

HUNTER AAF INSTALLATION DESIGN GUIDE

EXECUTIVE SUMMARY

INTRODUCTION

This document is the Executive Summary of the Hunter Army Airfield (AAF) Installation Design Guide (IDG or “Guide”). As a synopsis of the Guide it provides an overview of the existing conditions and command policies that relate to the design and management of facilities and grounds at Hunter AAF.

PURPOSE

The IDG provides guidance on standardizing the visual effects for the exterior of new and renovated facilities as well as the surrounding land. The IDG provides measures on improving the total environmental and visual quality of the installation (Fig. ES.1). It also includes provisions for maintenance and repair requirements on the installation. Improvements to the quality of development and the use of sustainable design and development practices have a direct impact on the efficiency and effectiveness of the installation. These measures affect mission performance and the quality of life for those who live and work on or visit Hunter AAF.

The IDG includes standards and general guidelines for site planning; architectural character, colors and materials; vehicular and pedestrian circulation; and landscape elements, including plant material, outdoor seating, signage, lighting and utilities. The design guidelines incorporate sustainable design, quality of design, antiterrorism, low maintenance, life cycle costing, historical and cultural considerations, durability, safety and compatibility.

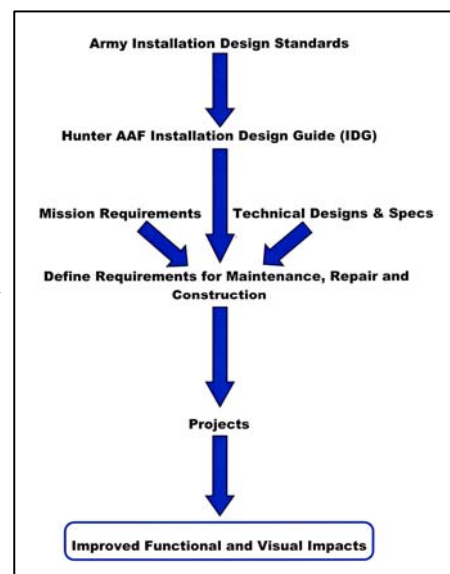


Fig. ES.1 - The Hunter AAF IDG is a tool to

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Stakeholders

This IDG is to be used by all individuals involved in the decision making process for design, construction, and maintenance of facilities (Fig. ES.2):



Fig. ES.2 - A diagram of the Guide's primary stakeholders.

The primary stakeholders and users include the following:

- Installation Commander and staff
- Garrison Commander and staff
- U.S. Army Corps of Engineers, Savannah District
- Customers and other users of installation infrastructure
- Consulting planners, architects, engineers, and landscape architects (working on installation projects)
- Maintenance personnel
- Contractors employed by the Operations and Maintenance Division

The ultimate success of the IDG depends on the commitment of all stakeholders to fully implement the guide and on the proper education of installation staff about the existence and purpose of the guide.

ORGANIZATION OF THE IDG

The IDG is organized to facilitate the preparation and execution of projects to improve the visual image of the installation and to ensure that design conforms to Army standards, including sustainability requirements.

- Section 2 “The Installation Design Guide Process and Implementation” describes how the IDG plays a part when initiating any maintenance, repair, renovation or new construction project and how to use the IDG as a resource.
- Section 3 “Design Guide Analysis Criteria” discusses specific goals and objectives promoted by the Hunter AAF IDG, the visual elements that are addressed by the IDG and the design principles employed in analyzing the current and desired state of the installation.
- Section 4 “Installation Profile” details the regional setting, natural environment and existing land use on Hunter AAF.
- Section 5, “Visual Themes and Zones” analyzes the design theme of Hunter AAF and breaks it down into a set of visual zones. Assets, liabilities and recommendations are described for each zone.
- Section 6 “Improvement Projects” provides a consolidated list of recommendations to correct the visual and functional liabilities identified for each visual zone.
- Section 7 “Site Planning Design Standards” discusses what factors and requirements must be considered in selecting and planning a building site.
- Section 8 “Buildings Design Standards” discusses what factors and requirements must be considered in building design.
- Section 9 “Circulation Design Standards” discusses what factors and requirements must be considered in the design of roads, parking lots and the pedestrian circulation system.
- Section 10 “Landscape Design Standards” discusses what factors and requirements must be considered in landscape design.
- Section 11 “Site Elements Design Standards” discusses what factors and requirements must be considered in the selection and location of site elements.

- Section 12 “Antiterrorism Design Standards” discusses what factors and requirements must be considered for all infrastructure that may affect antiterrorism efforts.

Responsibilities

As directed by the Secretary of the Army and the Chief of Staff, Army and approved by the Army Installation Management Board of Directors, the following responsibilities are established:

Assistant Chief of Staff for Installation Management (ACSIM):

- Establish Army facility standards and approve deviations from the standards.
- Approve Army Installation Design Standards Implementation Plan.
- Approve Army Installation Design Standards Investment Strategy.

Commander, Installation Management Command (IMCOM):

- Develop and implement the Army Installation Design Standards Implementation Plan.
- Develop and implement the Army Installation Design Standards Investment Strategy.
- Ensure compliance with the Army Installation Design Standards.
- Maintain an electronic newsletter for communicating changes in standards.

Installation Commander and Staff:

- Chair Real Property Planning Board (RPPB) to review and approve projects established by the Executive Steering Committee (ESC) and the Military Construction Army (MCA) Program.

Garrison Commander and Staff:

- Maintain and provide IDG compliance for Hunter AAF.
- Submit MCA project requests to the IMCOM Southeast Region Office for approval and funding. After review and approval by the Garrison Commander, submit projects according to instructions provided by IMCOM.

- Approve outcomes of Planning and Design Charrettes. See ACSIM memorandum, DAIM-ZA, “Planning Charrettes for Military Construction, Army (MCA) Projects” dated 30 April 03. Also, see ACSIM Memorandum, DAIM-FD, “Conducting a Planning Charrette for Military Construction, Army (MCA) Projects” dated 2 Apr 03.
- The Directorate of Public Works (DPW) supports the Garrison Commander and Staff by performing the following tasks;
 - Developing the IDG.
 - Defining and communicating the responsibilities of other organizations in implementing the IDG.
 - Ensuring that the processes needed for IDG implementation are established, implemented and maintained.
 - Conducting Planning and Design Charrettes in accordance with the DIAM memoranda identified above.

U.S. Army Corps of Engineers, Savannah District:

- Provide planning, design and construction support to Hunter AAF.

Consulting Planners, Architects, Engineers and Landscape Architects:

- Use the IDG for planning and design to make Army standard designs conform to the Hunter AAF master plan for exterior appearance called “Southern Living Station of Choice.”

INSTALLATION PROFILE

The primary mission of Hunter AAF is to provide aviation support to the 3rd ID in the Rapid Deployment Force. Hunter AAF also supports tenant activities including the 3/160th Special Operations Aviation Regiment, the Georgia Army National Guard, the Navy/Marine Corps Reserve Center and the U.S. Coast Guard Air Station. Hunter AAF is strongly positioned to meet the needs of today’s Army and has a strategic vision to support the Army in the 21st century.

Hunter AAF is located in northeast Georgia (Fig. ES.3) and is within the city limits of Savannah (Fig. ES.4). The installation occupies a linear site encompassing 5,370 acres and running in a northeast to southwest direction, approximately two miles wide by five miles long.

