Sheen per UFGS)

Model #: Hollow metal, 2" w. frames, 16 gauge (welded corners) grouted solid

Other: Provide in Group 3 and in utility areas of Group 1 and 2. Provide A25 "galvannealed" coating. All interior steel doors will have a factory applied primer finish. Provide satin stainless steel hardware.

UFGS: Section 08 11 13 Steel Doors and Frames

<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 11 13.pdf>

Section 08 71 00 Door Hardware

<https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf>

Type: **Steel Frames**

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

Mfr: Steelcraft

Color: Neutral colors

Finish: Paint (Sheen per UFGS)

Model #: Hollow metal, frame grouted solid

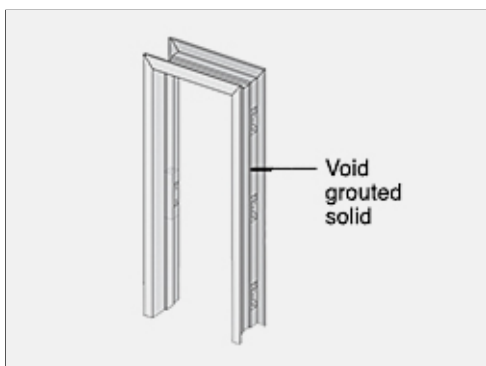
Other: Satin stainless steel hardware

UFGS: Section 08 11 13 Steel Doors and Frames

<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 11 13.pdf>

Section 08 71 00 Door Hardware

<https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf>



E05.1.3. Wood

☒ Applicable ☐ N/A

Number of base standards 2

Image Tool 250 x 188



Type: **Style 1, Administrative**

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

Mfr: Simpson

Color: Natural hardwood veneer

Finish: Clear Sealer, satin (aqueous)

Model #: 3'x7'x 1 3/4", solid core

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

UGFS: Section 08 14 00 Wood Doors
<http://www.wbdg.org/FFC/DOD/UGFS/UGFS 08 14 00.pdf>
Section 08 71 00 Door Hardware
<https://www.wbdg.org/FFC/DOD/UGFS/UGFS 08 71 00.pdf>

Type: **Style 2, Residential (Lodging)**

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

Mfr: Simpson

Color: Natural hardwood veneer or paint grade

Finish: Clear Sealer or paint, satin (aqueous)

Model #: Full slab or panels

Other: Satin nickel hardware

UGFS: Section 08 14 00 Wood Doors
<http://www.wbdg.org/FFC/DOD/UGFS/UGFS 08 14 00.pdf>
Section 08 71 00 Door Hardware
<https://www.wbdg.org/FFC/DOD/UGFS/UGFS 08 71 00.pdf>

E05.1.4. Other

☐ Applicable ☒ N/A



E06. Casework Systems

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

E06.1. Casework Materials

- 1. Select casework systems and materials considering durability, maintenance requirements and LCCA.
- 2. Natural stone and cast stone countertops may only be used in Group 1 with approval on a case-by-case basis.
- 3. Metal cabinets and countertops will be provided in heavy-use operations and in Group 3.
- 4. Refer to AFCFS for approved materials.
- 5. Manufacturers listed in sections E06.1.1. - E06.1.5. and E06.2.1. - E06.2.6. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

E06.1.1. Plastic Laminate

☒ Applicable ☐ N/A Number of base standards 1

Image Tool 250 x 188



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

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

Mfr: Formica

Color: Medium Earth tones and neutral tones

Finish: Light textured

Model #: High pressure laminate

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

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

E06.1.2. Solid Polymer Surface

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



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

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

Mfr: Corian

Color: Medium Earth tones and neutral tones

Finish: Light textured

Model #: Solid Surface

Other: Faces and edge banding

UGFS: Section 12 36 00 Countertops

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

E06.1.3. Rapidly-Renewable Products

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1 Moderate Use Areas**

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

Mfr: Plyboo

Color: Natural or amber

Finish: Satin

Model #: Flat grain bamboo plywood

Other: FSC® Certified 100%.

