

United States Air Force

# Design Awards Program



1985 Annual Report

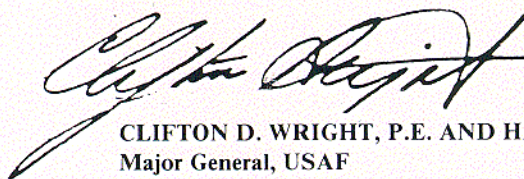




## From the Director

The results of our Tenth Annual Design Awards program clearly indicate that we have made tremendous strides in our efforts to design and construct Air Force facilities which are attractive, functional, and economical to acquire and maintain. The submissions in this year's program reflect a growing awareness of active and passive energy conservation techniques, durable materials and finishes, flexible interiors, and human-scaled facilities which make the occupant comfortable with the environment. We can all be proud of what we have achieved to date and we can look forward to new challenges that lie ahead.

New design concepts and philosophies which will improve the quality of life for people continue to be developed. New and better means of managing design and construction and better building products continue to enter the market place. At the same time, our clients are becoming more sophisticated and demanding in their life styles. This situation provides us with the opportunity to marry our technical and artistic knowledge with Air Force requirements to produce a new generation of easily maintained, technically sound structures which are aesthetically attractive and compatible with the surrounding environment. I am confident that we will excel in responding to this challenge and that we will continue to provide the Air Force with outstanding facilities.



CLIFTON D. WRIGHT, P.E. AND HAIA  
Major General, USAF  
Director of Engineering and Services



# Background

Projects submitted for consideration in the annual USAF Design Awards Program are reviewed by a distinguished jury composed of two members of the American Institute of Architects, two members of the Society of American Military Engineers and one representative from the American Society of Consulting Engineers. Awards are given in two separate categories—completed projects and concept projects.

The Air Force sets no limitations on either the number or the type of projects that can be recognized each year. Awards may be given for design excellence in a number of areas, including architecture, interior design, landscape design, energy conservation, and civil and structural engineering. All projects are given equal consideration, whether designed by base civil engineering personnel, the design agent or an architectural-engineering firm.

This year's program marks the tenth anniversary of the USAF Design Awards Program which was initiated in 1976 to recognize and promote design excellence. With the selection of the 1985 award-winning projects, a total of 59 completed projects and programs and 50 concept designs have been honored as representing the best of Air Force design. These totals include six projects which have received awards in both categories. This

number undoubtedly will increase as more award-winning concept projects are constructed and submitted.

A number of interesting observations are possible after a review of the total program. First, the quality of design of Air Force projects has markedly improved during the past ten years if the submittals and the award-winning projects are representative of the total Air Force design efforts. The improvement appears to be true for the better fit between the building and the user as well as the aesthetic appearance.

Second, the Air Force commissary program continues to produce well-designed projects and reap a disproportionate share of the awards. Fourteen commissary projects have received design awards for either completed projects or concept designs, and three additional projects have been selected in both categories. These awards represent nearly one-sixth of the total number of awards and is a remarkable achievement.

Lastly, although many of the honored projects have been designed by the design agent or an architect-engineer firm, ten of the completed project winners, or one-sixth of those selected, have been designed by base or command level personnel.

## 1985 USAF Design Award Program Award Winners

### Completed Projects

#### Honor Awards

Commissary  
McClellan AFB, California  
  
Composite Operations and Training Facility  
Bangor International Airport, Maine

### Completed Projects

#### Merit Awards

Visiting Officers Quarters  
Vandenberg AFB, California  
  
Sea Breeze Restaurant Renovation  
Hickam FB, Hawaii  
  
Operations and Training Facility  
Kulis ANG Base, Alaska

### Concept Projects

#### Honor Awards

Dormitory Renovations  
Lajes Field, Azores  
  
Commissary  
Camp Foster, Okinawa

### Concept Projects

#### Merit Awards

Weapons Systems Support Facility  
Travis AFB, California  
  
Aircraft Maintenance Facility  
Offutt AFB, Nebraska  
  
Base Civil Engineering Facility  
Dover AFB, Delaware  
  
Fire Station  
McEntire ANG Base, South Carolina  
  
Computer Facility  
Gunter AFS, Alabama  
  
Base Master Plan  
Woensdrecht Air Base, The Netherlands





Dan Barge, Jr. is Chairman of the Board and past President of the Nashville, Tennessee full-service design firm of Barge, Waggoner, Sumner and Cannon.

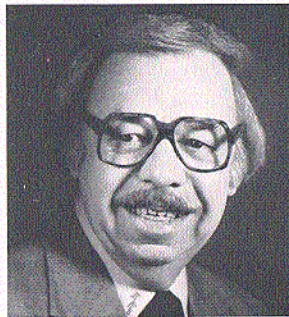
Mr. Barge received his Bachelor of Engineering degree from Vanderbilt University. He was named "Engineer of the Year" by all engineering organizations in Nashville in 1971.

He is active in numerous civic and professional organizations and is President-elect for the American Society of Consulting Engineers for 1985-86. He served as the ASCE representative on the jury.



John B. Rogers, is Chairman of the Board of Rogers, Nagel, Langhart, P.C., a Denver-based architecture, interior design and urban planning firm. He has more than 33 years of experience in architecture with extensive involvement in energy-conscious design. Mr. Rogers was the creator and director the Energy Conservation/ Alternatives Center (ECAC), a DOD-funded program aimed at drastically reducing Colorado's commercial energy consumption.

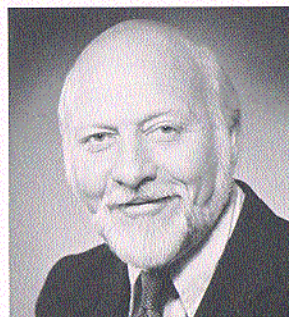
He has a B.S. degree in Architectural Engineering from Kansas State University, a Bachelor of Architecture degree from the University of Texas and a MBA degree from the University of Colorado.



Mr. Henry W. Schirmer, FAIA, currently has his own architectural practice in Topeka, Kansas. He formerly served as Chairman of the Board of Schaefer, Schirmer and Associates, P.A., a firm that was the recipient of 33 design awards at local, regional and national levels.

Mr. Schirmer is the owner of *Archimedia*, a publishing company for architectural works and editor of both *ProFile*, *The Official Directory of the American Institute of Architects*, and *The International Directory of the AIA*.

He received his Bachelor of Architectural Design degree from the University of Michigan.



G. Norman Hoover, FAIA, is Director of Architecture and Planning and Senior Vice President for 3D/ International, a Houston-based design and management firm. Mr. Hoover was awarded his Fellowship in the American Institute of Architects for outstanding aesthetic expression based on the utilization of advanced construction technology.

He consistently demonstrated design achievement and has received over 40 design awards, including an Honor Award from *Progressive Architecture* magazine.

Mr. Hoover received his Bachelor of Architecture degree from the University of Oklahoma and his Master of Architecture degree from Massachusetts Institute of Technology.



Mr. Delon D. Sargent is Vice President and manager of program control for Parsons Brinckerhoff Construction Services, Inc. For the last seven years, he has have been providing project control on PBCS projects and was the project control director on the ASCE award-winning Philadelphia Commuter Rail Connection.

He has a Bachelor of Science degree in Civil Engineering from Kansas State University and a Master of Science in Civil Engineering degree from Georgia Institute of Technology.

He is past Post President of the Coastal Bend (Texas) Post of the Society of American Military Engineers.

## Jury



Completed Project

# Honor Award

**Commissary**  
**McClellan AFB, California**

**Architect: Kado/Wilson/Jenkins, Joint Venture Architects**



This project is another example of the strength of the Air Force commissary program—this is the eighth completed commissary to receive an Air Force design award during the past ten years. To place the program in better perspective, nearly one of every seven awards has gone to a program based on a standard floor plan!

The facade of this commissary is strikingly articulated with a covered walkway composed of a cluster of brick and concrete boxes of varying heights and set on a diagonal grid to reduce the mass of the building to a more personal scale. Skylights within the boxes emphasize the entrance and special interior areas. The diagonal grid also is used to articulate the interior spaces.

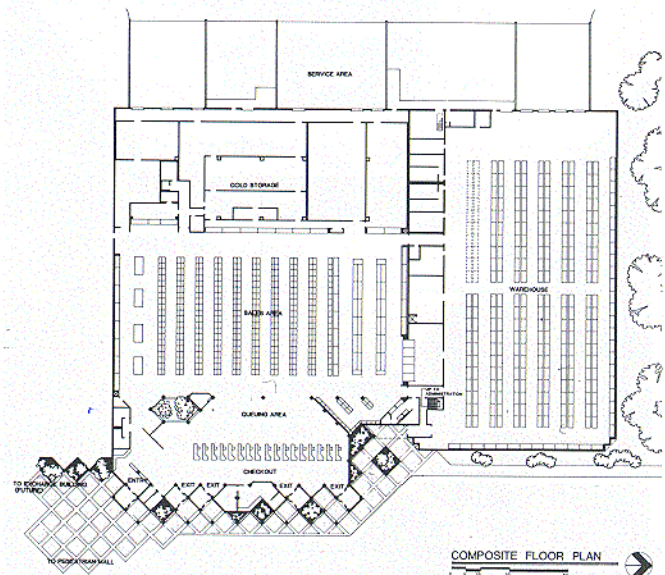
A four-foot wide concrete band further reduces the scale and serves as a horizontal element to visually unify the entire building.