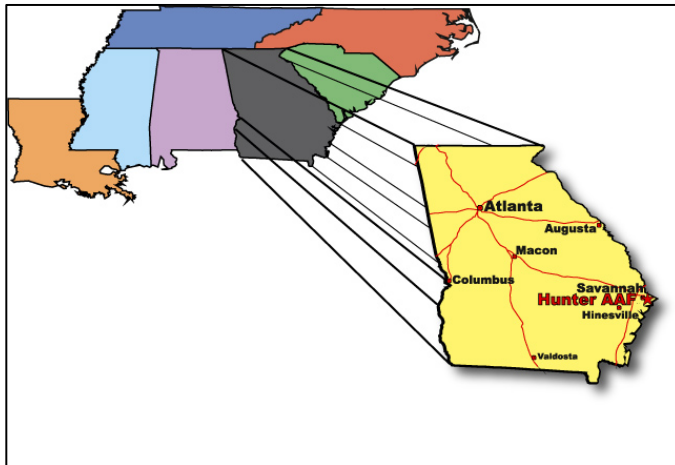


Fig. ES.3 - Hunter AAF Location Map

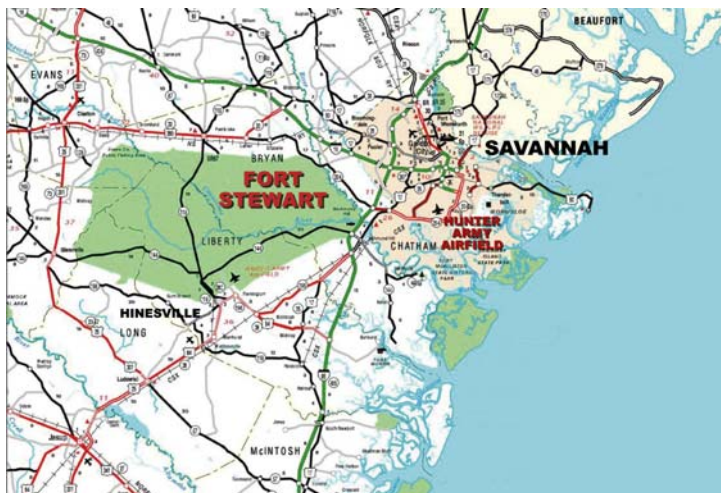


Fig. ES.4 - Hunter AAF Vicinity Map

The airfield is in the center of the installation with the runway oriented east-west. North of the airfield the installation is predominantly developed with buildings and other facilities. South of the airfield the installation is predominantly woodlands, marsh, recreational areas and other open spaces.

The developed areas of Hunter AAF other than the airfield are predominantly occupied by airfield support and maintenance

facilities, administrative buildings, barracks, various headquarters and operations buildings, community facilities and family housing. A variety of open spaces are interspersed with the buildings and other facilities producing a comfortable and attractive working and living environment.

During World War II, the Army acquired the airfield from the City of Savannah for use as an operational training facility, staging field and separation center. After the war, the airfield was transferred to the city, then to the Air Force and afterwards returned to the Army in 1967. Hunter AAF was briefly placed in caretaker status then reopened in 1974 to support the 24th Infantry Division (reflagged as the 3rd Infantry Division). Hunter Army Airfield is designated a Class 1 Army Installation requiring that new development phase out obsolete temporary buildings.

The topography is typical of the Atlantic Coastal Plain physical features in this area. The installation is relatively level although a ridge runs from north to south through the eastern portion of the installation. The ridge directs most drainage to the Little Ogeechee River in the southwest.

The subtropical climate of the region is pleasant with mild, short winters and long spring and fall seasons. Hot and humid summer weather normally extends from June through September. Abundant sunshine and rainfall produces a favorable environment for the vigorous growth of vegetation.

INSTALLATION DESIGN GOALS AND OBJECTIVES

The goal of the Hunter AAF IDG is to provide guidance and to establish requirements for all installation personnel involved in design, construction, maintenance or renovation and to develop, implement and sustain Hunter AAF infrastructure in order to meet current and future mission needs.

The objectives of the IDG are:

- To provide design standards that define color, materials, style, proportion, signage and other aspects of design for all visual elements.
- To provide instructions for implementation of the design guidelines and selection of materials for new construction, renovation, maintenance and repair projects, as appropriate.
- To provide direction for accomplishing sustainable development.
- To provide guidance to integrate antiterrorism standards.

VISUAL SURVEY AND ANALYSIS

Hunter AAF was surveyed to determine the visual zones installation-wide. Seven visual zones were defined based on their visual features, architectural trends and the functions of the predominant facilities. Southern Living Station of Choice is the architectural theme used for the design and construction of facilities in these visual zones. The identified visual zones are shown in Figure ES.5.

The following pages describe the seven visual zones and contain photographs of the primary visual character of each.

Headquarters Visual Zone

The Headquarters Visual Zone includes the primary entry road, Wilson Boulevard and the areas around the Post and Brigade Headquarters buildings. The administrative function of this zone should be projected through a sense of identity, importance and prominence.

The Garrison Headquarters building is located at the terminus of Wilson Boulevard. The Brigade Headquarters building is located in front of the large hangars along Lightning Road. These sites are prominently located and close to each other along two primary vehicular routes.

The street trees lining the entire length on both sides of Wilson Boulevard accentuate its linear axis. In addition to its function as a major thoroughfare, this corridor provides an important open space element that is integral to the installations distinctive street pattern.

The Garrison Headquarters is strategically located at the terminus of the main entry road, Wilson Boulevard (Fig. ES.6). The 1st and 2nd Battalion Headquarters building occupies a prominent hill near the two main hangars (Fig. ES.7).

Simple details in roof overhangs, windows and doors and small-scale site design, such as narrow walkways help the facilities project a human scale (Fig. ES.8).

A grid system of streets provides ample access to all parts of the cantonment area of Hunter AAF.



Fig. ES.6 – View of Garrison Headquarters on approach from the East, along Wilson Boulevard.



Fig. ES.7 – 1st and 2nd Battalion Headquarters are on a knoll overlooking the airfield.



Fig. ES.8 – Architectural detail and pedestrian features in the Garrison Headquarters area produce a sense of human scale.

Lightning Road outlines the perimeter of the main flightline area providing a series of dramatic views of hangars and glimpses across the aircraft parking aprons (Fig. ES.9).

Many well-landscaped areas benefit from groups of preserved mature live oak trees. Static displays of aircraft and sculptural monuments demonstrate a sense of pride and organizational continuity (Fig. ES.10).

Town Center Visual Zone

The Town Center Visual Zone provides retail, recreational and social services activities for on- and off-post personnel. Major structures in the commercial area include the Post Exchange, Theater, Bowling Center and the Enlisted Men's Services building. The distinctive design of the more recently constructed Post Exchange is aesthetically appealing and an obvious source of pride for the Hunter AAF community. Other permanent buildings in the zone include the Hunter Club, Guest House, Shoppette and Class 6 Store, Skill Development Center and Gymnasium.

Most facilities serve as independent activity centers due to their isolated siting and parking lots serve single buildings rather than building groups. Many facilities are new and are sited with good relationships between roads, parking and building entrances (Fig. ES.11).

Many buildings have entrance arcades and canopies, which provide protection from the sun and rain and provide an appealing sense of scale. Overhangs, signage and architectural detailing visually articulate building entries and make them inviting (Fig. ES.12). Important buildings have clearly identifiable entries, appropriate materials and a sense of permanence (Fig. ES.13).

Parking is generally sufficient at most locations in the Town Center Visual Zone. Bike racks are provided at various community services locations.

On more recent projects, existing vegetation has been preserved. New plantings near buildings and parking lots provide shade, accent, overhead canopy and a pedestrian scale (Fig. ES.13). Site furniture, lighting, signage and other elements are new at many facilities and provide a generally coordinated appearance. Most buildings with moveable barriers have planters or bollards instead of rough concrete blocks.



Fig. ES.9 – The view northeast, across the aircraft parking apron.



Fig. ES.10 – A helicopter is on static display at the 1st and 2nd Battalion Headquarters.



Fig. ES.11 – The Shoppette is located on a convenient intersection.



Fig. ES.12 – The entrance to Tuttle Army Health Clinic is architecturally interesting and inviting.

Barracks Visual Zone

The Barracks Visual Zone contains an interrelated system of soldier quarters, operations buildings, dining facilities, classrooms and community commercial and recreation facilities. This visual zone is a major presence at Hunter AAF due to its large area and prominent location.

The bold style and scale of the new dormitory buildings, sited among the existing trees, projects a comfortable campus-like atmosphere. This modern, efficient facility conveys a positive impression of order and permanence.