UGFS: Section 12 32 00 Manufactured Wood Casework

<http://www.wbdg.org/FFC/DOD/UGFS/UGFS 12 32 00.pdf>

E06.1.4. Metal

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type: **Style 1**

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

Mfr: Steel Sentry

Color: Natural stainless steel or neural colors (steel)

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

Model #: Lab, workbench, computer workstation

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

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

E06.1.5. Other

☐ Applicable ☒ N/A

E06.2. Countertop Materials

E06.2.1. Plastic Laminate

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



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

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

Mfr: Formica

Color: Medium Earth tones and neutral tones

Finish: Light textured

Model #: High pressure laminate

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

UGFS: Section 06 41 16.00 10 Plastic-Laminate-Clad Architectural Cabinets
<http://www.wbdg.org/FFC/DOD/UGFS/UGFS 06 41 16.00 10.pdf>

E06.2.2. Solid Polymer Surface

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



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

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

Mfr: Corian

Color: Medium Earth tones and neutral tones

Finish: Light textured

Model #: Solid Surface

Other: Faces and edges

UGFS: Section 12 36 00 Countertops
<http://www.wbdg.org/FFC/DOD/UGFS/UGFS 12 36 00.pdf>

E06.2.3. Natural Stone

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



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

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

Mfr: Local (TBD)

Color: Neutral tones

Finish: High polish, sealer

Model #: Custom cut slabs

Other: N/A

UFGS: Section 12 36 00 Countertops

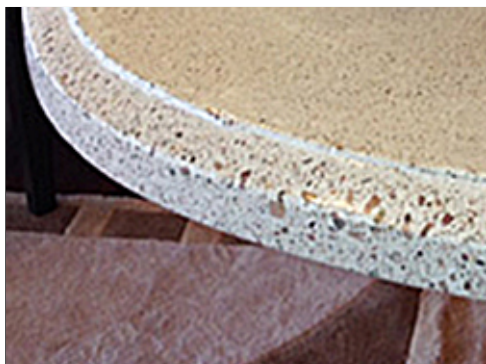
<http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 36 00.pdf>

E06.2.4. Cast Stone

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



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

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

Mfr: Local (TBD)

Color: Neutral tones

Finish: High polish, sealer

Model #: Custom cast or cut slabs

Other: N/A

UFGS: Section 12 36 00 Countertops

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

E06.2.5. Metal

☒ Applicable ☐ N/A

Number of base standards 1

Image Tool 250 x 188



Type:

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

Mfr: Local (TBD)

Color: Natural stainless steel

Finish: Mill

Model #: Custom fabricated countertops

Other: Provide integral fronts, sides and backsplash

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

E06.2.6. Other

☐ Applicable ☒ N/A

E07. Furnishings

Comply with Air Force Corporate Standards for Furnishings:

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

E07.1. Durability and Serviceability

Comply with AF Corporate Standards for Durability and Serviceability:

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

E07.2. Accessories

Comply with AF Corporate Standards for Accessories:

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

1. Provide acceptable fixtures for restrooms (toilet dispensers, paper towel dispensers, and soap dispensers). Navigate to G. Appendix of this IFS to download supplementary document G10 Dover AFB IFS Specialties, section 10 28 13 Toilet Accessories for more information.

End of Section

E08. Interior Signs

Comply with Air Force Corporate Standards for Interior Signs:

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

E08.1 Types and Color

Comply with Air Force Corporate Standards for Types and Color:

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

E08.2. Interior Signs Materials

1. Natural stone, masonry and cast stone signs may only be used in Group 1 with approval on a case-by-case basis.

E09. Lighting, Power and Communication

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

E09.1. Functionality and Efficiency

Comply with Air Force Corporate Standards for Functionality and Efficiency:

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

E09.2. Types and Color

1. Not Applicable.

End of Section

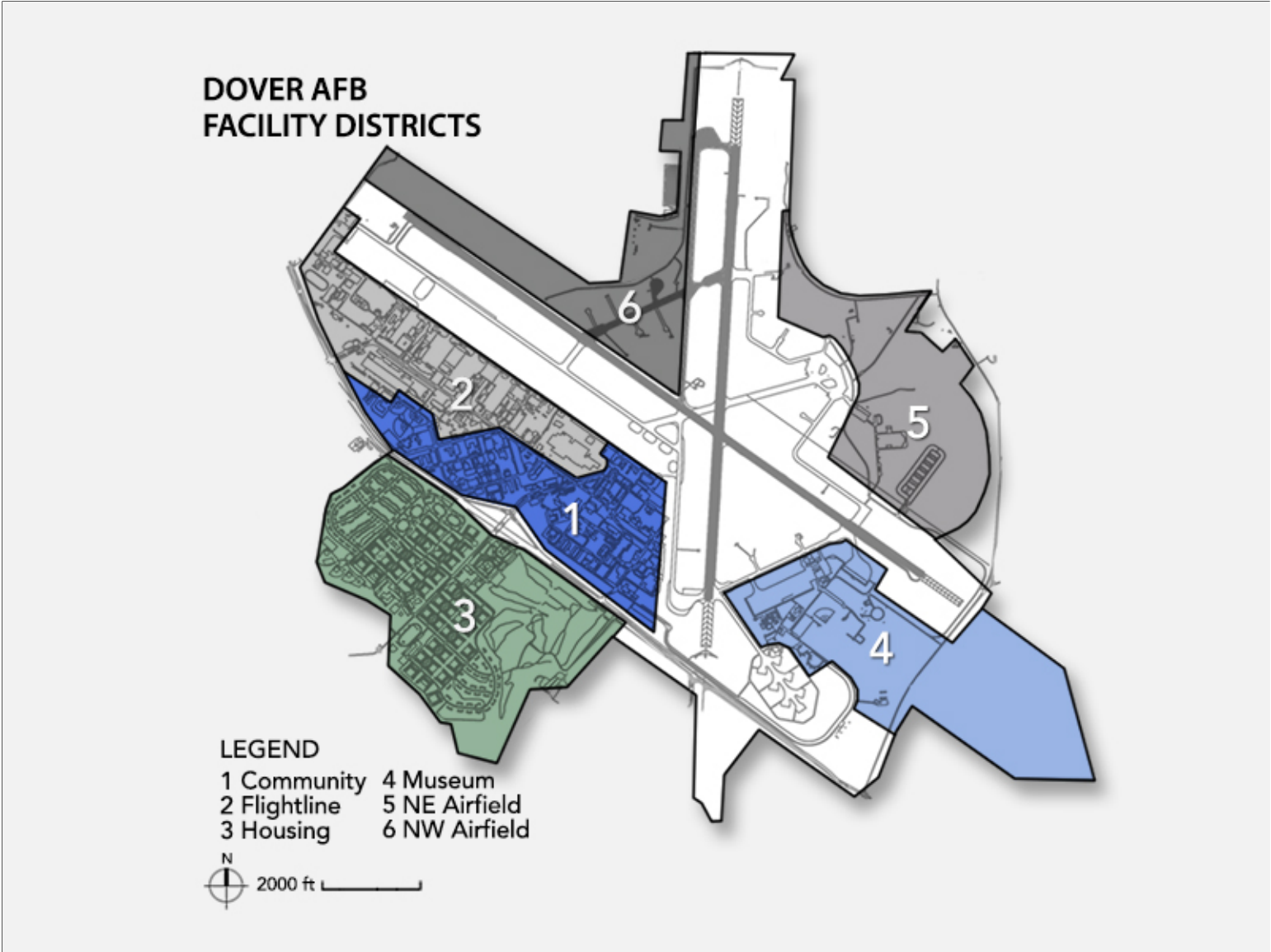
F. APPENDIX - Facility Districts

- ☒ Applicable
- ☐ N/A

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

Facilities Districts Overview Map:

Image Tool 800 x 600



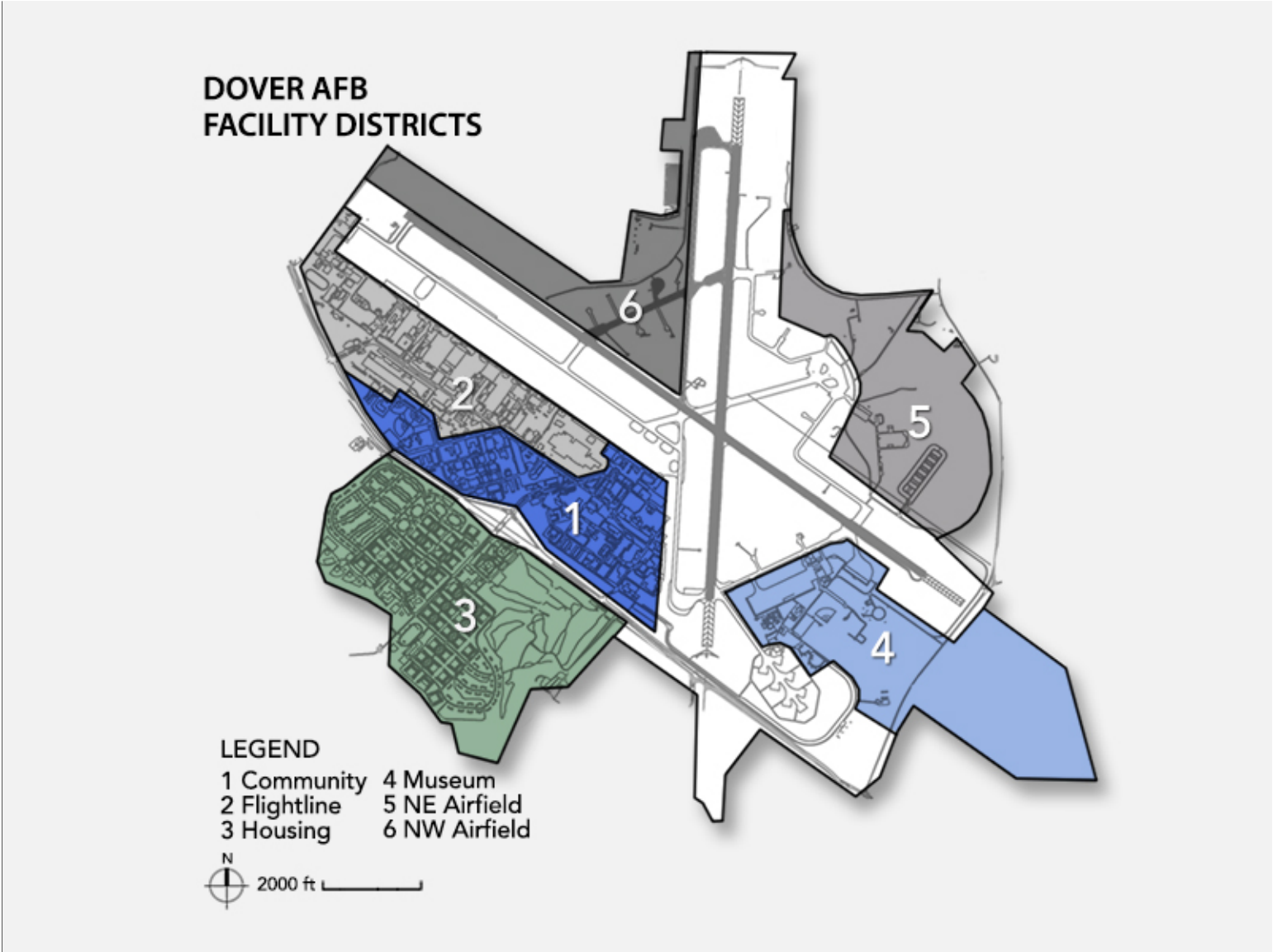
Note: Apply the *base-wide standards* in this IFS for Installation Elements, Site Development, Facilities Exteriors and Facilities Interiors (products, materials, color, etc.). Following application of the base-wide standards, refer to the Appendix and apply any additional requirements specifically related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

Enter No. of Facility Districts 1

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

Image Tool 800 x 600

Map of District



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

Image Tool 250 x 188

Group 1	☐ Applicable	☒ N/A
Group 2	☐ Applicable	☒ N/A
Group 3	☐ Applicable	☒ N/A
Group 4	☐ Applicable	☒ N/A
Other	☐ Applicable	☒ N/A

FACILITY DISTRICTS

Dover Air Force Base is divided into districts that align with land use zones as defined by the installation's General Plan. Each district has designated uses that help to define facility operations. Generally, match adjacent facilities in new construction to promote architectural compatibility throughout the installation. Please refer to Section D03.2. and contact the Base Civil Engineer for additional information. A brief description of each of the districts follows.