*AFRCE: Western Region*

*Command: Air Force Logistics Command*

*Base Engineering: 2852nd Civil Engineering Squadron*

*Design Agent: Air Force Commissary Service*

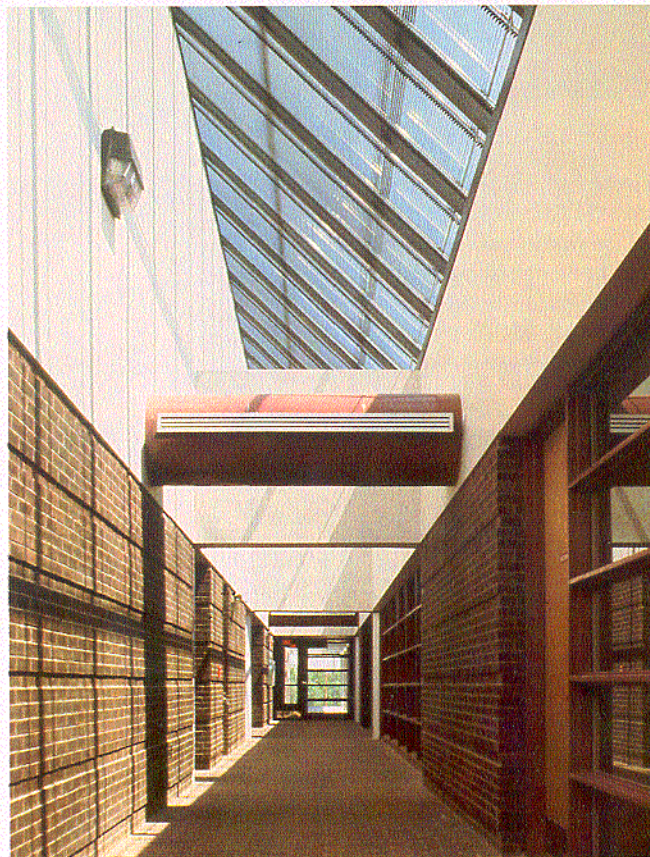




# Honor Award

## Composite Operations and Training Facility Bangor International Airport, Maine

Architect: JSA, Inc.



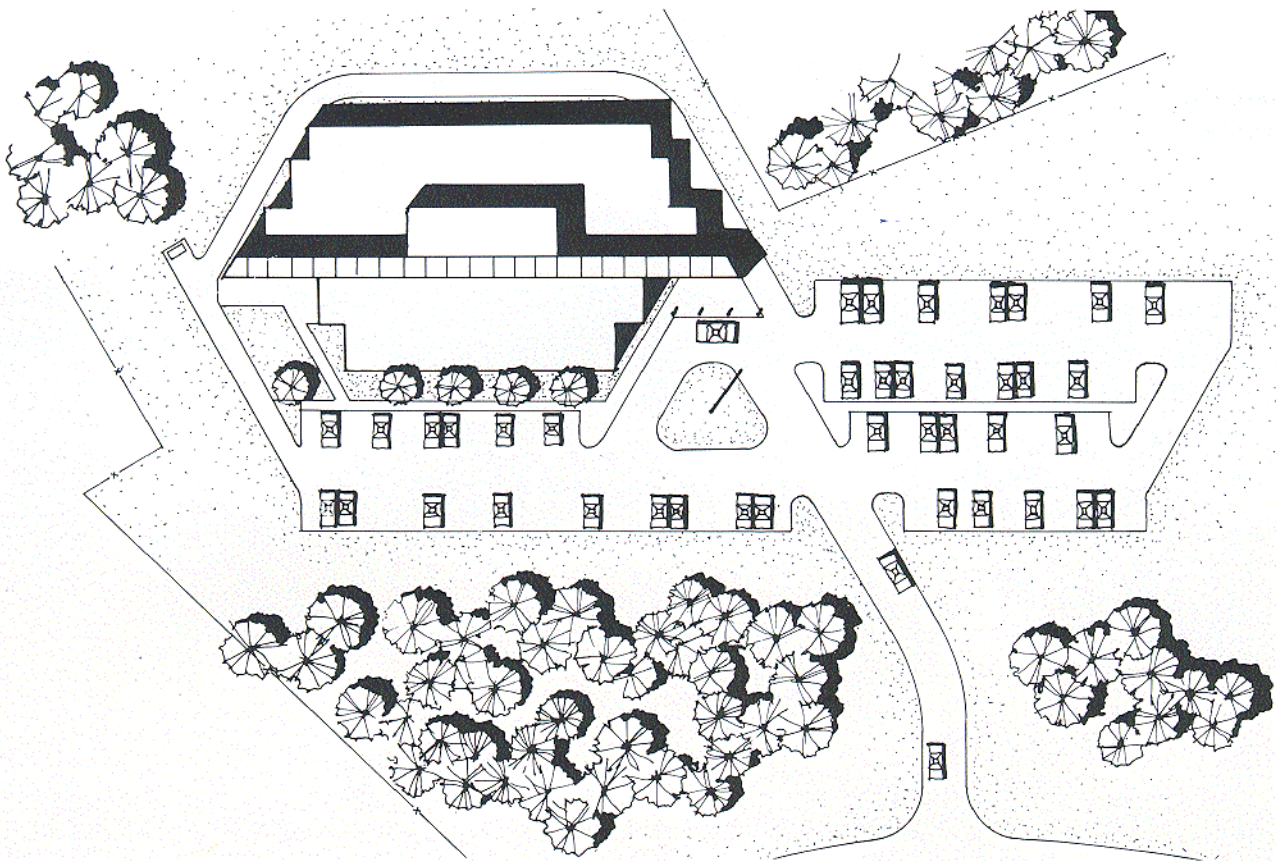
This handsome facility contains 24,000 square feet of administrative, technical and educational space for the Maine Air National Guard. The building is organized along a major public pedestrian circulation spine that splits the building in two segments. All of the administrative functions accessible to the public are located along this spine. The public circulation area is further defined inside and outside by a 300-foot long skylight and by brick pavers.

The core of the building is shielded from natural light and contains a TV studio, darkrooms, mechanical functions and storage. The training and technical support spaces are located on the north side of the core. The classrooms are separated by operable, acoustical partitions which permit these spaces to be used for large group activities.

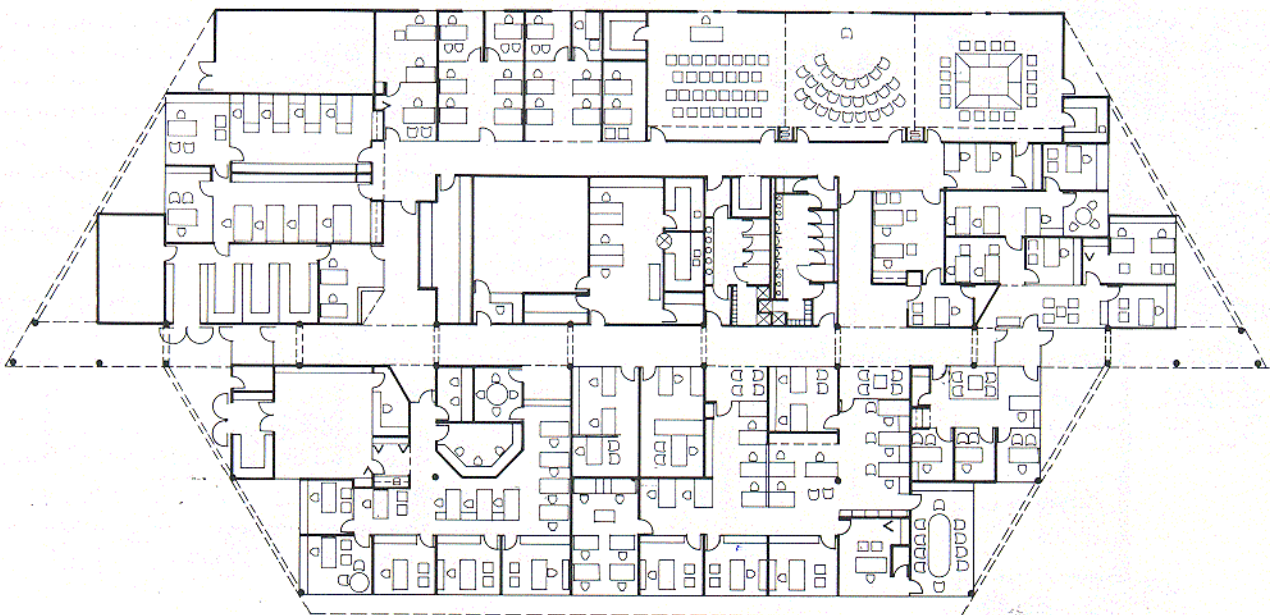
Energy conservation and low operational costs were prime concerns in the design of this northern Maine facility. The continuous south-facing skylight functions as a passive solar collector. Part of the heat gain is stored by the masonry wall that runs the entire length of the spine. Active hot water solar collectors are incorporated into the skylight glazing system over the entry vestibule. The building also has continuous earth berms to provide additional insulation and a roof overhang on the south side to provide protection from summer heat gain.

*Command/ Design Agent: National Guard Bureau  
Using Command: Maine Air National Guard  
Base Engineering: 101st Civil Engineering Squadron*





SITE PLAN



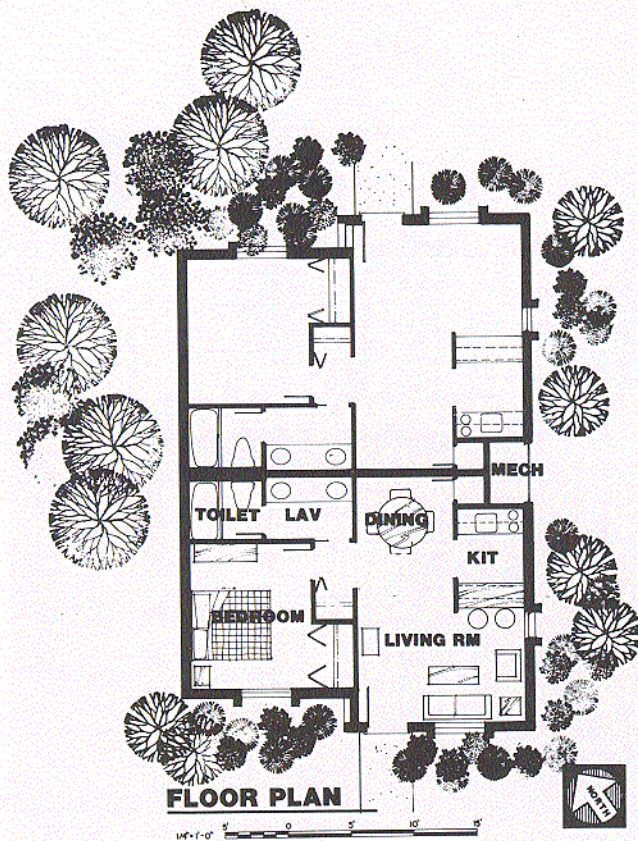
FLOOR PLAN



# Merit Award

Visiting Officers Quarters  
Vandenberg AFB, California

Architect: Schoenwald-Norwood-House-Oba, Inc.