Wilson Boulevard provides a pleasing formal roadway, with wide setbacks and street tree plantings, but other roads lack a hierarchy of street development. Lightning Road runs along the east perimeter of the visual zone and provides views of the hangars and the airfield in the Installation Support Visual Zone. The open space east of the dormitories offers a pleasant view and an opportunity for informal recreation.

Native vegetation in the background softens the massiveness of the large barracks and creates a campus-like setting (Fig. ES.14). Distinctive architecture and a consistent color palette make this visual zone readily recognizable (Fig. ES.15). Barracks, operations and support facilities are efficiently integrated, with appropriate relationships to each other and to adjoining industrial and open space land uses.

The size, shape and materials of new barracks create a pleasing, human-scaled environment. The recessed windows create shade and help reduce the massive scale of the buildings. The building dimensions, roof overhangs, windows and doors add a comfortable human scale. Building entries are well-defined by the architecture and provide a sense of order to the building.

Vehicular circulation and parking around the barracks and operations buildings is convenient and parking is reasonably close to building entries (Fig. ES.16).



Fig. ES.13 – Landscaping in the Commissary and PX parking lots provides shade and visual interest.



Fig. ES.14 – Preserved trees visually balance the large-scale barracks in this view.



Fig. ES.15 – Architecture and materials visually unify the Barracks Visual Zone and create a comfortable environment.



Fig. ES.16 – Parking and circulation for many newer building is convenient and logically organized.

Large stands of mature trees near barracks complexes and the landscaping within the courtyards add to the comfortable feeling of the residential areas (Fig. ES.17). Walkways with uniform lighting and other site elements connect most barracks and unit operations facilities. Minimum standoff distances for occupied buildings are provided in most areas, but especially in the vicinity of the barracks.

Installation Support Visual Zone

The Installation Support Visual Zone encompasses the airfield operations, warehouses and tactical equipment maintenance facilities (TEMF). Each area uniquely reflects a different era in the development of the installation. Circulation along Lightning Road provides easy access to installation support facilities and the Barracks Visual Zone.

The airfield operations area is located along the perimeter of the expansive airfield apron. The two massive hangars, remnants of the USAF (SAC) era, are the largest and most prominent structures on the installation. The world War II vintage building northwest of the cantonment area provides a reminder of the original encampment era, with regimented site layout and common wood structures of simple design. These two areas project a poor visual image due to their older buildings, cluttered appearance and lack of screening.

The new TEMF area just south of Wilson Boulevard is reflective of the current development phase. It projects a positive image with well-designed, functional facilities. Here, the exposure of these industrial facilities is buffered by its location behind a dense vegetative screen.

The utilitarian appearance of facilities is appropriate for the industrial uses that are accommodated (Fig. ES.18). Many of the airfield buildings provide a sense of the mission significance of the air operations component. The Departure and Arrival Facility (Fig. ES.19) and the hangars (Fig. ES.20) are especially expressive of this image. The use of materials on the newer TEMF buildings helps reduce the scale of the large industrial buildings.

Facilities in this visual zone are well-served by a road network that directly connects the various parts with three main routes.



Fig. ES.17 – New planting in the spaces between buildings creates a comfortable and attractive landscape.



Fig. ES.18 – The tower is utilitarian in design, but architecturally expressive.



Fig. ES.19 – The operational side of the Departure and Arrival Facility.



Fig. ES.20 – The hangars are huge and plain, but visually very striking.

Some buildings on the western side of the apron are near wooded areas or have mature landscaping that distinguishes them from the large industrial buildings (Fig. ES.21). Many areas are visually screened from adjacent visual zones by vegetation.

National Guard Visual Zone

The National Guard Visual Zone at Hunter AAF occupies an area of aircraft parking apron between buildings 845 and 850 and extends northward to North Lightning Road. A new hangar for the National Guard is the first building constructed in this visual zone (ES.22). Access to the National Guard Visual Zone is directly from North Lightning Road.

Housing Visual Zone

The Housing Visual Zone includes the officer housing area, duplex family units and the mobile home park just north of the Wilson housing area, as well as new housing areas south of the golf course. The northern area is conveniently sited close to the community facilities and the entry gate and the southern areas are supported by a satellite community service area nearby. In the northern neighborhoods, the nearly identical units are closely grouped on long straight streets.

In the northern neighborhoods, the duplex residences are almost identical in their ranch style with low-pitch roofs. The major construction materials include cream-colored split-face concrete masonry units, asphalt shingles and aluminum frame windows and doors. In the southern neighborhoods, the units are of a contemporary colonial design with vinyl siding, pitched roofs, porches, columns and garages.

In the northern neighborhoods, the buildings are oriented directly toward the street. Off-street parking is provided, with driveways into carports at each end of the duplex units. Roads are laid out in predominantly long straight runs with gentle curves. Sidewalks are provided along most streets. In the southern neighborhoods, the buildings also face the streets, but the setbacks are deep and there is generous space between buildings.

Neighborhoods are conveniently located near schools, the community center and entry gates, but separated from mission-related training and administrative operations.



Fig. ES.21 – Trees and shrubs create a shady and interesting environment around the 3rd Battalion, 160th Special Ops headquarters.



Fig. ES.22 – Looking South across the hangar site from Lightning Road.



Fig. ES.23 – View of open space and trees at the northern end of the Housing Visual Zone.



Fig. ES.24 – A typical new three-family house.

Large open spaces between the family housing areas provides easily accessible recreation opportunities for play and relaxation (Fig. ES.23).

The new family housing areas are attractive and set the standard for housing at Hunter AAF (Fig. ES.24). Streets are adequate to accommodate normal traffic and adjacent woodlands provide an attractive setting for the neighborhoods (Fig. ES.25).

Green Space Visual Zone

The Green Space Visual Zone includes recreation facilities, buffer areas and natural forests and wetlands. The abundance of green area is one of the primary influences on the overall positive visual image of Hunter AAF. This valuable resource extends along the perimeter and into the developed areas as open spaces and recreation areas.

The wetland marsh area covers the southwest part of the installation and provides natural habitat for wildlife, recreation opportunities and attractive views. The golf course along the southeast perimeter provides an important green area adjacent to the dense suburban development surrounding this part of the installation (Fig. ES.26). The wooded area, within which the golf course has been developed, provides a very positive visual setting. Green areas along the east and north perimeters of the installation provide an effective buffer and screen.

There are no buildings actually located in the Green Space Visual Zone, but portions of the Installation Support Visual Zone near the runways contain buildings that are visible across the mowed fields. These buildings stand out dramatically in contrast to the expansive surroundings.

The installation Perimeter Road loops around the airfield and provides access to all of the Green Space Visual Zone. A wide variety of natural forest and wetlands vegetation thrive within this visual zone (Fig. ES.27). Also, the fields around the runways encompass thousands of acres of mowed grass.

There are few elements in this visual zone other than a few recreational shelters, athletic courts, signs and overhead utility lines (Fig. ES.28).



Fig. ES.25 – The stand of trees at the end of this street contribute to the comfortable appearance of the homes.



Fig. ES.26 – The golf course is a green area asset for military and civilian personnel.



Fig. ES.27– Wetlands at the west end of the runway occupy low areas between wooded uplands.



Fig. ES.28– The baseball complex is one of just a few developed areas in the Green Spaces Visual Zone.

INSTALLATION DESIGN GUIDE STANDARDS

Site Planning Design Standards

Site Planning is the process of arranging an external physical environment in complete detail to include the structures, circulation patterns and other elements that form the built environment. The site planning and design process is used to develop a project that fulfills facility requirements and creates the optimal relationship with the natural site (Fig. ES.29).

The installation master plan provides information that forms the foundation for site planning. The master plan is a mechanism for ensuring that individual projects are sited to meet overall installation requirements.

The Goal of Site Planning

The goal of site planning for the installation is to produce attractive, sustainable development. Sustainability requires the built environment to be designed and constructed to preserve and enhance the natural environment. Manmade facilities are designed as a part of the environment and to minimize negative environmental impacts. General site planning techniques resulting in sustainable development are cost efficient because they conserve energy and reduce construction and maintenance cost.