1. Community Services

The Community Services District should be pedestrian in scale. Application of the installation prevailing architectural style should be implemented during major renovations or new construction as appropriate.

2. Flightline

The Flightline District includes the entire airfield pavement system (runway, taxiway and apron), related open space, navigational aids, and aircraft operations and maintenance facilities. Buildings in this district are mostly comprised of aircraft support facilities such as hangars, shops, and terminals and are industrial in nature and should remain so. Facilities should generally match adjacent buildings to ensure architectural compatibility and will follow standards for Facility Group 3 as defined in this IFS.

3. Family Housing

The Family Housing District consists of detached single family residential units occupied by enlisted and officer families. This area is currently under a housing privatization contract but will follow standards for Facility Group 4 as defined in this IFS.

4. Museum

The Museum District should be monumental in scale. Application of the installation prevailing architectural style should be implemented during major renovations or new construction as appropriate. Facilities will generally follow the standards in this IFS for Group 2.

5. Northeast Airfield

The Northeast Airfield District will generally conform to the same IFS standards as the Flightline District: Generally, match adjacent buildings to ensure architectural compatibility and follow standards for Facility Group 3.

6. Northwest Airfield

The Northwest Airfield District will generally conform to the same IFS standards as the Flightline District: Generally, match adjacent buildings to ensure architectural compatibility and follow standards for Facility Group 3.

Open Space and Preserves

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

End of Section

G. APPENDIX - References

Comply with Air Force Corporate Standards:

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

Note: The below listed documents are provided as supplements to this IFS. If there are any discrepancies between the requirements of this IFS and the Supplemental Documents, the IFS will govern.

436th CIVIL ENGINEER SQUADRON

G01 Dover AFB IFS General Requirements

https://www.wbdg.org/FFC/AF/AFIFS/G01_Dover_AFB_IFS_General_Requirements.pdf

G07 Dover AFB IFS Thermal Moisture Protection

https://www.wbdg.org/FFC/AF/AFIFS/G07_Dover_AFB_IFS_Thermal_Moisture_Protection.pdf

G08 Dover AFB IFS Openings

https://www.wbdg.org/FFC/AF/AFIFS/G08_Dover_AFB_IFS_Openings.pdf

G09 Dover AFB IFS Finishes

https://www.wbdg.org/FFC/AF/AFIFS/G09_Dover_AFB_IFS_Finishes.pdf

G10 Dover AFB IFS Specialties

https://www.wbdg.org/FFC/AF/AFIFS/G10_Dover_AFB_IFS_Specialties.pdf

G21 Dover AFB IFS Fire Suppression

https://www.wbdg.org/FFC/AF/AFIFS/G21_Dover_AFB_IFS_Fire_Suppression.pdf

G22 Dover AFB IFS Plumbing

https://www.wbdg.org/FFC/AF/AFIFS/G22_Dover_AFB_IFS_Plumbing.pdf

G23 Dover AFB IFS Heating Ventilating Air Conditioning

https://www.wbdg.org/FFC/AF/AFIFS/G23_Dover_AFB_IFS_Heating_Ventilating_Air_Conditioning.pdf

G26 Dover AFB IFS Electrical

https://www.wbdg.org/FFC/AF/AFIFS/G26_Dover_AFB_IFS_Electrical.pdf

G27 Dover AFB IFS Communications

https://www.wbdg.org/FFC/AF/AFIFS/G27_Dover_AFB_IFS_Communications.pdf

G28 Dover AFB IFS Electronic Safety Security

https://www.wbdg.org/FFC/AF/AFIFS/G28_Dover_AFB_IFS_Electronic_Safety_Security.pdf

G31 Dover AFB IFS Earthwork

https://www.wbdg.org/FFC/AF/AFIFS/G31_Dover_AFB_IFS_Earthwork.pdf

G32 Dover AFB IFS Exterior Improvements

https://www.wbdg.org/FFC/AF/AFIFS/G32_Dover_AFB_IFS_Exterior_Improvements.pdf

G33 Dover AFB IFS Utilities

https://www.wbdg.org/FFC/AF/AFIFS/G33_Dover_AFB_IFS_Uilities.pdf