These three buildings provide temporary housing for 80 visiting officers and VIP's and is the first phase of a planned 140-unit development. The development is located near the existing visiting officers quarters and within easy access to the officers club.

These buildings are sensitively sited to take advantage of the existing topography, to minimize grading and to preserve the majority of the existing pine and eucalyptus trees on an unspoiled, sloping and wooded site. The one-story VIP quarters and the two-story garden walk-up units provide economy of construction, substantial unit privacy and are designed at sufficient density to leave adequate open space. The buildings are oriented to accommodate rooftop active solar panels designed to satisfy 75% of the domestic hot water demand.

The buildings are constructed of split-face concrete masonry units and have prefinished metal roofing. These materials were selected for their durability, maintenance characteristics and aesthetic appearance.

All first floor units are designed to provide access for the physically handicapped. Two special units are designed to completely satisfy all handicapped lodging requirements.

The concept design for this project received a citation award in the 1983 USAF Design Awards Program.

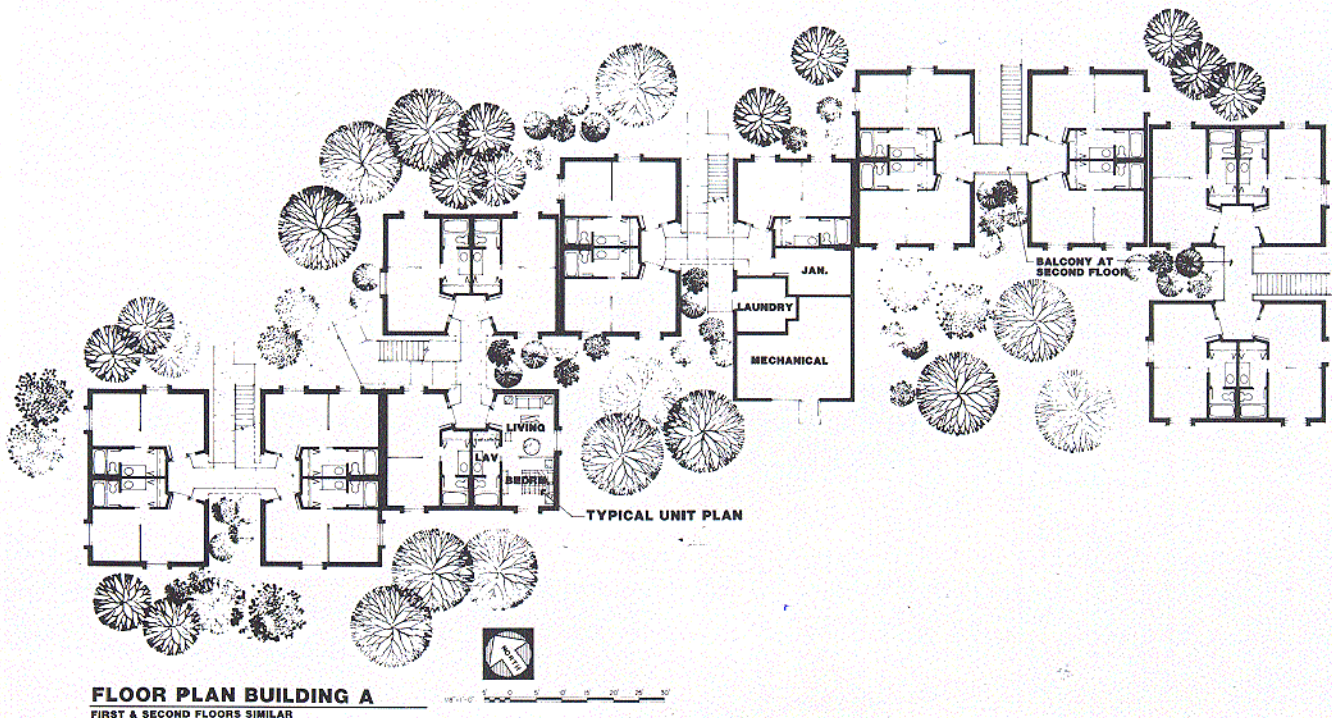
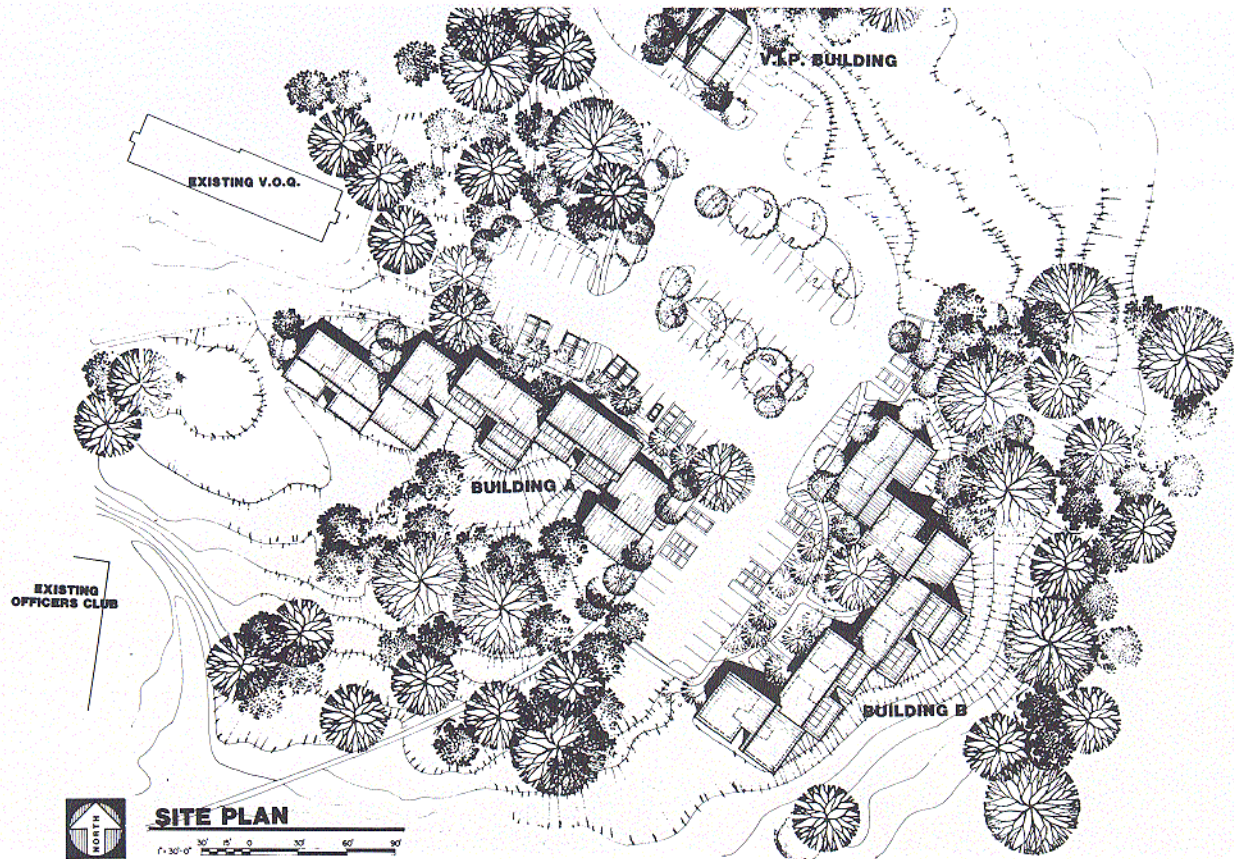
AFRCE: Western Region

Command: Strategic Air Command

Base Engineering: 4392nd Civil Engineering Squadron

Design Agent: Corps of Engineers/Sacramento District







# Merit Award

## Sea Breeze Restaurant Hickam AFB, Hawaii

Architect: Randall Chee, 15th CES



The successful renovation of this restaurant gave members of the 15th Civil Engineering Squadron a chance to strut their skills. The organization was tasked with renovating an old, termite-infested facility and turning it into a high quality restaurant open to all Department of Defense personnel in Hawaii.

The project was designed by a team composed of Randall Chee, Ken Suyama, James Kawamoto, Wayne Iwamoto, Tatsuo Saito, Edwin Nomura, Donald Murata, Ronald Tang and Edward Mayer. Design was fast-tracked and construction was accomplished in nine months and within the budget by using a combination of base civil engineering personnel and volunteers from local Air Force organizations.

The restaurant is located at Hickam Harbor and commands a panoramic view of Oahu's southern shoreline from Diamond

Head to the entrance of historic Pearl Harbor. Although the basic building configuration was retained, sun decks were added to three sides of the restaurant to permit patrons to enjoy the spectacular views and to dine outdoors.

Finish materials have been selected for durability, fire safety and to reinforce the Polynesian and aquatic themes. Interior walls are finished with naturally stained koa wood. The exterior is sheathed in textured plywood and the deck is built of redwood. The landscaping follows the Polynesian theme and all plant materials are native to the Hawaiian Islands.

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*Command: Pacific Air Command*

*Base Engineering: 15th Civil Engineering Squadron*









# Merit Award

## Operations and Training Facility Kulis ANG Base, Alaska

Architect: Kumin Associates, Inc.



FLOOR PLAN

Imaginative building massing, use of color and retention of existing site landscaping features demonstrate that a tight budget need not preclude good design. This one-story pre-engineered, steel frame building contains offices, meeting rooms and classrooms for the Alaska Air National Guard. It is constructed of prefabricated metal wall and roof panels to be architectural compatible with surrounding buildings and to minimize construction costs in this high-cost area.

The site features heavily wooded, rolling terrain. Although the base master plan showed an access road cutting along the northern boundary of the site with little regard for existing topography, the design team relocated the access road to enter on the south side of the site and follow an existing draw. This greatly reduced the site development costs. The building is nestled into an existing ridge on the northeast side. This permits the maximum amount of glazing for both passive solar heat gain and daylighting purposes. Those functions which do not require daylighting are located along an earth sheltered wall.