The fit of new facilities to their environment is developed by a thorough site analysis followed by careful site planning. The primary issues that determine the basic location and organization of buildings and facilities on a site are identified and evaluated during the site planning. The results of evaluation are commonly displayed on a map that depicts the opportunities and constraints for the proposed development (Fig. ES.30).

Site Planning Design Criteria

The site planning component of installation design comes first in the design process and determines the general location of the other components. Consequently, site planning must consider the criteria for architectural design, circulation, landscape architecture, site elements and antiterrorism.



Fig. ES.29 – Site planning establishes the arrangement of facilities on a development site.

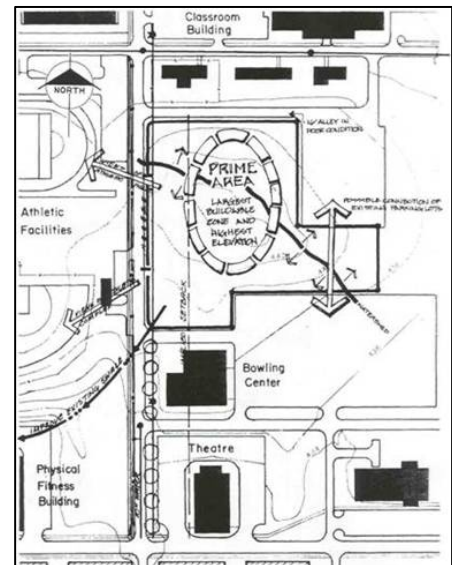


Fig. ES.30 – Sample map of site opportunities and constraints.

The natural terrain is a major determinant of the layout and form of the installation. Site planning should insure that the natural topography of the site is maintained. Natural drainage corridors, floodplains and waterways should be preserved during the site planning process.

New and redeveloped facilities must be designed in response to local climatic conditions to provide a more comfortable environment and reduce the demands for heating and cooling.

New development will be designed to preserve and enhance scenic and other attractive views and vistas and to screen unattractive views and vistas. Visual extensions through open spaces will be incorporated as much as practicable to provide a sense of orientation, relief and enjoyment.

New development and additions will be designed to protect and preserve existing native vegetation. This preservation reduces maintenance and enhances sustainability.

The site plan provides the locations of the manmade development that will occur on site. It establishes the spatial relationships as well as the relationships between manmade and existing natural features.

Building Design Standards

Hunter AAF is currently implementing an architectural design theme called “Southern Living Station of Choice,” implying that the installation has all the amenities that would cause a military service member to request being stationed at Hunter AAF. The architectural characteristics of this theme are reminiscent of the Southern Colonial Revival style. It incorporates specific architectural features such as porticos, verandas, columns, low-pitched hip or gable roofs and regular patterns of fenestration (Fig. ES.31). Building materials such as brick, concrete masonry units, metal siding and stucco are used and the range of colors is limited to emphasize earth tones and white (Fig. ES.32). When properly combined, these elements create an architectural image which expresses continuity with Georgia architectural traditions.

Hunter AAF has an overall image that includes new and old construction, with like features and building materials, as well as unlike features. Barracks are all similar to each other and most other buildings in scale and materials. Hangars are similar to each other in scale and materials, but vastly different from most other buildings on the installation.



Fig. ES.31 – The Physical Fitness Center exhibits the design characteristics of the Southern Living Station of Choice.



Fig. ES.32 – The exterior materials on Bldg. 1531 include brick, concrete block and stucco walls with metal roof.

Although many of the new buildings are very large, they have architectural details that visually reduce their apparent size. This produces an overall impression that the buildings are of a comfortable human scale (Fig. ES.33). Typically, primary entrances for buildings are dominant features, commonly flanked with columns supporting a portico with a pitched roof (Fig. ES.34)

Exterior building materials to be used varies somewhat between the visual zones, as do the colors of walls, roofs, doors and windows.

Sustainable Design- Hunter AAF requires the practice of sustainable design in the development of new facilities. Sustainable design reduces construction and maintenance costs and conserves energy through proper construction and materials selection.

Building Design Objectives-Building design objectives for Hunter AAF incorporate architectural design elements compatible with the Southern Living Station of Choice theme. Additional objectives include:

- Accommodate natural site conditions (Fig. ES.35);
- Use sustainable construction materials and practices;
- Design facades with regular patterns of fenestration;
- Adapt buildings to natural site conditions;
- Preserve land by reusing former building sites when possible; and
- Maximize architectural compatibility between new and existing facilities.

Architectural Character

Hunter AAF has had two major building periods in its history and is currently in the middle of another. The styles and materials vary throughout the installation, but there is an overall consistency in the nature of the buildings on the post.

A number of new buildings are planned, in the process of construction, or are already completed, including the Departure/Arrival Airfield Control Group (DAACG) Operations Facility (Bldg. 7920), the Tuttle Army Health Clinic (Bldg. 1440),



Fig. ES.33 – Small-sized windows, recessed entries and a varying roofline emphasize the human scale of this brigade headquarters (Bldg. 1525).



Fig. ES.34 – Portico entrance with masonry columns at a dining facility (Building 110).



Fig. ES.35 – The Garrison Headquarters was sited to preserve these live oaks.

hangars, a Community and Family Readiness Center, Ranger battalion headquarters, barracks, and a physical fitness center. They are brick or brick and stucco or metal with metal low-pitched hip or gable roofs and simple architectural detailing (Fig. ES.36).

Hunter AAF seeks to further achieve consistency in design throughout the visual zones by applying the design preferences of the Southern Living Station of Choice theme. Development of consistent character provides a coherent 'sense of order' and 'sense of place.' This relationship of design comes from using compatible scale, massing, form, color, texture, materials and fenestration.

Hunter AAF also emphasizes prominent building entrances for new construction. This creates a definitive sense of entry appropriate to the size or importance of the building. Building entrances are expected to conform to the following guidelines:

- The entrance to a building should be in a prominent location and should be oriented toward the primary adjacent public spaces, such as a courtyard, lawn, parking lot, or street.
- The preferred configuration of a primary entrance for a building of large size or importance is a double-door entry under a full-height, front-gabled portico supported by classical-style columns. For other types of buildings, the main entrance should consist of a small gabled portico or gabled hood over a double-door or recessed entry (Fig. ES.37). Entrances should not be barrel-vaulted.
- The details of an entrance should be designed to provide continuity with other entrances to the building and the entrances of adjacent buildings.

Service Areas

Service areas for loading docks, trash dumpsters and mechanical systems should be screened from the views of primary use areas, such as entrances, courtyards, gathering areas, streets and parking lots. Service areas should be screened as an enclosure by using brick walls capped either by metal, brick or concrete. The front of the enclosure should have a black metal gate. Screen walls should be between six and eight feet tall and should be in harmony with the adjacent building (Fig. ES.38).

Building Accessibility

All structures or facilities, other than the exceptions mentioned below, must meet the Americans with Disabilities Act



Fig. ES.36 – A typical new barracks (Bldg. 313).



Fig. ES.37 – A portico is a preferred way to emphasize the building entrance.



Fig. ES.38 – An example of a well-designed service area enclosure.

Accessibility Guidelines (ADAAG) and the Uniform Federal Accessibility Standards (UFAS). The more stringent standards apply in the event of conflicting guidelines. ADAAG accessibility is recommended since the intended use of the facility may change over time and to accommodate visitors, instructors and contractors who may be present and need accessible facilities.

Seismic Policy

Hunter AAF is in Seismic Zone 2A, a seismic hazard zone with a moderately low level of risk. The seismic design of buildings and other structures built on Hunter AAF will be in accordance with the design criteria set forth in TI 809-04, Seismic Design for Buildings.

Historic Architecture

The integrity of historic buildings or districts on the installation will be preserved and protected when practicable within the installation's primary mission of defense. The Army's management of historic properties is pursuant to the duties and responsibilities established by Congress under the National Historic Preservation Act (NHPA) of 1966, as amended. The NHPA also created the NRHP as the official listing of the nation's historic properties considered worthy of preservation.

Hunter AAF has one historic district and one historic structure that are eligible for listing in the National Register of Historic Places; none are National Historic Landmarks.

- ***Strategic Air Command (SAC) Operations Historic District.*** This district consists of four discontinuous areas that are historically significant for their association with the U.S. Army Air Forces' SAC program. The four discontinuous areas include:
 - ***Flight Line Area.*** This area contains two World War II-era hangars and an array of hangars, maintenance shops and other aviation facilities from the Cold War era (Fig. ES.39).
 - ***Saber Hall.*** This three-structure complex (Bldgs. 8661–8663) was built in 1960 for the SAC's ground alert program (Fig. ES.40).



Fig. ES.39 – A 1940–41 hangar (Bldg. 813) in the Flight Line Area of the SAC Operations Historic District.



Fig. ES.40 – View of Bldg. 8661 of the Saber Hall complex, which was critical to the SAC ground alert program.

- *The Ammunition Supply Points (ASP) and 1300 Block Areas.* The ASP and 1300 Block areas are two munitions storage areas, one dating to 1952 and the other to 1957. Both ammunition areas were important to the mission of SAC. They are in the Installation Support Visual Zone.
- *Water Tower.* Hunter AAF's historic structure is a 1940 metal water tower (Bldg. 721) (Fig. ES.41).

Selected individual buildings and structures within the Flight Line and Saber Hall areas no longer meet current mission requirements and are proposed for demolition or alterations that would remove character-defining features. In compliance with the NHPA, these actions are being mitigated.

There are presently no other likely historic buildings, structures, or districts on Hunter AAF. The eligibility of individual buildings and structures should be examined as they turn fifty years old.

Renovations and Additions

Renovations to buildings on Hunter AAF typically consist of changes to building interiors or replacement of roofs. Additions to existing buildings are not commonly undertaken. When existing buildings are renovated or additions are constructed, the architectural character of the renovation or addition should consider the materials, colors, and architectural elements within the design preferences of the Southern Living Station of Choice. For instance, any roof replacement is to comprise a metal low-pitched hip or gable roof; flat roofs are prohibited.

Building additions should also complement the scale, massing, form, materials, and fenestration of the existing structure (Fig. ES.42). However, a renovation or addition to a historical building should be designed to differentiate between what is historic and what is new.

Courtyards and Green Areas

Courtyards can be located as part of the primary entrance to a building, or as an extension of non-primary entrance areas to the outside. Hunter AAF incorporates courtyards and green areas into its construction. The barracks areas and the Ranger battalion headquarters each feature landscaped green areas (Fig. ES.43). Green areas in the cantonment area also include the physical fitness fields, the golf course and the landscaped boulevards of Duncan Drive (Fig. ES.44), Billy Mitchell Boulevard and Horace Emmet Wilson Boulevard.



Fig. ES.41 – The historic metal water tower (Bldg. 721) built in 1940.



Fig. ES.42 – An illustration comparing compatible and incompatible additions.



Fig. ES.43 – Courtyards and green areas are included in the Ranger battalion headquarters.



Fig. ES.44 – Duncan Drive with its wide median is a noted green area.

Exterior Building Materials and Colors

Building materials make a major contribution to the scale, color, texture, and character of a military installation. Hunter AAF has a defined selection of durable, low maintenance materials provides a cohesive and consistent architectural character throughout the installation. The materials reflect colors from a variety of earth tones. The color schemes identify the function of a building and its hierarchy within the installation (Fig. ES.45).

Key Facility Types Standardization

The Assistant Chief of Staff for Installation Management (ACSIM) establishes Army facility standards and approves deviations from the standards. The following facility standardization programs apply to new facilities at Hunter AAF:

- Residential Communities Initiative (RCI) (Fig. ES.46)
- Department of the Army (DA), Facilities Standardization Program
- Unaccompanied Personnel Housing (Army Barracks Modernization Program)
- U.S. Army Interior Design Manual (IDM) for Single Soldiers
- Army Lodging Standards for Facilities, Service, and Operations
- Morale, Welfare and Recreation (MWR) Branded Theme Operations
- Range Standards

Physical Security Requirements

To assure that the required physical security measures are met, the installation Physical Security Officer will be coordinated with during the planning, design, and construction of all construction projects (AR 190-13, The Army Physical Security Program, Para 1-26).

Circulation Design Standards

The image of Hunter AAF is significantly affected by the design and location of roadways, walkways, entrances and parking lots. The primary roadway system and parking lots occupy considerable amounts of land and are visually dominant features.



Fig. ES.45 – Example of the uses of materials with integral colors and pre-finished materials in installation standard colors on a new barracks.



Fig. ES.46 – Example of military family housing on Hunter AAF.

The circulation system provides a primary vantage point from which the installation is viewed. Safe and efficient vehicular movement results in better orientation and contributes to the development of a positive environment for personnel and visitors.

Roadways, pedestrian walkways and bicycle trails are designed to provide a hierarchy of circulation and carrying capacity. Functionally, a hierarchical network is created that separates incompatible types of traffic.

Visually, the circulation hierarchy can be reinforced through design, planting, signage and lighting to promote a more attractive visual experience and promote a sense of orientation.

Circulation Objectives

The goal for the circulation system on Hunter AAF is to establish a sustainable system that promotes aesthetic appeal, environmental preservation and energy conservation, while providing safe and efficient circulation. The objectives below describe the design principles that are followed to achieve this sustainable circulation system:

- Provide circulation that meets antiterrorism and security requirements and promotes and enhances public health and safety.
- Provide a system of circulation that includes all forms of vehicular and pedestrian circulation in the Housing Visual Zone (Fig. ES.47).
- Provide systems that separate vehicles and pedestrians in all other visual zones (Fig. ES.48).
- Blend the circulation system to the natural conditions of the site to create the best appearance (Fig. ES.49).
- Improve the existing circulation network for expansion, safety, way finding and appearance.
- Promote maintenance and repair of existing and proposed circulation systems.

Roadway Hierarchy

The roadway network on Hunter AAF functionally and visually reflects a logical hierarchy of traffic circulation. The network separates types of traffic by function and volume, ranging from through traffic to local traffic. The visual character of each segment of the network appropriately conveys its role and function within the overall network. The basic network is classified by the



Fig. ES.47 – Bicycle and pedestrian circulation are accommodated on streets and sidewalks in the family housing areas.



Fig. ES.48 – Vehicles and bicycles share the roadway and pedestrians use a sidewalk along North Lightning Road.



Fig. ES.49 – Blend circulation routes to the natural features.

following terms describing the type, character and appearance of the roads.

Highways-Highways provide primary high-speed traffic access to and around Hunter AAF. The installation is bound by GA-21 (Staley Avenue) on the north, GA-204 (Abercorn Street) on the east and south and Veterans Parkway on the west. No highways extend onto Hunter AAF.

Primary Roadways-These are the arterial routes that connect major activity centers, provide the primary access through the installation and provide the means by which most people view the Hunter AAF (Fig. ES.50). Primary roadways traverse the entire cantonment area and carry the heaviest volume of traffic. Direct access to these roads is restricted and crossing is only permitted at major intersections. Primary roadways are divided in places with a median.

Secondary Roadways-Secondary roadways serve as connectors between primary roads and tertiary roads and typically connect primary roads to adjacent land use zones (Fig. ES.51). Secondary roads accommodate moderate to slow traffic speeds with one moving lane in each direction. On-street parking is prohibited and left-turn lanes provided at intersections with primary roads.

Tertiary Roadways-Tertiary roadways provide access to individual facilities, parking and service areas. They are designed to handle low speed and low volumes of traffic, with one lane in each direction. Tertiary roadways have T intersections and cul-de-sacs to reduce through traffic, promote safety and limit noise impacts from truck traffic (Fig. ES.52).

Cul-de-Sacs-Cul-de-sacs are short dead-end tertiary roadways located primarily in housing areas. They connect at one end to a tertiary or secondary roadway and have a turnaround at the other end, providing direct access to abutting property while preventing through traffic.

Building Standoff Distances from Roadways

At Hunter AAF, all inhabited buildings and primary gathering spaces within the controlled perimeter will be setback a minimum 25 meters (82 feet) from roadways and parking lots.