A primary design feature is a roof light monitor which provides natural daylighting along the main circulation spine and acts as a chimney for the central collection of excess heat. During heating periods, the heat which flow up along the interior stepped ceilings is collected in the monitor and recirculated through the building by the return air system. During periods of overheating, the ventilation system switches to 100% outside air and the heat collected in the monitor is vented directly to the outside by exhaust fans located at each end of the monitor.

*Command/Design Agent: National Guard Bureau  
Using Command: Alaska Air National Guard  
Base Engineering: 176th Civil Engineering Squadron*









# Honor Award

## Dormitory Renovations Lajes Field, Azores

Architect: Ivy-Wall-Ltd., Inc.



These two dormitories will be renovated to improve the living conditions for the Air Force enlisted personnel, rectify serious structural deficiencies and improve energy conservation and the appearance of the buildings.

The renovated facilities will feature two-room suites, consisting of two-person sleeping rooms and a connecting bathroom. Semi-private bathrooms will be added to the exterior of the dormitories to free up valuable interior space.

The existing concrete structural frame will be buttressed with additional poured-in-place concrete walls and slabs to satisfy

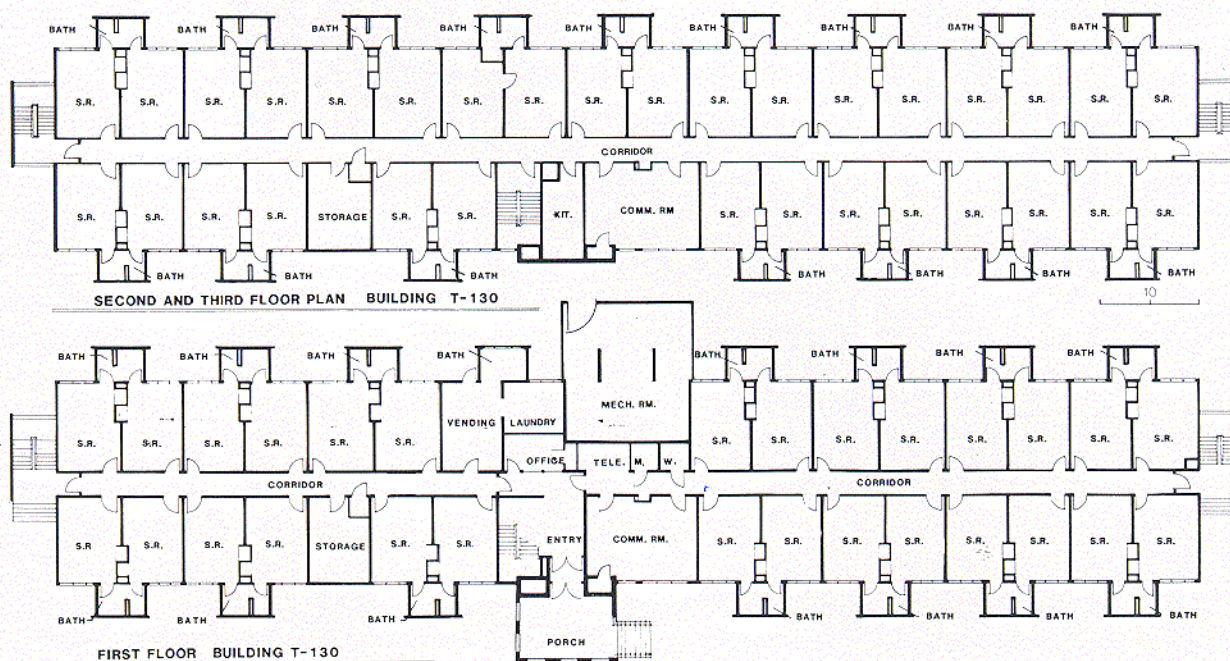
the earthquake and wind load code criteria. Replacement windows, exterior-applied insulation, the addition of a new insulated metal panel roof and installation of a new heating system will greatly reduce the energy consumption.

*AFRCE: Eastern Region*

*Command: Military Airlift Command*

*Base Engineering: 1605th Civil Engineering Squadron*

*Design Agent: Naval Facilities Engineering Command  
Atlantic Division*

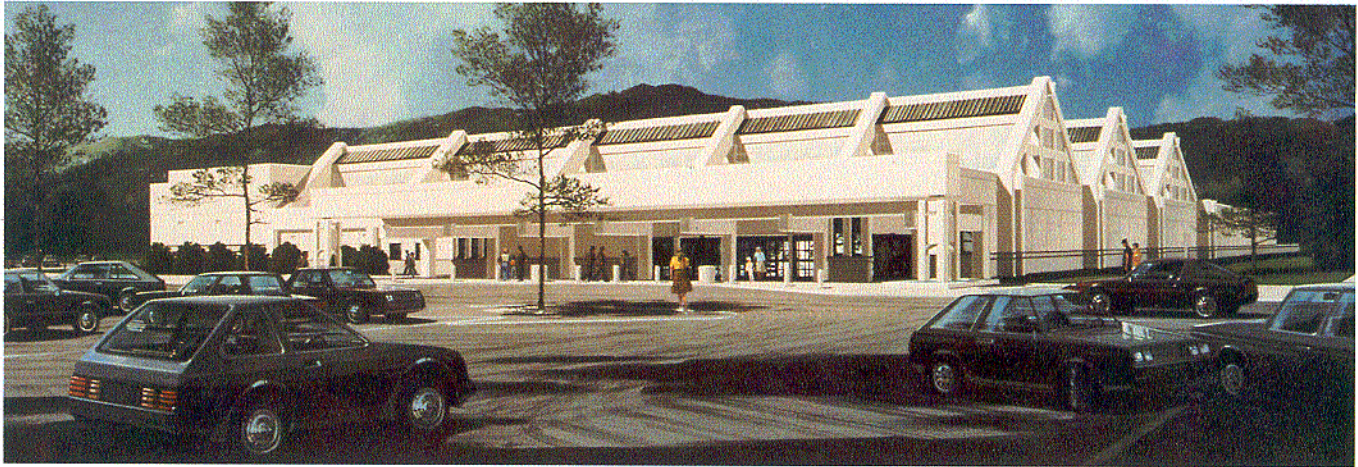




# Honor Award

## Commissary Camp Foster, Okinawa

Architect: Cromwell Truemper Levy Parker & Woodsmall, Inc.  
Engineer: Shapiro, Okino, Hom & Associates, Engineers



The new commissary successfully and artfully combines satisfying the needs for food shopping services for military personnel and their dependents and for establishing a strong base image that is harmonious with local culture.

The building design is expressive of ancient Japanese, trabiated wood construction using traditional beam, bracket and truss forms which are replicated in reinforced concrete. A cantilevered concrete entrance roof provides a covered driveway for loading of groceries in an environment with an annual rainfall of 80 inches. Water from the roof is discharged into freestanding,

sculptured concrete downspouts. The rainwater will drip on the noses of sculptured Fu-dogs placed at the bottom of each downspout. These dogs are traditionally mounted on houses and public buildings on the islands to "keep away evil spirits".

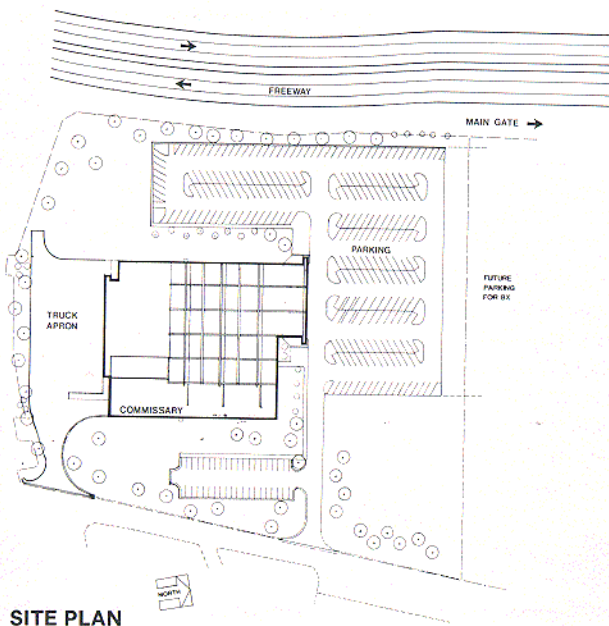
*AFRCE: Central Region*

*Command: Pacific Air Command*

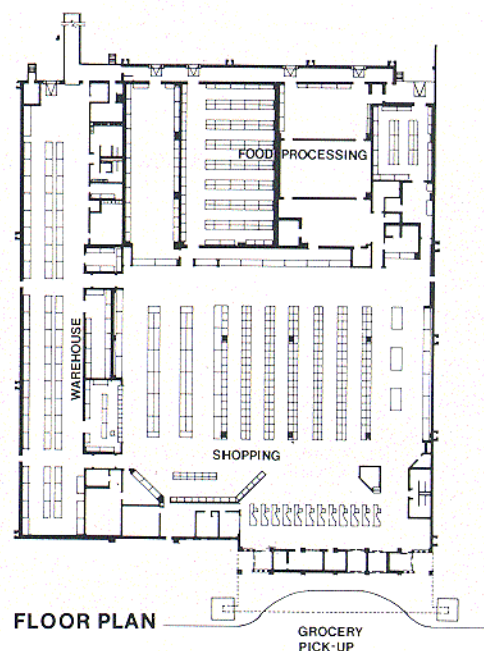
*User: Marine Corps Base, Camp Foster*

*Base Engineering: 18th Civil Engineering Squadron*

*Design Agent: Air Force Commissary Service*



SITE PLAN



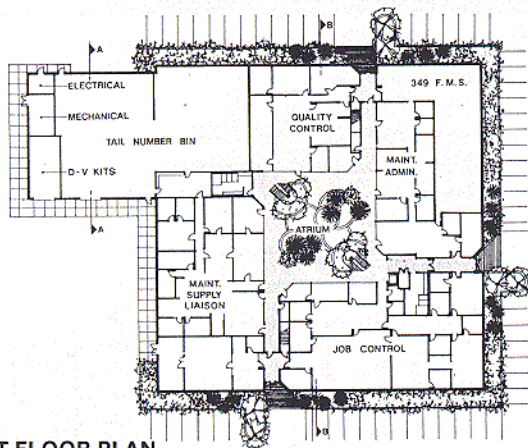
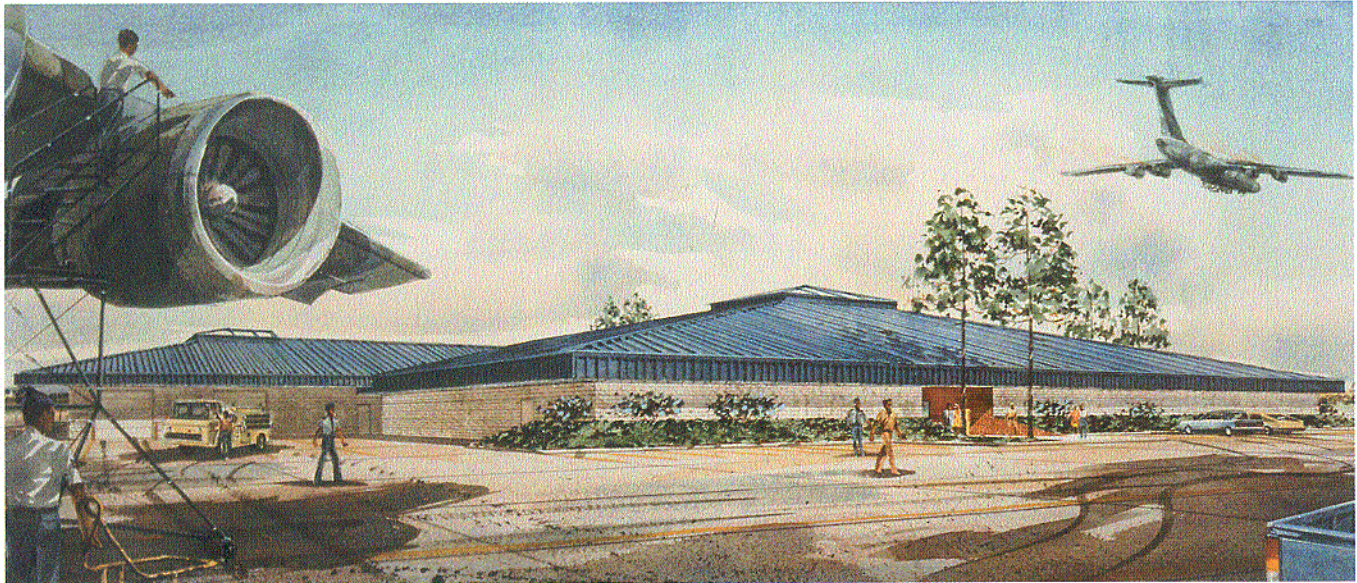
FLOOR PLAN



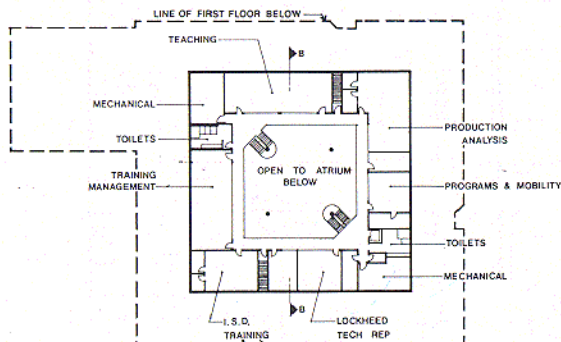
# Merit Award

**Weapons System Support Facility**  
Travis AFB, California

Architect: Liske, Lionakis, Beaumont & Engberg



FIRST FLOOR PLAN

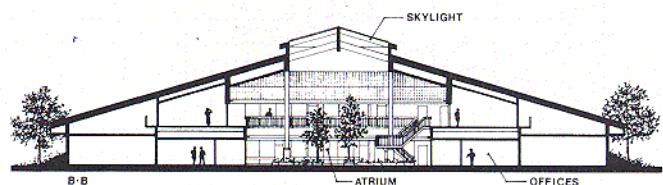


SECOND FLOOR PLAN

This multi-purpose building will house administrative support, material support and aircraft maintenance functions. Design requirements included creating an attractive working environment plus a 40 dB noise level reduction due to the high noise levels associated with the flightline location. The building is designed with masonry walls without windows and an insulated concrete roof. Sound lock vestibules at the entrances and landscaped earth berms further add to the acoustical solution.

The attractive working environment is achieved by creating a large, landscaped atrium covered with double-glazed skylights. The atrium provides natural lighting to the surrounding offices and also serves as a seating and lounge area as well as a circulation corridor. Low maintenance plant materials, ground cover, shrubs and trees for both the interior and exterior were selected from plant materials that perform well in this climate zone.

*AFRCE: Western Region*  
*Command: Military Airlift Command*  
*Base Engineering: 60th Civil Engineering Squadron*  
*Design Agent: Naval Facilities Engineering Command,*  
*Western Division*





# Merit Award

## Aircraft Maintenance Facility Offutt AFB, Nebraska

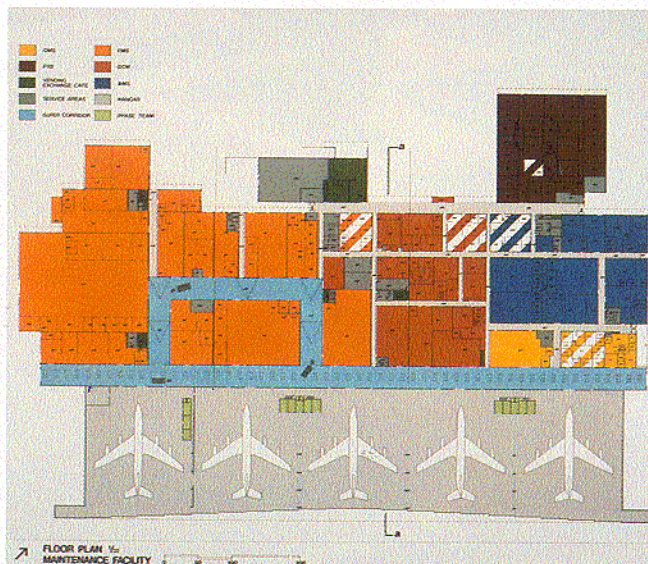
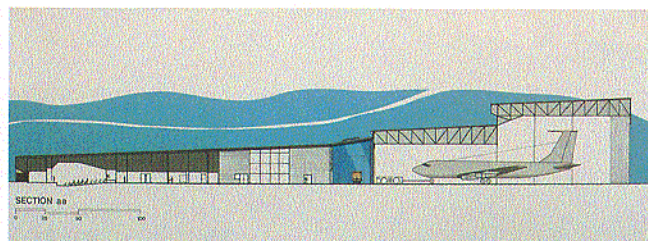
Architect: Dana Larson Roubal and Associates



This facility consolidates all functions related to the RC-135 aircraft maintenance. Phase one of the facility provides 286,000 square feet of shops, administrative space and classroom space for 1,000 personnel. Phase two will complete the maintenance complex by the addition of a 160,000 square foot hangar which will completely enclose five RC-135 aircraft.

The maintenance facility is sited between an existing 800-vehicle parking area and aircraft taxiway which permits the use of the existing parking pavement and direct access to the taxiway from the hangar. A controlled entrance leading from an adjacent main arterial road funnels traffic into the parking areas and an access drive surrounding three sides of the building. Truck access is provided on all sides of the facility to service the shop areas.

A 29-foot wide "super corridor" system is used to provide access from the shops to each hangar bay. This corridor allows trucks and trailers direct access to the various shops and permits the transportation of large aircraft parts to and between shops. The corridor permits clear access to the east face of the phase one maintenance facility during construction and will allow the first phase to go into operation at an earlier date. The corridor also provides the aircraft with vehicle access from two sides. This dual access reduces the space needed in the hangar. Skyroofs and clerestory windows introduce natural light into the super corridor.



AFRCE: Strategic Air Command  
Command: Strategic Air Command  
Base Engineering: 3902nd Civil Engineering Squadron  
Design Agent: Corps of Engineers/Omaha District



# Merit Award

## Base Civil Engineering Facility Dover AFB, Delaware

Architect: Amos & Bailey, Ltd.

The design of this base civil engineering administration building consolidates numerous existing functions into an attractive and efficient facility.

An analysis of the organizational structure and functional requirements identified three major centers of activity and became the basis for the design. The administration activity center includes the primary offices, word processing center and publications library. The operations activity center includes production control functions, planning and scheduling offices, computer room, conference rooms and customer service. The engineering activity center includes engineering and drafting, contract management offices, real property and environmental/contract planning.

The organization of each activity center is based on the functional relationships of their components. Most of the administration and all of the operation functions are on the first level. The engineering functions are on the second level. Central to the plan are the lobby areas containing control/reception areas,

elevator, stairway, toilet rooms and public phones. Radiating from these central lobby areas are four major corridors leading to various activity subcenters and to the exterior parking areas. Staff and visitors can enter from the outside, by ramp or exterior open stairways, directly to either the first or second levels.