Fig. ES.50 – Duncan Drive is a primary roadway leading from Montgomery Gate.



Fig. ES.51 – Haley Avenue is a secondary roadway.



Fig. ES.52 – Streets in the housing areas are all tertiary roadways.

Roadway System Design

New roadways and improvements to existing routes will be aligned and designed to promote sustainability. They will minimize impacts, relieve driver monotony and provide a positive visual experience for the user, without compromising safety (Fig. ES.53). The following design techniques should be applied to circulation system design:

Blend Circulation with Natural Landform-The horizontal and vertical alignment of roads, walkways and bikeways should minimize landform disturbance and blend with the natural setting (Fig. ES.54).

Adapt circulation to preserve vegetation-Design roads, walkways and bike paths to minimize disturbance to existing vegetation, encourage re-vegetation in disturbed areas and reduce the visual impact of landscape disturbance.

Minimize Adverse Impacts on Adjacent Land Uses-Locate roadway alignments to minimize the impact of traffic-emitted pollutants on adjacent development. Design and locate roadways to reduce the impact of traffic noise on adjacent development (Fig. ES.55).

Intersections

Intersections are the most dangerous areas of the circulation system. New and improved intersections are planned to provide safe and efficient traffic flow for pedestrian as well as vehicular traffic.

Entrance Gates

Entry gates, or access control points (ACPs) are primary components of the Hunter AAF circulation system. ACPs must be functional while providing security protection for the installation and for personnel and others waiting off-post to be admitted. ACPs are designed as a visual amenity to provide an aesthetically pleasing entrance to and exit from the installation.

Parking Requirements

The total quantity of parking in any one location will vary with the needs of the facility. Minimum parking allowances for non-organizational vehicles are generally based on the current *Architectural and Engineering Instruction*. Higher parking allowances for individual facilities are permitted if the increase is demonstrated by a parking study. All parking lots are designed to



Fig. ES.53 – Billy Mitchell Boulevard is a well-designed roadway that contributes to a positive visual image.



Fig. ES.54 – Billy Mitchell Boulevard and the adjacent walkway were designed to blend with surrounding features.



Fig. ES.55 – Landscaping along the reservation boundary buffers housing from GA-21 traffic noise.

be accessible to persons with disabilities in accordance with the requirements of the UFAS.

Parking Lot Location and Design

Parking areas are designed and enhanced to provide more pleasing visual effects and a more comfortable physical experience for parking lot users. Planting areas at the ends of all rows of parking spaces permit stormwater to infiltrate as well as providing shade and visual screening of cars (Fig. ES.56).

Service Areas

Most buildings require a service area to accommodate trash and recycling dumpsters. Facilities that require pickup and delivery of bulk supplies should include a service area that allows for easy access to a loading dock. Service areas should be designed to provide direct, easy access and adequate turning space for larger vehicles and to be screened from public view to reduce negative visual impacts.

Walkways and Pedestrian Circulation

Walkways provide connections for pedestrians between buildings and supporting facilities and adjacent buildings. Well-designed and located pedestrian walkways provide a desirable alternative to driving from place to place (Fig. ES.57).

To encourage the use of walkways as an alternative to driving, pedestrian walkways should be designed and located to provide a comfortable, enjoyable experience. The use of walkways on Hunter AAF promotes development sustainability by conserving energy, reducing air pollution and decreasing the land requirement for parking. By accommodating walking, the pedestrian circulation system can increase the physical fitness of residents and visitors.

Sidewalks are classified to conform to the hierarchy roadway system. They are classified as primary walkways, secondary walkways and tertiary walkways. Non-roadway oriented sidewalks should be sized and placed where people will use them rather than create worn “shortcut” paths.

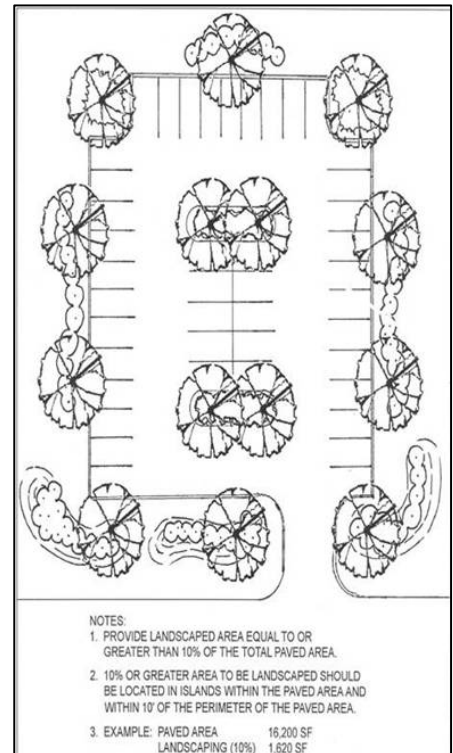


Fig. ES.56 – Tree planting enhances a parking lot through shade, appearance and control of stormwater runoff.



Fig. ES.57 – Walkways promote walking and use of bicycles in place of driving for short trips.

Primary Walkways-Primary walkways are routed along primary roadways within the cantonment area (Fig. ES.58). These walkways are also used for high volume pedestrian routes between major destinations. They are designed to be significant features in the landscape and to visually relate to the facilities they serve. They should be paved with concrete, brick, or other pavers. Primary walkways should be sized to accommodate anticipated pedestrian use.



Fig. ES.58 – Typical primary walkway.

Secondary Walkways-Secondary walkways are provided along secondary and tertiary streets (Fig. ES.59). These walkways are also used for moderate volume pedestrian routes between activity centers and housing areas. They should provide access to building entrances, plaza areas, or streets. They should be paved with concrete, brick, or other pavers.



Fig. ES.59 – Typical secondary walkway.

Tertiary Walkways-Tertiary walkways provide pedestrian walkways in recreational and scenic areas for exercise and hiking (Fig. ES.60). They can be paved with concrete or bituminous asphalt or constructed with woodchips. Tertiary walkways have a meandering and curvilinear alignment.



Fig. ES.60 – Typical tertiary walkway.

Bikeways

Bicycles are used as alternatives to automobiles by some Hunter AAF personnel. Cycling is a popular recreational activity that is enhanced by the availability of a safe and well-planned system of bikeways.

The Hunter AAF bikeway system follows designated routes along the roadway system and provides direct routes between a number of primary and secondary destinations. As new projects are completed, continuous improvement of the system is made to minimize conflicts between bicyclists, pedestrians and motorists.

Landscape Design Standards

The visual image conveyed by Hunter AAF is defined not just by architectural character and site organization, but also by attractive and well-designed landscape plantings. The presence of abundant plant material greatly enhances the visual character and environmental quality of the installation.

Landscape plantings add an element of human scale to open spaces and can be used functionally to screen undesirable views, buffer winds, visually reinforce the hierarchy of the circulation system and provide a visual transition between dissimilar land uses. Landscape plantings, in combination with stands of native

vegetation, provide habitat for wildlife and shade and other environmental benefits for residents, employees and visitors.

Landscape Objectives

The overall purpose of the use of plant material at Hunter AAF is to improve the physical and psychological well-being of the people who live and work on the installation (Fig. ES.61). This is achieved by accomplishing the following objectives:

- Enhance soldier living and working areas, community services areas, the circulation system, family housing, command and administration areas and recreation facilities.
- Improve the overall visual quality of the installation by using landscape planting to:
 - Blend the built environment with the natural environment.
 - Provide scale and comfort to pedestrian environments.
 - Reinforce the hierarchy of the circulation system (Fig. ES.62).
 - Screen unsightly views or elements.
 - Buffer incompatible land uses.
 - Enhance antiterrorism capabilities.
- Emphasize the use of native plant varieties because many of them require less maintenance than introduced varieties and they blend developed areas with the natural environment on and off the installation (Fig. ES.63).



Fig. ES.61 – Well-designed landscaping improves the visual environment for residents and employees.



Fig. ES.62 - Landscaping reinforces the circulation hierarchy.