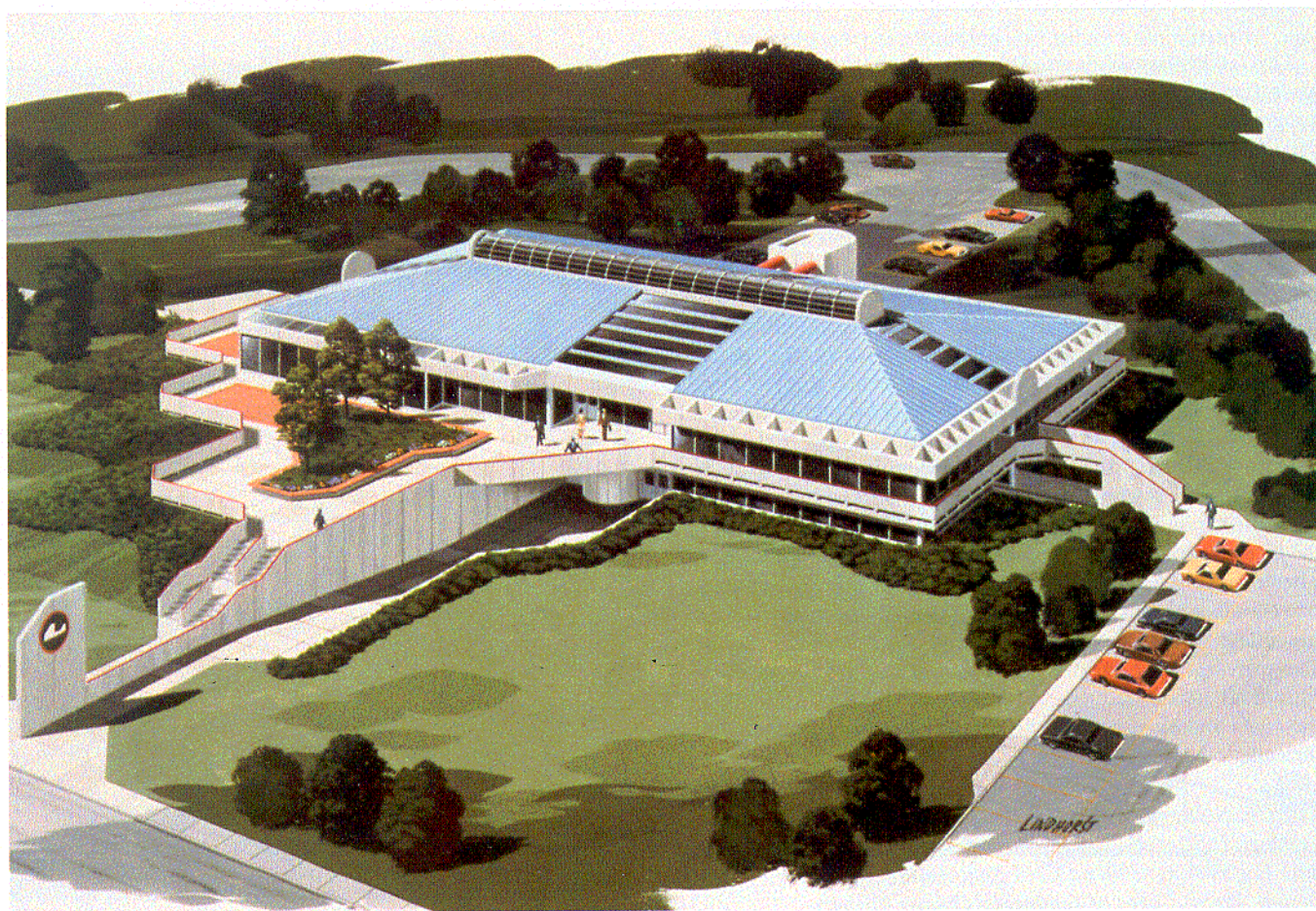
Functions with high lighting needs are oriented to the southern exposures and functions with moderate or controlled light requirements are oriented to the northern exposures. Skylights provide natural light to all open plan areas and the lobby on the second level. Second floor lightwells allow natural light to the first floor open areas and lobby. The skylights contain interior fixed sun shades and are mechanically ventilated. Sun shades are along the roof soffits to control summer heat gain.

*AFRCE: Eastern Region*

*Command: Military Airlift Command*

*Base Engineering: 436th Civil Engineering Squadron*

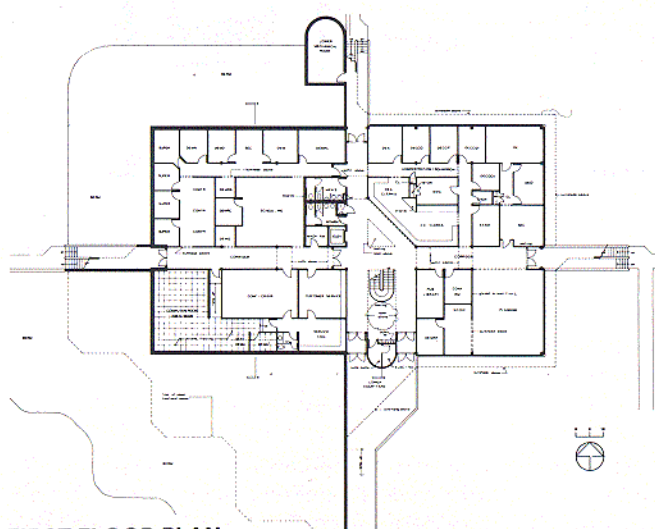
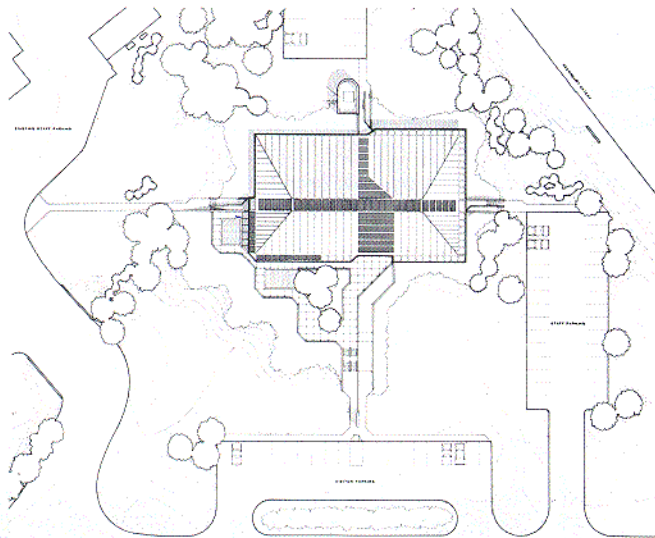
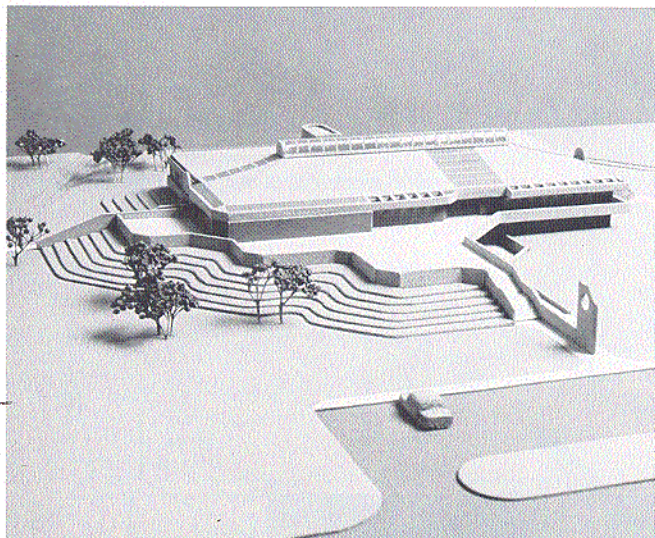
*Design Agent: Corps of Engineers/ Baltimore District*



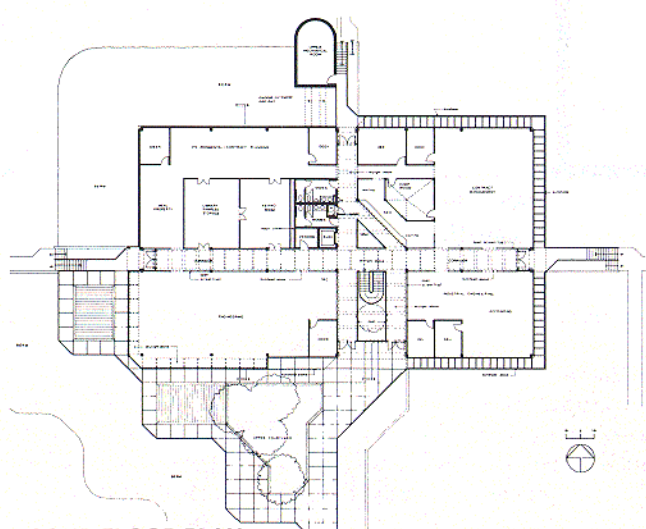


# Merit Award

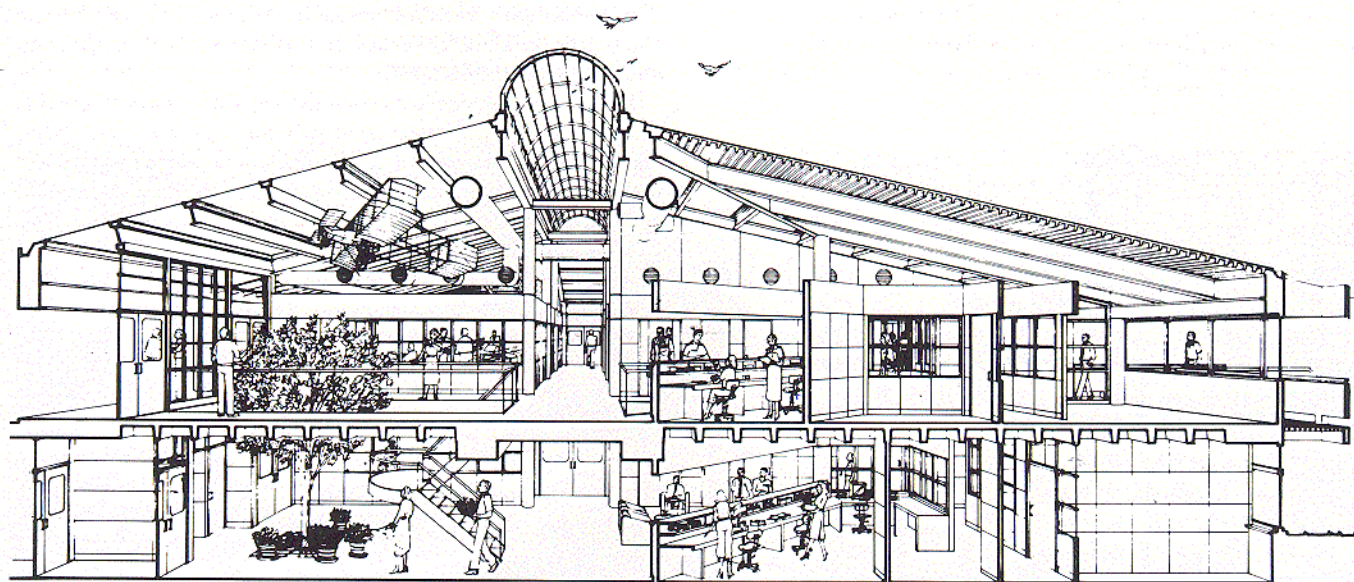
# Lowry Home



FIRST FLOOR PLAN



SECOND FLOOR PLAN

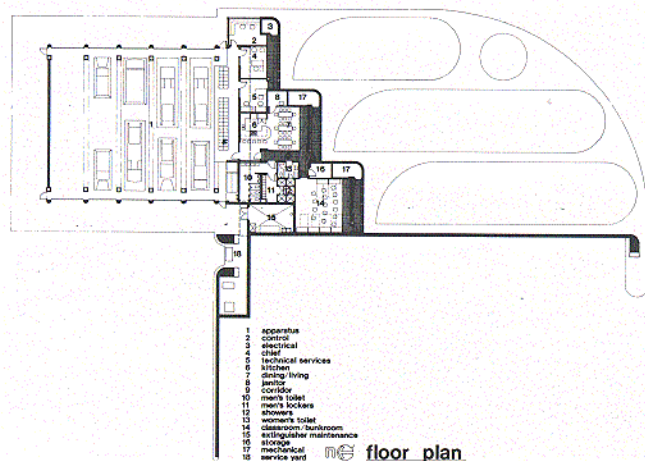
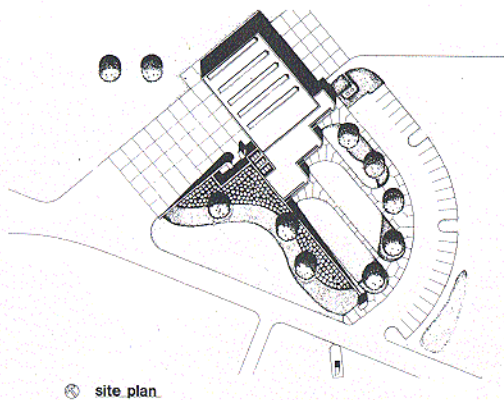
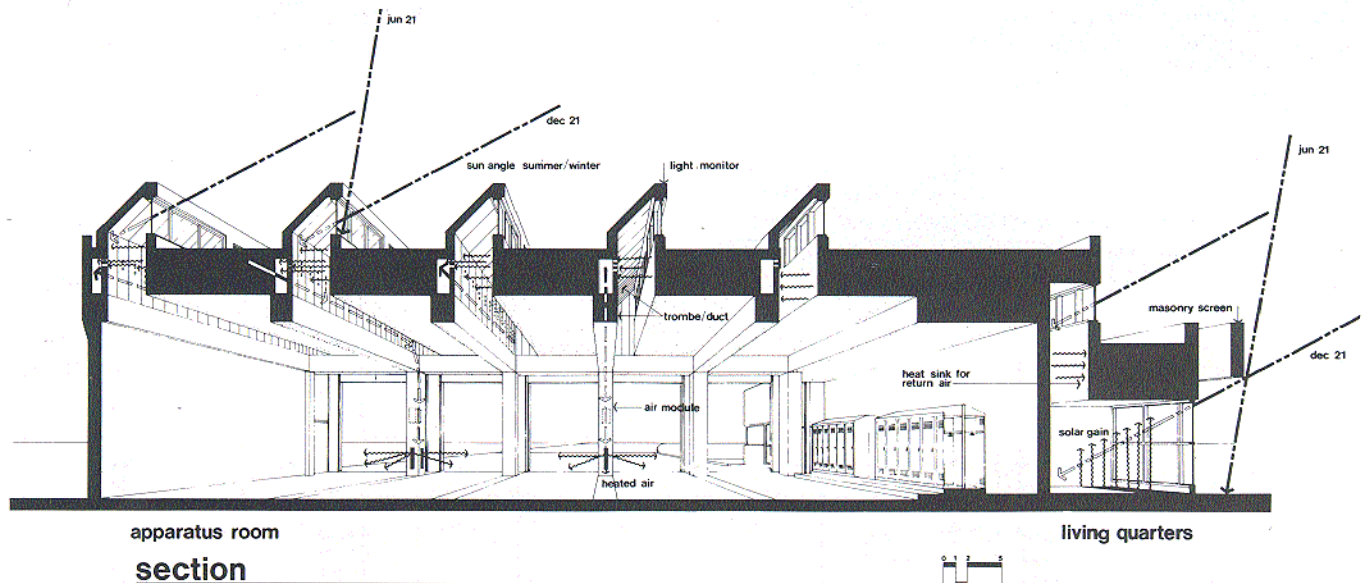




# Merit Award

**Fire Station**  
**McEntire ANG Base, South Carolina**

Architect: Greene & Associates, Architects, Inc.

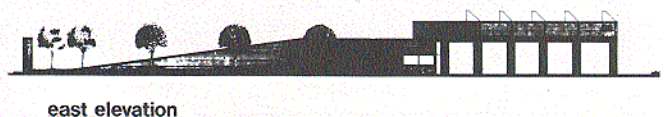


Careful design and detailing of this replacement fire station has fashioned an attractive building that satisfies the functional requirements, minimizes energy consumption and serves as a dramatic entry to the operational area of this Air National Guard Base.

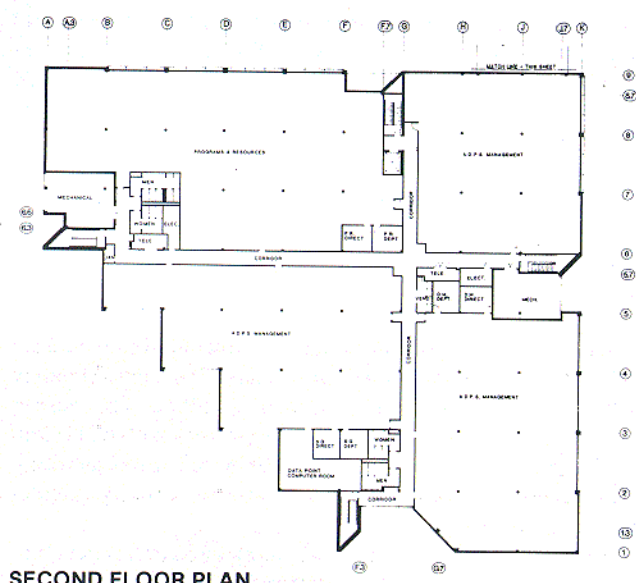
The project is located in South Carolina, a region characterized by a balanced annual heating/cooling demand but with many hot and humid summer days. The building is designed and oriented so that the south-facing glass of the offices and the living quarters are shaded during the summer while permitting direct solar gain during the winter. A landscaped earth berm shields the building from excessive late afternoon heat gain and adds architectural interest.

Five roof light monitors span the apparatus bays to provide natural lighting and direct solar gain during the winter. Metal-clad Trombe ducts in the light monitors are used to store and distribute the solar gain and to supplement the building heating system.

*Command/Design Agent: National Guard Bureau  
 Using Command: South Carolina Air National Guard  
 Base Engineering: 169th Civil Engineering Squadron*







### FIRST FLOOR PLAN

## SECOND FLOOR PLAN

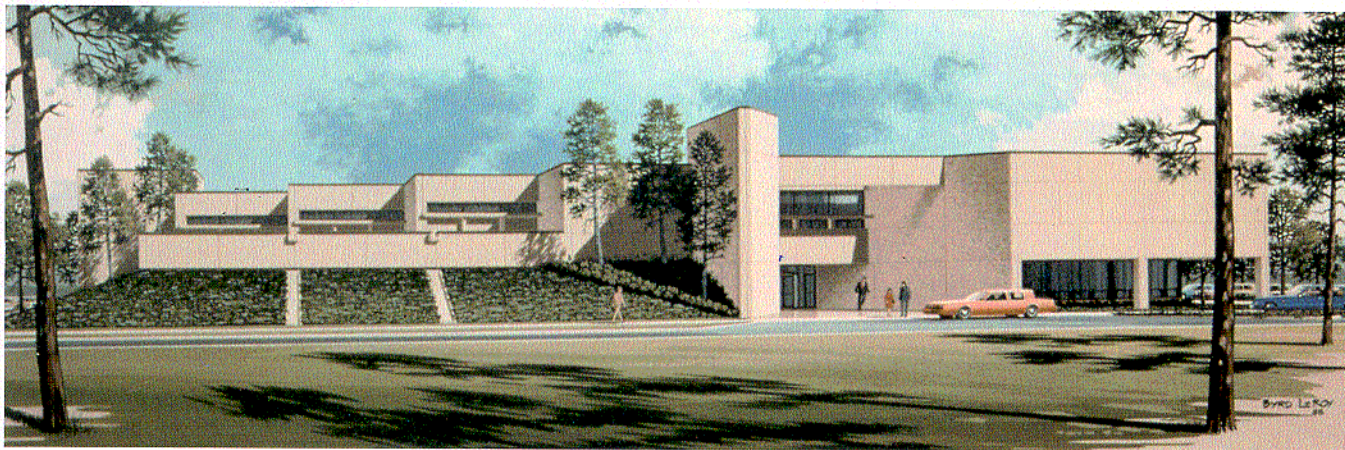
with systems furniture to make maximum use of the space and to provide future flexibility.

The building is sheathed in precast concrete panels which are compatible with nearby buildings. These panels are backed with metal studs and rigid insulation. A cellular metal floor system and a raised computer floor system provide for electrical and communication distribution throughout the building.

*AFRCE: Eastern Region*

Host Command: Air University

*Using Command: Air Force Communications Command  
Base Engineering: 3800th Civil Engineering Squadron  
Design Agent: Corps of Engineers/Mobile District*





# Merit Award

## Base Master Plan Woensdrecht Air Base, The Netherlands

Architect: Black & Veatch, Engineers-Architects

The recent development and deployment of the Ground Launched Cruise Missiles (GLCM) in Europe has been accompanied by the expansion of three existing bases and the design and construction of three new bases to accommodate this program. The first step in the development of the new bases has been the preparation of base master plans. These master plans are beneficial in determining immediate and long term requirements and insuring the optimal use of the natural environment, existing resources and construction and operational expenditures.