Sustainable Landscape Development

The use of plant material on Hunter AAF promotes the sustainability of existing and new development. In addition to aesthetic appeal, trees, shrubs, groundcover and vines:

- Provide habitat for wildlife
- Conserve energy
- Moderate climatic conditions
- Control erosion
- Purify the atmosphere
- Abate noise
- Plant selection, installation and maintenance are to be accomplished following currently available sustainability guidance. In general, one of the key aspects governing sustainability is low maintenance.



Fig. ES.63 - Native plants are used to visually relate developed areas to the natural environment.

Landscape Design Guidelines

Proposed planting designs must be reviewed to ensure that site conditions (soil, topography, adjacent uses and architecture) and climatic criteria (sun, shade and moisture requirements) have been properly considered. The appropriateness of the landscape layout and the selection of plants must also take into account how the area will be used and who will use it. The design concept must also complement adjacent buildings, define outdoor space and control views. Landscape planting plans must be prepared by qualified personnel to provide quality assurance and promote design consistency within each visual zone.

Foundation Planting-Foundation planting helps to integrate the building with its surroundings by introducing a bold visual element along the line where the building meets the ground. Normally composed of shrubs and small trees, this planting provides a green background for additional accent plantings in the foreground. Foundation planting is designed to add scale and character to the building, to help create a sense of arrival and to screen HVAC and other utilities (Fig. ES.64).

Screening-Screening plantings commonly incorporate evergreen shrubs and trees that branch to the ground, and are used for a variety of applications including the following:

- A combination of evergreen and deciduous trees can be used to provide protection from prevailing winds. Windbreak plantings should be irregular in form, rather than straight and evenly spaced, in order to provide more effective wind control and to visually blend with the natural areas of the installation.
- Masonry walls and fences that screen dumpsters may be further enhanced by shrubs of medium height and spread around the perimeter (Fig. ES.65). Dumpsters not screened by a fence or wall should be screened with taller and more dense shrubs so views of the dumpster are fully obscured.

Buffer Planting-Buffer plantings using a mixture of evergreen and deciduous trees and shrubs should be used to visually separate incompatible land uses and to strengthen the visual separation between the Housing, Barracks, Town Center, National Guard and Installation Support visual zones (Fig. ES.66).

Open Space Planting-Open space areas are enhanced with planting to produce visual variety along the edges and to provide accent at specific locations within the space. Generally, evergreen trees are used around the perimeter to enclose the open space.



Fig. ES.64 – Accent planting highlights the clinic entrance.

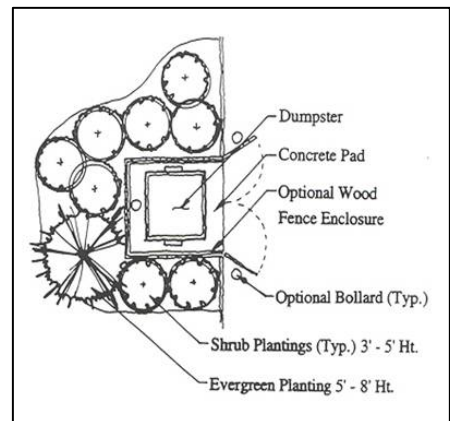


Fig. ES.65 – Planting around a dumpster reduces its negative effects.



Fig. ES.66 – Trees on the edge of green space buffers views of the adjacent Installation Support Visual Zone.

Flowering trees and shrubs are planted inside and against the perimeter to add visual interest. Accent trees and shrubs are used in plantings within the open space to draw attention to specific features. Accent plants are placed in groups to increase their visual effect (Fig. ES.67).

Street Trees-Overall, street trees are used to provide visual containment along streets and shade for the pavement, cars and pedestrians. Street tree varieties are selected for specific streets to visually reinforce the identity of the street within the hierarchy of the roadway system. Street trees, in combination with screening along parking lots, reduce the visual dominance of vehicles (Fig. ES.68).

Parking Lot Planting-Parking lots are planted with trees and vegetative screening along the perimeter to improve their appearance, to help define circulation and to reduce heat gain during summer months (ES.68).

Environmental Control Planting- Landscape plantings can provide environmental benefits, as well as addressing visual concerns. Deciduous shade trees provide shelter from the sun in summer and allow sun to warm buildings and pavement in winter. Mixed plantings of deciduous shrubs and evergreen trees and shrubs are used to provide sound and dust control along primary and secondary roads. Evergreen trees planted in rows can shelter outdoor areas from wind.

Image Planting-The image of Hunter AAF is formed by the visual impressions that are created by the landscape and buildings on the installation (Fig. ES.69). The most highly visible locations that contribute to the image of the installation are the main gate and Headquarters area, the primary circulation routes and activity nodes such as the PX. Features like static displays and signs that contribute to the installation image are improved by the incorporation of supporting landscape planting.

Entrances to the Installation-The entrances and streetscapes leading up to them are landscaped to develop a strong visual image of the installation. The installation sign and the immediate areas around Wilson Boulevard Gate are landscaped and highlighted with accent plants to provide year-round visual interest (Fig. ES.70).



Fig. ES.67 – Accent plantings near the Garrison Headquarters provides interest and expresses unit pride.



Fig. ES.68 – View of an attractively screened parking lot.



Fig. ES.69 – The landscape image of Hunter AAF is created by the mix of native and planted vegetation.



Fig. ES.70 – Wilson Boulevard leading from the gate is well-landscaped.

Xeriscape-Xeriscape, conservation of water and energy through creative and adaptive landscape design, is encouraged at Hunter AAF. Xeriscape landscaping provides attractive solutions that save money, water and maintenance.

Irrigation-Irrigation is generally discouraged at Hunter AAF on the basis that landscaping, once established, should be able to thrive on the naturally available precipitation. Special circumstances where irrigation may be justified will be considered during project planning and design for new projects. No retrofit of landscaping with irrigation is permitted without prior approval through the maintenance and self-help project review process.

Plant Material Selection

Trees, shrubs, ground cover and turf are the major elements in a planting composition. Plant material for landscaping is systematically selected to create a unified composition, emphasize native plants, ensure low maintenance and match the appropriate plants to the land use and site conditions.

Site Elements Design Standards

Site elements at Hunter AAF include all visible exterior elements that are considered utilitarian in use. Site elements selected for projects must be consistent with Hunter AAF design standards in order to reinforce the Southern Living Station of Choice theme and to contribute to installation identity (ES.71). Proper selection of site elements will also include consideration for ease of maintenance and sustainability.

Site Elements Objectives

Site elements are selected to effectively function as intended, enhance the visual quality of Hunter AAF and contribute to the sustainability of the installation.

Site Furnishings

Site furnishings include all of the utilitarian outdoor amenities found at Hunter AAF including:

- Seating (Fig. ES.72)
- Tables
- Telephone Booths
- Shelters (Fig. ES.73)



Fig. ES.71 - Static displays tell a story of mechanized combat at Hunter AAF.



Fig. ES.72 – An approved type of bench with contoured spring steel slats.



Fig. ES.73 - These attractive shelters provide shade and shelter from rain.

- Kiosks
- Walls and Fences
- Trash Receptacles
- Dumpsters
- Flagpoles
- Planters
- Bicycle Racks
- Tree Grates
- Bollards
- Play Equipment (Fig. ES.74)
- Mailboxes
- Monuments, Memorials, Military Equipment Static Displays
- Drinking Fountains

Signs

A standardized signage system is in-force at Hunter AAF to facilitate movement, provide a sense of orientation and reinforce standards of excellence. Signage creates a unifying element throughout the installation that visually ties the installation themes together and builds a reference and continuity that translates into confidence and reassurance when traveling throughout the installation. There are ten types of signs permitted and regulated at Hunter AAF.

- Installation Identification Signs
- Directional, Informational and Facility Identification Signs (Fig. ES.75)
- Brigade, Battalion and Company Headquarters Signs.
- Street Signs
- Housing Area Signs
- Directional Signs
- Regulatory Signs
- Traffic Control Signs
- Prohibitory (Warning) Signs
- Electronic Exterior Signs



Fig. ES.74 – An example of play equipment for the two to five year old age group.