Woensdrecht Air Base, currently under construction, is located on an undeveloped 278-acre portion of a Royal Netherlands Air Force Base and will be occupied by approximately 1,400 Air Force personnel and their families. The master plan includes both Atlantic Treaty Organization (NATO) and USAF semihardened operation and communications facilities, personnel housing and dining, administrative, training, maintenance and community facilities.

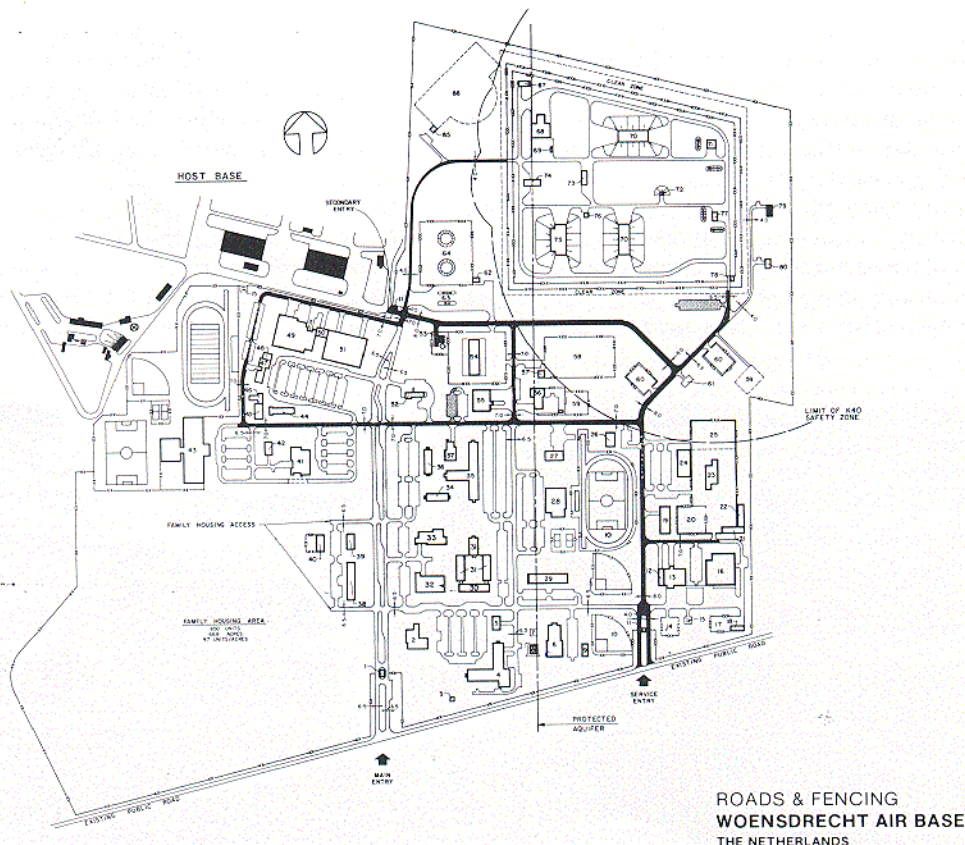
The purpose of the initial site planning and criteria development effort was to ensure that the proposed base not only meets Air Force regulations and building guidelines, but also meets

the operational needs of the various organizations that will occupy the base. A team of architects and engineers conducted numerous interviews of Air Force personnel and civilian employees to fully define the project's requirements.

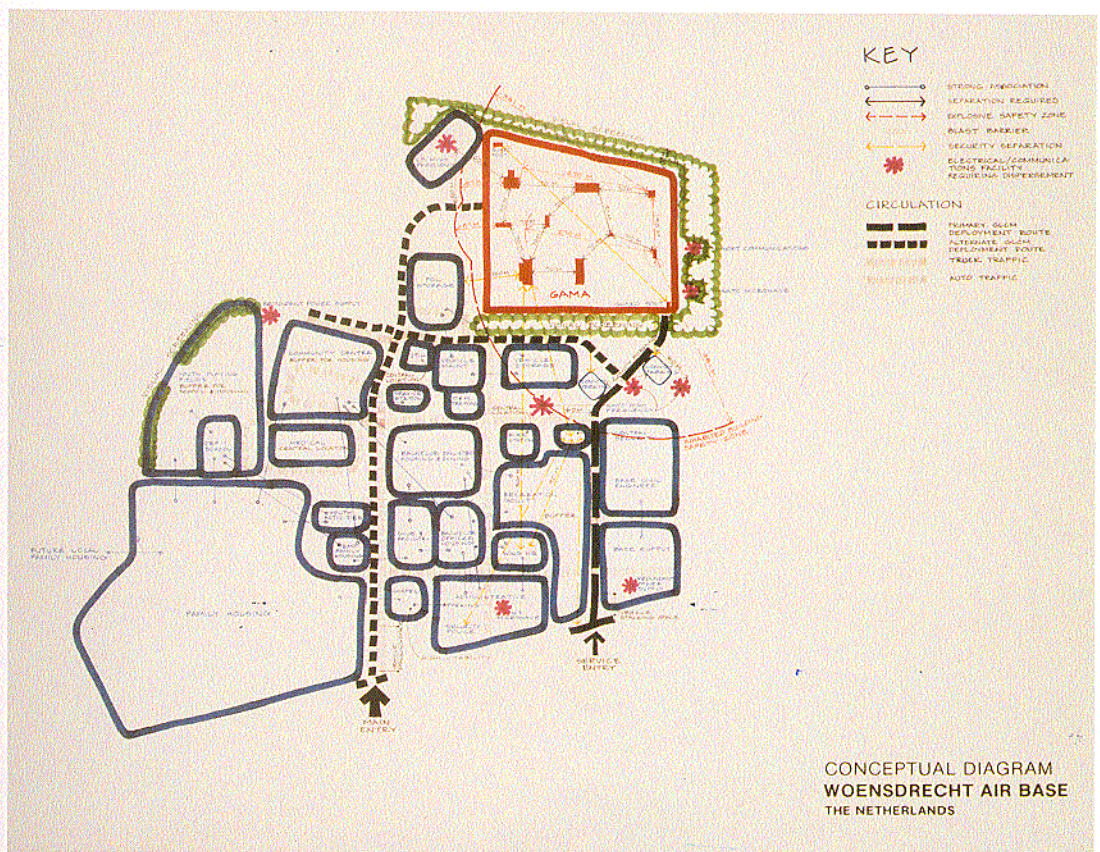
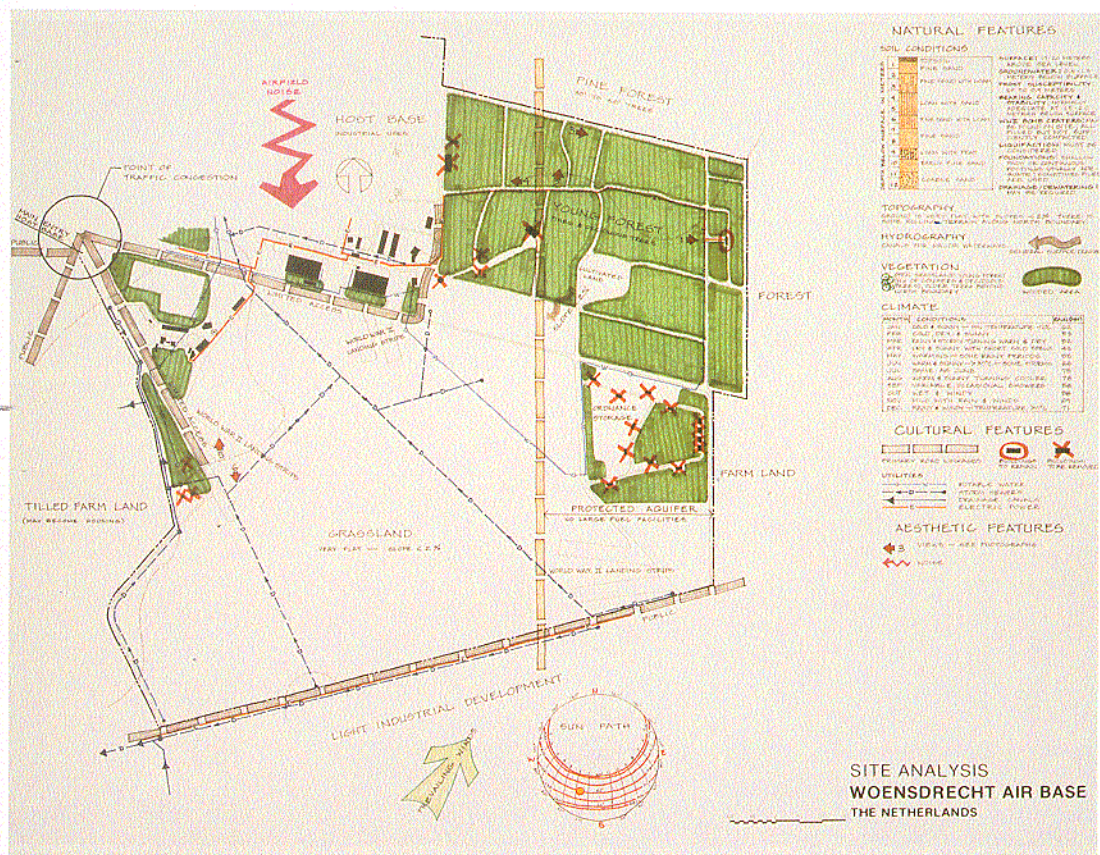
The project posed a number of planning challenges. A limited amount of space was available for development. Construction was to cause minimum disruption of existing wooded areas and vegetation, and a portion of the site was designated as a protected aquifer to provide the community's drinking water supply. Explosive safety clearances for weapons storage facilities also limited development. These development constraints resulted in the consolidation of many related functions into a limited number of buildings.

New buildings are oriented for passive solar heat gain in the winter and to take advantage of prevailing winds to provide ventilation in the summer.

*AFRCE: United States Air Force Europe  
Command: United States Air Force Europe  
Design Agent: Corps of Engineers/Europe Division*









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