Fig. ES.75 – An example of facility identification sign with street address.

Military Emblems on Signs-The Army has a rich tradition of military heraldry. Military emblems are an important part of the soldiers' identity and the emblems have been carefully crafted over the years to express unit pride and unique history and function of the unit. The care and use of organizational emblems in a signage system can add visual interest as well as build pride and a sense of history.

Department of the Army Plaque-The plaque should be displayed on installation identification signage to emphasize the heritage and professionalism of the United States Army.

Insignias-The use of branch insignia, shoulder sleeve insignia, coat of arms and/or distinctive insignia on headquarters signs is permitted. All military emblems must appear in full color. Motivational symbols or motifs will not be used.

Reduction of Visual Clutter-Over-signing detracts from a uniform sign system and will eventually destroy the integrity of the system.

Lighting

Lighting is a functional requirement of installations that also impacts the visual environment. The site lighting system conveys a sense of order and organization, as well as providing safety. The lighting system provides the proper type of lighting for different lighting requirements and locations. All lighting must be located and selected to prevent undesirable spillover of light into other areas.

Light Fixtures-Five types of lighting fixtures are permitted for site lighting on Hunter AAF.

- Standard Cobrahead Fixture Cut-Off
- Premium Cobrahead Fixture Cut-Off
- Shoebox Fixture (Fig. ES.76)
- Post Top Light Fixture (Fig. ES.77)
- Lighted Bollard

Utilities

Utility systems provide the basic infrastructure of power, communication, water and sewer services necessary for the operation of Hunter AAF. Utilities also play a key role in the visual quality of the installation. Their primary impact on the



Fig. ES.76 - The approved shoebox fixture.



Fig. ES.77 – The approved Salem Series post top light.

visual quality is the result of the clutter of overhead utility lines and poorly designed storm drainage systems.

Power Distribution-Power distribution lines should be located underground to minimize negative visual impact, reduce maintenance and protect from terrorist or other enemy attack. If overhead, they should be located out of view from main public visibility areas or screened to be as unobtrusive as possible (Fig. ES.78). Avoid aligning overhead lines along major circulation corridors. Use minor streets, alleyways, rear lot lines and vegetation or topography that provide screening and minimize visual impact. Minimize the number of poles and pole height and use poles that blend into their surroundings to reduce visual impact. Poles should also be multi-functional for power, telephone, cable television, street lighting, etc., to reduce visual clutter. Substations and transformers must be designed and located to minimize their visual impact and be compatible with the character of their setting.



Fig. ES.78 - Routing transmission lines in wooded areas reduces their visibility.

Sewer and Water-All sewer and water lines will be underground. Sewage treatment facilities will be located 1,250 feet (0.38 Km) away from and downwind from all inhabited facilities. Treatment facilities must be screened from view of major roads and other installation facilities by plant material, berms, walls and fences. Fire hydrants should be highly visible and free of any screening. They shall be yellow in color with luminous paint. Caps shall indicate tested water pressure (Fig. ES.79).



Fig. ES.79 - Fire hydrants are yellow with color-coded markings on the cap that indicate flow rate.

Storm Drainage-Storm drainage systems at Hunter AAF will be appropriate to the character of development they serve. Storm drainage systems in densely developed areas require curbs, gutters and underground lines. Storm drainage systems in low-density areas can utilize drainage swales and ditches that are contoured to be compatible with the natural landform. Where detention is required, dry ponds will be used. Underground detention structures may be approved for use if there is no opportunity to detain sufficient storm water on the surface.

Antiterrorism Design Standards

Accommodating security and antiterrorism is a significant concern for design of facilities at Hunter AAF. Security and antiterrorism requirements must be integrated into each project from planning to execution. The design of protective elements should also seek to visually enhance and complement the design of its associated facility and the installation as a whole. Site elements such as

fences, courtyards, screen walls, swales, berms, planters and retaining walls can be used effectively for facility protection. These elements should be designed to provide visual harmony with the main facility, producing architectural compatibility through consistent use and application of materials, forms and colors.

Final design decisions to meet security and antiterrorism requirements require coordination among the design disciplines and appropriate functional areas including planners, landscape architects, architects, intelligence personnel, security personnel, facility users and engineers. Design teams consult security personnel to determine whether portions of the design documents are subject to access limitations.

Building Siting and Design Standards

A primary concern at Hunter AAF is the threat of terrorist attack. To minimize the likelihood of mass casualties from terrorist attacks against DoD personnel in the buildings in which they work and live, DoD has developed the Unified Facilities Criteria (UFC) 4-010-01, DoD Minimum Antiterrorism Standards for Buildings. The UFC establishes the minimum building antiterrorism standards for all DoD components. Implementation of the mandatory standards is obligatory for all new construction regardless of the funding source.

Minimum standoff distances and separation are used wherever feasible. If standoff distances can be met, no building hardening measures are required. Appropriate antiterrorism obstacles shall be incorporated into the site design to prevent penetration of an attack vehicle into the secure area perimeter.

When the minimum standoff distances can not be achieved because land is unavailable, the standards allow for building hardening to mitigate blast effects. Costs and requirements for building hardening are addressed in the DoD Security Engineering Manual.

Orientation of Buildings on a Site

The following will be considered in determining the orientation of a building:

- Deny aggressors a clear sightline to the facility from on or off the installation where possible. Protect the facility against surveillance by locating the protected facility outside of the range or out of the view of vantage points.

- Protect against attack by selecting perimeter barriers to block sightlines such as obstruction screens, trees, or shrubs. Non-critical structures or other natural or man-made features can be used to block sightlines.
- Make the facilities more defensible by positioning facilities to permit building occupants and police to clearly monitor adjacent areas.
- Orient buildings so there are no sides parallel to vehicle approach routes.
- Design vehicular flow to minimize vehicle bomb threats and to avoid high-speed approach into any critical or vulnerable area.
- Avoid siting the facility adjacent to high surrounding terrain, which provides easy viewing of the facility from nearby non-military facilities.

Fencing

Fences are used as protective measures against project-specific threats. They are most appropriately used to define boundaries and to deter penetration of a secure area (Fig. ES.80). A fence will assist in controlling and screening authorized access to a secured area. Fences also serve the following purposes:

- Platform for an Intrusion Detection System.
- Screen against explosive projectiles.
- Prevent entry by vehicles, when reinforced to do so.

Landscape Considerations

The landscape design should enhance the overall attractiveness of the facility while still providing or enhancing the objective level of security. The following guidelines should be applied to the siting and landscaping of facilities at Hunter AAF:

- Establish clear zones along both sides of security fencing in which vegetation does not exceed four inches in height (Fig. ES.81).
- Strategically locate trees and planters to prevent penetration of an attack vehicle into the secure area perimeter.



Fig. ES.80 – Fencing provides a reliable barrier to unauthorized entry.



Fig. ES.81 – Perimeter fencing is flanked by cleared areas.

- Use vegetative groupings and earth berms to reduce the effects of external blast forces and to prevent vehicles from penetrating building standoff distances (Fig. ES.82).
- Use plant material to provide visual concealment.
- Use dense, thorn-bearing plant material to create natural barriers to deter aggressors.
- Outdoor play and recreation areas should be screened from viewing from locations off the installation.
- In the placement of signs, direct people first to a community support or information center to obtain directions to high security activities.
- Place trash containers as far away from buildings as possible.
- Ensure that vegetation and site features within 33 feet (10 meters) of inhabited buildings do not conceal from observation objects of 6 inches (150mm) in height.



Fig. ES.82 – An earth berm between a road and adjacent building prevents vehicles from approaching the building.

Gates and Access Control Points (ACP)

The Hunter AAF ACPs are key components in the antiterrorism security program. They accommodate the functions of observation, detection, inspection, access control and disablement of hostile personnel and vehicles, while containing the vehicles and pedestrians until access is granted. These areas are one of the most important installation features in the creation of a sense of arrival for both installation personnel and visitors. It is important that these areas present a positive public image (Fig. ES.83).



Fig. ES.83 – The Main Gate to Hunter AAF is well-designed for security and appearance.

NOTES